

RAM AIRCRAFT
The Engine Specialist
FOR CESSNA, BEECHCRAFT, & CIRRUS AIRCRAFT



RAM-414A
SERIES VII

ENGINE MAINTENANCE RECORDS

Aircraft Registration _____

N39WH

Engine Position _____

Left

Engine Serial No. _____

604268

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

Date	Total Time In Service	Total Time Since Overhaul	Recording Meter Time
3/21/2022	4612.3	0.0	



CONTINENTAL GTSIO-520-L Left Engine S/N 604268

Above referenced engine overhauled to new parts limits per FAR 43.2(a)(1)(2) to conform w/ CAT SM X-30045 and M-0, Standard Practice Maintenance Manual. Applicable AD's and Service Bulletins C/W at this time. All gears cleaned, polished when required, inspected, magnetic particle inspected, and no cracks found. Finish and dimensional limits within RAM Gear Inspection Specification No. 1818, Rev. P, dated 07/19/2017. Above referenced engine modified per STC SE8338SW-D. Installed new RAM camshaft p/n 2621-2, s/n XGE20036 as direct PMA replacement of Continental camshaft. Installed new lifters p/n SA628488 (int), p/n SA646277 (exh). AD 10-11-04 n/a to lifter p/n installed. Installed overhauled VAR crankshaft p/n 652832, s/n B486. Ultrasonic inspection C/W per MSB96-10B, due at next overhaul or when removed. CAT 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 CAT Continental M-0, Standard Practice Maintenance Manual, except if repaired by RAM Aircraft, Limited Partnership per latest FAA approved revision of RAM Drawing 2618. Contact RAM Aircraft, L.P. at 7505 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 CAT MSB99-6B. Engine assembled with overhauled CAT heavy style crankcase p/n 656935-12, s/n R19EA465. Installed new CAT steel cylinders. CAT SB18-08B N/A per cylinder S/N. Installed new RAM/FAA/PMA fuel nozzles p/n 2563-19A. CAT Service Bulletin SB06-1A N/A per installation of RAM fuel nozzles. Installed overhauled oil cooler p/n 646685, s/n F06-5058-92. Engine accessories exchanged for overhauled or new units with exception of prop governor, alternator, vacuum pump, hydraulic pump and tach generator which were not installed per this work order. Overhauled Bendix magnetos installed. MSB94-8D 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 Rev. 1. Installed rocker arms p/n 1654-1 and -2. Starter adapter shaftgear and crankshaft gear inspection, AD 2007-05-15 c/w per CAT Service Bulletin MSB94-4H Part 5 per installation of new Hartzell PMA starter adapter p/n 55273 with new CMI crankshaft gear P/N 653580 with bushing p/n 654472. Damper backlash inspection per Part 2 due in 100 flight hours. Visual inspection of crankshaft gear and starter adapter shaft-gear due per Part 3 in 400 flight hours. Category 1 thru 3 CAT 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. 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 3 hours. Engine run-in with Aeroshell 100 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 Continental M-0, Standard Practice Maintenance Manual, and temporary storage up to 90 days. Pertinent details on file under Project No. 10132.

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

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N39WH Left Engine

Date 05-20-2022

Hobbs 282.3 TSOH 0.0

N39WH, Aircraft Cessna 421C, S/N 421C 0070

1-Removed Left engine GTSIO 520 L, S/N 276362-R. Installed RAM Overhaul engine Continental GTSIO-520-L, S/N 604268. RAM Project file #10132. Installed As per Cessna 421C Service Manual. Rigged and adjusted as per Chapter 7 & 8. Installed New Lord Engine Mounts J-9613-54.

Serviced with 20W50 X/C Mineral Oil. Installed New oil filter and RAM intake AM106735EA paper filter.

2-RAM 337 STC#SE8338SW-D, Turbo Supply line Executed this Date.

3- Installed Prop Same McCauley 3FF323C501C, S/n 850695.

4 Installed AWI NEW Exhaust Left Stack P/N A9910295-15. Right Stacks P/N A9910205-16 and slip joints R&L P/N A9910296-7. Invoice Ref. 3122224 Dated 4-18-2022.

