

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



ENGINE MAINTENANCE RECORDS

Aircraft Registration N1557T
Engine Position Right
Engine Serial No. 514737



ENGINE MAINTENANCE RECORDS

Log No. 1

Aircraft Registration No. N1557T

Engine Manufacturer Continental

Model TS10-520-NB

Serial No. 514737

Date installed on aircraft 12-18-19

Time Between Overhauls (TBO) 1600 Hours

If used on multi-engine aircraft:

☒ Right

☐ Left

Waco Regional Airport
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www.ramaircraft.com

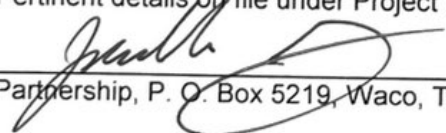
DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATION NO. OF PERSON PERFORMING WORK
				TOTALS brought forward from previous page

Date	Total Time In Service	Total Time Since Overhaul	Recording Meter Time
12/18/19	5594.7	0.0	397.4




CONTINENTAL TSIO-520-NB Series VI Right S/N 514737

Above referenced engine overhauled to new parts limits per FAR 43.2(a)(1)(2) to conform w/Continental SM X-30574 and Continental 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. Installed above referenced engine modified to TSIO-520-NB 335 HP per STC SE4327SW-D in left position of Cessna s/n 414-0272. See 337. Installed new RAM camshaft p/n 1058-20, s/n XA18042 per STC SE4327SW-D. Installed new lifters p/n SA628488 int., p/n SA646277 exh. AD10-11-04 n/a to lifter p/n installed. AD97-26-17 c/w per installation of overhauled VAR crankshaft p/n 642396, s/n B008 per Continental CSB96-8. C/W Ultrasonic inspection per MSB96-10B due at next overhaul or when crankshaft removed. AD99-19-01 n/a per crankshaft date of manufacture I/A/W Continental MSB99-3C. AD2000-23-21 N/A to crankshaft serial number/date of manufacture I/A/W Continental Mandatory Service Bulletin MSB00-5D. Engine assembled with overhauled Continental crankcase p/n 654128-1, s/n D288910R. Installed new Superior Steel cylinders. Installed Floscan transducer per STC SE5726SW-D. Installed new Hartzell Scimitar Plus propeller model PHC-C3YF-2UF, s/n EB8403B per STC SA09971SC-D. Installed new prop governor s/n 180026. Engine accessories exchanged for overhauled or new units except as noted. Re-used customer's vacuum pump s/n unknown and tach generator s/n 123205. Installed new Hartzell ALV-9610 alternator s/n H-T080302. See weight and balance change entered in P.O.H. Installed overhauled alternator drive coupling p/n 646655, s/n QAA054609. Installed factory new turbocharger p/n 407810-0003, s/n H-WIL00024. Installed new RAM FAA-PMA fuel nozzles p/n 2562-14D. Continental Service Bulletin SB06-1A N/A per installation of RAM fuel nozzles. New Slick magnetos p/n 6320 installed per STC SE4651SW-D and pressurized. Slick Service Bulletin SB3-08A N/A to magneto serial numbers installed. Slick Service Bulletin SB1-12 (Points assy.), SB1-19 (Impulse coupling stop pins) and SB2-19 (Impulse coupling rivets) N/A per S/N or manufacture date. MSB94-8D on magneto timing procedure c/w per timing to STC degree requirements with TDC locator and protractor with pointer. Installed modified connecting rods p/n 1162 per STC SE4327SW-D as FAA-PMA approved replacement. Installed RAM FAA-PMA induction flex elbows p/n 1111-2, spring loaded induction clamps p/n 1170-2 and double clamps p/n 1170-5, rocker arm cover gaskets p/n 1387-1 and oil cooler baffle p/n 1253-1. P/N 652130 & 652131 rocker arms installed. C/W AD2000-01-16, see airframe log for details. Installed new Aeroquip integral fire sleeved fuel and oil hoses meeting TSO- C53A Type D and TSO-C75 Type III. Installed overhauled oil cooler p/n 8000440, s/n 4082371. C/W AD78-06-01 per installation of intake tube p/n 642590. C/W AD79-05-09 per installation of new current design oil pressure plunger assy. C/W AD89-24-01 R1 per installation of starter adapter p/n 642085A4 with current scavenge pump gears. AD2012-10-13 and MSB11-4B starter adapter inspection n/a per p/n installed. C/W AD93-16-15 per Continental MSB95-6 installation of fuel pump drive coupling p/n 653359. Category 1 thru 3 Continental Service Bulletin Compliance Listing in RAM Manual. Installed EZ Heat Preheat Kit, m/n 540. Engine serviced with AeroShell 100 mineral oil. See RAM Recommended Oil Grade Maintenance Tip MT-1 for recommended oil. Engine ground run on test stand per CMI M-16, Ch.18 specifications for 3 hours. Engine pump pressure, idle, mixture, fuel flow, max RPM, manifold pressure, and oil pressure adjusted per RAM Series VI specifications. Engine ground run power test good. All engine systems checked for leaks. Engine approved for return to service for the work performed. Pertinent details on file under Project No. 9243.