Installed slip joint hardware Kit. 1001-6.

5-Ran engine ops check ok No leaks noted.

6- AD 84-26-02 Paper filter due 782.3 Hobb.

7- C/W AD 2000-01-16 Visual Exhaust. Par b, next due 332.5 Hobb.

David Sahl A&P 3493300

Fargo Aircraft Maintenance Inc.

N39WH

Date 05-20-2022

Hobb 282.3, TSOH 0.0 *ETT 4612.3*

1- C/W AD 84-26-02 Left engine Paper filter Next due 782.3. Right filter due at hobb 338.8.

2- C/W AD2000-01-16 Exhaust Visual Inspection R&L engine Par (b), Due 332.3 hobb. Left Engine Par (d) Left Beam inspection Cleaned, inspected and spot primed before engine install. Next due 782.3.

3- C/W AD 07-05-15 Left starter adaptor on Left engine New. Part 2 due Annual/382.3 hobb or part 3 at Hobb 682.3.

I certify that this engine was inspected as per a 100Hr inspection and was determined to be in airworthy condition.

David Sahl A&P 3493300

Fargo Aircraft Maintenance Inc.

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<p>N39WH Date 06-07-2022 Hobb 285.0</p> <p>1- C/W AD2000-01-16 Exhaust pressure check Left engine par (e) 2- Drained oil Left engine serviced with Areoshell 100 Mineral Oil. Oil filter not changed. David Sahl A&P 3493300</p>				
<p>N39WH L/H Engine Date 07/08/2022 Hobbs 308.6</p> <p>1- Drained L/H engine oil. Cut and inspected oil filter. No unusual contaminants found at this time. Installed new CH48111-1 oil filter and serviced engine with 11 qts. of Phillips 20W50XC oil. Run up leak check good. 2- AD 2000-01-16 C/W by visual inspection of L/H exhaust system. No discrepancy found at this time. Next due at Hobbs 358.6</p> <p>Kevin Pattengale A&P 3132791 Fargo Aircraft Maintenance Inc.</p>				
Date	8-8-2022	Hobb 331.4		1- C/W AD 07-05-15 Starter Backlash inspection Part 2 term MSB 94-46 100hr Next due Hobb 431.4 No Defects noted
		BEIT 6758.5		David Sahl A&P 3493300
<p>N39WH L/H Engine Date 09/28/2022 Hobbs 351.8</p> <p>1- Drained L/H engine oil. Cut and inspected oil filter. No unusual contaminants found at this time. Installed new CH48111-1 oil filter and serviced engine with 11 qts. of Phillips 20W50XC oil. Run up leak check good. 2- AD 2000-01-16 L/H exhaust inspection complied with. No discrepancy found at this time. Next inspection due at Hobbs time of 401.8</p> <p>Kevin Pattengale A&P 3132791 Fargo Aircraft Maintenance Inc.</p>				
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<p>N39WH L/H engine GTSIO-520-L S/N 604268. Date 11/18/2022 Hobbs 368.5 TSOH 86.2 TTE 4698.5</p> <p>1- Performed 100 hr. inspection of L/H engine in accordance with Cessna 421C series maintenance manual. Teledyne Continental GTSIO 520 series maintenance manual and FAR 43 appendix D scope and detail. 2- AD 00-01-16 C/W Para (b), (c) and (e). No discrepancy found at this time. Next due at hobbs 418.5 for Para (b) and next annual for Para (c) and (e). 3- AD 07-05-15 Starter back lash inspection C/W. No discrepancy found at this time. Next due at hobbs 468.5 or next annual whichever occurs first. 4- AD 84-26-02 Paper air filter is due replacement at hobbs 782.3. 5- Compression check results as follows. Cyl # 1- 78/80 2- 72/80 3- 76/80 4- 74/80 5- 72/80 6- 75/80. 6- No oil change performed at this time. 7- Checked all AD's through this date. 8- Performed ground run. Operational and leak check good. I certify that this engine has been inspected in accordance with a 100 hr. inspection and was determined to be in airworthy condition.</p> <p>Kevin Pattengale A&P 3132791 IA Fargo Aircraft Maintenance Inc.</p>				
<p>N39WH L/H Engine Date 03-24-2023 Hobbs 406.3</p> <p>1- Changed oil and oil filter. Serviced with 20W50X/C. Cut filter no contaminants noted. 2- 2- C/W AD 2007-05-15 Starter adapter backlash inspection part 2. 506.3 Hobb R/L engine 3- C/W AD 2000-01-16 Par b Visual of exhaust. Next due 456.3 Hobb R/L Engine 4- Mouse milk waist Gate 5- Ran engine leak check ok. David Sahl A&P 3493300</p> <p>Fargo Aircraft Maintenance</p>				
<p>N39WH L/H engine Date 8-31-2023 Hobbs 475.4</p> <p>1-C/W AD2000-01-16 Exhaust visual inspection par (b) Next due 525.4 Hobb. 2-C/W AD 2007-05-15 Back lash starter drive next due 575.4 2007-05-15 3-AD 89-26-02 paper filter due R/H 868.5, L/H filter due 782.3. 4- Change oil and oil filter serviced with 20W50X/C. Cut filter no contaminants noted. 5-Clean and gap spark plugs 6-Check Mag timing. Compression test results 60/80 60/80 68/80 64/80 68/80 75/80 David Sahl A&P 3493300.</p> <p>Fargo Aircraft Maintenance inc.</p>				
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DATE	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATION NO. OF PERSON PERFORMING WORK
N39WH L/H Engine GTSIO-520-L S/N 604268 Date 12/07/2023 Hobbs 493.8 TSOH 211.5	<p>TOTALS brought forward from previous page</p> <ol style="list-style-type: none"> 100 hr. Inspection of L/H engine complied with in accordance with Cessna 421C series maintenance manual. FAR 43 appendix D scope and detail. Teledyne Continental GTSIO 520 series overhaul manual. Compression check results as follows. Cyl # 1- 70/80 2- 74/80 3- 72/80 4- 74/80 5- 72/80 6- 78/80 . Drained engine oil. Cut and inspected oil filter. No unusual contaminates found at this time. Installed new AA48111-2 oil filter and serviced engine with 11 qts. of Phillips 20W50XC oil. Run up leak check good. AD 07-05-15 starter back lash inspection complied with. .03. No discrepancy found at this time. Next due hobbs 593.8 AD 2000-01-16 Exhaust inspection complied with. Part (b),(c) and (e). No discrepancy found at this time. Part (b) Next due at hobbs 543.8 Part (c) and (e) due 12/07/2024. Performed ground run. Operational and leak check good. Checked all AD's through this date. <p>I certify this engine has been inspected in accordance with a 100 hr. inspection and was determined to be in airworthy condition.</p> <p><i>Kevin Pattengale</i> Kevin Pattengale A&P 3132791 IA Fargo Aircraft Maintenance Inc.</p>

N39WH Date 10-05-2024 Hobb 535.8	<ol style="list-style-type: none"> 1- Change oil and oil filter. Serviced with 20W50 X/C. Cut filter, no contaminates noted. Ran aircraft ops check ok leak check ok. 2- C/W AD 2000-01-16 par (b) Visual exhaust. No defects noted. <p>David Sahl A&P 3493300</p> <p><i>David Sahl</i> Fargo Aircraft Maintenance Inc.</p>
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N39WH L/H Engine GTSIO-520-L S/N 604268 Date 02/04/2025 Hobbs 557.9 TSOH-275.6 TTE 4887.9 Cessna 421C S/N 421C-0070	<ol style="list-style-type: none"> 100 hr. Inspection complied with in accordance with Cessna 421C series maintenance manual and FAR 43 appendix D scope and detail. Teledyne Continental GTSIO-520 series overhaul manual. Compression check results as follows. Cyl. # 1- 76/80 2- 76/80 3- 70/80 4- 72/80 5- 72/80 6- 75/80. Drained engine oil. Cut and inspected oil filter. No unusual contaminates found at this time. Installed new AA48111-2 oil filter and serviced engine with 12 Qts. of Phillips 20W50XC oil. Run up leak check good. AD 2007-05-15 Starter back lash inspection complied with. No discrepancy found at this time. Part 2 Next due at hobbs 657.9. and 400 hr inspection due at hobbs 957.9. AD 2000-01-16 Exhaust inspection complied with. Para (b), (c), (e) and (d). No discrepancy found at this time. Para (b) next due at hobbs 607.9. Para (c) and (e) next due at next annual. Para (d) Beam inspection next due at hobbs 1057.9 Para (f) N/A and (g) due at engine overhaul. Checked all AD's through this date. Performed ground run. Operational and leak check good. <p>I certify this engine has been inspected in accordance with a 100 hr. inspection and was determined to be in airworthy condition.</p> <p><i>Kevin Pattengale</i> Kevin Pattengale A&P 3132791 Fargo Aircraft Maintenance Inc.</p>
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DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATION NO. OF PERSON PERFORMING WORK
N39WH Date 05/29/2025 Hobbs 609.2				<ol style="list-style-type: none"> L/H engine Drained oil and replaced filter (AA48111). Cut and inspected oil filter no contaminates found. Serviced engine with 11 quarts X/C 20w-50. Leak check good. Complied with AD 2000-01-16 exhaust visual inspection paragraph B. no discrepancies found. <p><i>Adam Frisk</i> Adam Frisk A&P 4966403 Fargo Aircraft Maintenance Inc.</p>