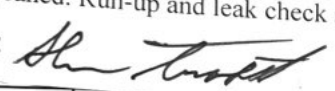

 RAM Aircraft, Limited Partnership, P. O. Box 5219, Waco, Texas 76708 CRS VA1R551K

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DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATION NO. OF PERSON PERFORMING WORK
419.4	Oil and Filter Change			ght forward from previous page
20W50 - 48108	Filter			
Inspect engine for leaks				
				
AP3695668 IA				

Date: 1/31/2020 Hobbs: 441.8 Cessna 414 Reg. No: N1557T
Eng. Model: TSIO-520-NB S/N: 514737

Removed fuel pump. Installed gasket at fuel pump base and re-installed pump. Engine compartment cleaned. Run-up and leak check satisfactory. Reference WO#11223. End.
Glenn Trostel
A&P# 3200072 
The New Firewall Forward
Loveland, CO 80538

SO#	20-0006	Elevate Air Services, LLC.				DATE	4/FEB/2020
REG.	N1557T	Crete Municipal Airport [CEK]				HOUR	453.8
MAKE	Continental	MODEL	TSIO-520-NB	SERIAL NO.	514737	ACTT	7078.7
RIGHT	Engine	ETT	5651.1	ETSOH	56.4		

Maintenance Record Engine

1. Complied with engine oil change. Removed old oil filter P/N AA48108, cut open to examine for debris, none found. Installed new oil filter P/N AA48108 and 10 quarts of Phillips XC 20W/50 oil. Cleaned engine, test ran for leaks, none found.

Dated: Feb 4, 2020 Shop Order: 20-0006

Signed: 

Shaun Krzycki
A&P 3624942

SO#	20-0016	Elevate Air Services LLC.				DATE	12/MAR/2020
REG.	N1557T	Crete Municipal Airport [CEK]				HOUR	492.8
MAKE	Continental	MODEL	TSIO-520-NB	SERIAL NO.	514737	ACTT	7117.7
RIGHT	Engine	ETT	5690.1	ETSOH	95.4		

Maintenance Record Engine

1. Complied with engine oil change. Removed old oil filter P/N AA48108, cut open to examine for debris, none found. Installed new oil filter P/N AA48108 and 11 quarts of Phillips XC 20W/50 oil. Cleaned engine, test ran for leaks, none found.

Dated: Mar 12, 2020 Shop Order: 20-0016

Signed: 

Shaun Krzycki
A&P 3624942

Elevate Air Services LLC.						DATE	17/JUL/2020
Crete Municipal Airport [CEK]						HOUR	542.3
SO#	20-0050		TSIO-520-NB	SERIAL NO.	514737	ACTT	7167.2
REG.	N1557T	MODEL	5739.6	ETSOH	144.9		
MAKE	Continental	ETT					
RIGHT	Engine						

Maintenance Record Engine

1. Complied with engine oil change. Removed old oil filter P/N AA48108, cut open to examine for debris, none found. Installed new oil filter P/N AA48108 and 11 quarts of Phillips XC 20W/50 oil. Cleaned engine, test ran for leaks, none found.
2. Complied with AD 2000-01-16, 50-hour exhaust inspection part B,C,D and E via visual inspection. No discrepancies noted at this time.

Dated July 17, 2020 Shop Order: 20-0050

Signed

Shaun Krzycki
A&P 3624942

Elevate Air Services LLC.						DATE	6/NOV/2020
Crete Municipal Airport [CEK]						HOUR	556.4
SO#	20-0056		TSIO-520-NB	SERIAL NO.	514737	ACTT	7131.8
REG.	N1557T	MODEL	5704.2	ETSOH	159		
MAKE	Continental	ETT					
RIGHT	Engine						

Maintenance Record Right Engine

1. Complied with Annual Inspection/100 Hour referencing the Cessna 414 Service Manual Section 2A and the scope and detail of Title 14 CFR Part 43 Appendix (d). Performed engine/propeller ground run/leak check with no discrepancies noted at this time.
2. Preformed engine compression check, results as follows, #1 70/80, #2 74/80, #3 70/80, #4 75/80, #5 72/80 #6 73/80.
3. Complied with AD 2000-01-16, exhaust inspection parts b, c, d, and e via visual inspection. No discrepancies noted at this time. Next inspection due at hour meter time 606.4.
4. Checked the mixture on engine, and adjusted it to proper levels.