N39WH Left Engine
Date 10-02-2025
Hobb 641.5

- 1- Changed oil and oil filter. Serviced with 20W50 X/C. Cut filter no contaminates noted.
- 2- Comp Test 66/80 64/80 70/80 70/80 70/80 64/80
- 3- Check Timing.
- 4- Clean inspect sparkplugs. Relaced All bottom spark plus with new RHB 37E.
- 5- C/W Exhaust AD 2000-01-16 par (b) Visual exhaust. Next due 691.5, par (c) Pressure test, Next due Annual 10-2026. par (e) Tail pipe Next due Annual 10-2026.

Ran engine leak check ok. Ops check ok.
David Sahl A&P 3493300

David Sahl
Fargo Aircraft Maintenance

FARGO JET CENTER LLC 3802 20th St. North, Fargo, North Dakota 58102 U.S.A. Phone: 701-373-8840 Fax: 701-280-0300

Date: **20 October 2025** **#1 ENGINE LOGBOOK INSERT** N NUMBER: **N39WH**

MAKE: **Cessna** MODEL: **421C** S/N: **421C0070** HOBBS: **644.8**

MAKE: **CONTINENTAL** MODEL: **GTSIO-520-L-C-M.L** S/N: **604268**

Maintenance items addressed at this time:

- 1) Removed & Reinstalled L/H Engine to facilitate other maintenance IAW Cessna 421C Service Manual 7-00, Paragraph D.
- 2) Removed oil filter and drained engine oil. Installed new oil filter, P/N: CH48111-1, and serviced with 12 Qts. of Phillips 20W50XC Oil IAW Continental Motors Manual M-0 Section 6
- 3) Removed oil sump and cleaned oil sump mounting flange. Installed as removed Oil Sump, P/N: 633448, IAW Continental GTSIO-520 series OH Manual 12-13 & Continental Motors Manual M-0 Appendix B.
- 4) Removed Oil Scavenge Pump and replaced Heli-coil for oil scavenge pump mounting stud in aft gear case. Reinstalled oil scavenge pump. IAW Continental Motors GTSIO-520 series Manual Chapter A Section 11-5 & 12-8 and Continental Motors Manual M-0 Appendix B & Appendix C-5.

- END -

MAINTENANCE RELEASE: I certify that the aircraft, airframe, aircraft engine, propeller or appliance identified above was repaired and inspected in accordance with current rules of the Federal Aviation Regulations and was found airworthy and is approved for return to service for the work performed. Pertinent details of the repair are on file at the agency under Work Order No. 030452 Date: 20 October 2025.

Signature of authorized Person *Benjamin Thornton* Benjamin Thornton
For FAA CERTIFIED REPAIR STATION No. CTUR016D

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