I certify this (aircraft) (engine) (propeller) has been inspected in accordance with an Annual/100 Hour inspection as per Title 14 CFR part 91.409 (a)(1) and was determined to be in an airworthy condition.
Dated November 6, 2020 Shop Order: 20-0056

Signed

Shaun Krzycki
A&P 3624942

Signed

James Dux
A&P 28158851A

Elevate Air Services LLC.						DATE	17/DEC/2020
Crete Municipal Airport [CEK]						HOUR	571.3
SO#	20-0087		TSIO-520-NB	SERIAL NO.	514737	ACTT	
REG.	N1557T	MODEL	5733.2	ETSOH	185		
MAKE	Continental	ETT					
RIGHT	Engine						

Maintenance Record Right Engine

1. Complied with engine oil change. Removed old oil filter P/N AA48108, cut open to examine for debris, none found. Installed new oil filter P/N AA48108 and 11 quarts of Phillips XC 20W/50 oil. Cleaned engine, test ran for leaks, none found.
2. Complied with AD 2000-01-16, 50-hour exhaust inspection part B,C,D and E via visual inspection. No discrepancies noted at this time.

Dated December 17, 2020 Shop Order: 20-0087

Signed

Shaun Krzycki
A&P 3624942

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SO#	21-0054	Elevate Air Services LLC.				DATE	17 JUL 2021
REG.	N1557T	Crete Municipal Airport [CEK]				HOUR	680.1
MAKE	Continental	MODEL	TSIO-520-NB	SERIAL NO.	514737	ACTT	7305.0
RIGHT	Engine	ETT	5877.4	ETSOH	282.7		

Maintenance Record Right Engine

1. Complied with engine oil change. Removed old oil filter P/N AA48108, cut open to examine for debris, none found. Installed new oil filter P/N AA48108 and 11 quarts of Phillips XC 20W/50 oil. Cleaned engine, test ran for leaks, none found.
2. Complied with AD 2000-01-16, 50-hour exhaust inspection part B,C,D and E via visual inspection. No discrepancies noted at this time.

Dated July 16, 2021 Shop Order: 21-0054

Signed

Shaun Krzycki
A&P 3624942

SO#	21-0077	Elevate Air Services LLC.				DATE	22/NOV/2021
REG.	N1557T	Crete Municipal Airport [CEK]				HOUR	748.5 735.1
MAKE	Continental	MODEL	TSIO-520-NB	SERIAL NO.	514737	ACTT	7279.0
RIGHT	Engine	ETT	5851.4	ETSOH	332.2		

Maintenance Record Right Engine

1. Complied with Annual Inspection/100 Hour referencing the Cessna 414 Service Manual Section 2A and the scope and detail of Title 14 CFR Part 43 Appendix (d). Performed engine/propeller ground run/leak check with no discrepancies noted at this time.
2. Right engine compressions are as follows, #1 68/80, #2 70/80, #3 75/80, #4 71/80, #5 71/80 #6 67/80.
3. Complied with AD 2000-01-16, exhaust inspection parts b, c, d, and e via visual inspection. No discrepancies noted at this time. Next inspection due at hour meter time 768.5.
4. Complied with engine oil change. Removed old oil filter P/N AA48108, cut open to examine for debris, none found. Installed new oil filter P/N AA48108 and 11 quarts of Phillips XC 20W/50 oil. Cleaned engine, test ran for leaks, none found.
5. Adjusted the mixture and idle to match factory specifications.
6. Removed old alternator that was failed, P/N ALV-9610 S/N H-T080302 and replaced it with overhauled alternator P/N ALV-9610 S/N A2110114.
7. Checked and adjusted the magneto timing to factory specifications.

I certify this (aircraft) (engine) (propeller) has been inspected in accordance with an Annual/100 Hour inspection as per Title 14 CFR part 91.409 (a)(1) and was determined to be in an airworthy condition.

Dated November 22, 2021 Shop Order: 21-0077

Signed

Shaun Krzycki
A&P 3624942

Signed

James Dux
A&P 28158851A

SO#	22-0017	Elevate Air Services LLC.				DATE	23/MAR/2022
REG.	N1557T	Crete Municipal Airport [CEK]				HOUR	793.6
MAKE	Continental	MODEL	TSIO-520-NB	SERIAL NO.	514737	ACTT	7354.1
RIGHT	Engine	ETT	5955.5	ETSOH	407.3		

Maintenance Record Right Engine

1. Troubleshoot left engine not making full boost. Found both turbo controller and wastegate operating incorrectly. Replaced the Wastegate P/N 470908-9013-OH S/N DF008342 with overhauled unit P/N 470908-9013-OH S/N BB002208 and Turbo Controller P/N 470836-18RAM-OH S/N KF0108 with overhauled unit P/N 470836-18RAM-OH S/N TDR0143P. Re-rigged engine per RAM specifications, test ran engine for performance check, found satisfactory.

Dated March 23, 2022 Shop Order: 22-0017

Signed

Shaun Krzycki
A&P 3624942

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SO#	22-0028	Elevate Air Services LLC.				DATE	19/APR/2022
REG.	N1557T	Crete Municipal Airport [CEK]				HOUR	799.0
MAKE	Continental	MODEL	TSIO-520-NB	SERIAL NO.	514737	ACTT	7359.5
RIGHT	Engine	ETT	5960.9	ETSOH	412.7 401.6		

Maintenance Record Right Engine

1. Troubleshoot rough running right engine after flight. Found 2 spark plug ceramics cracked. Replaced sparkplugs with new P/N URHB32E. Borescoped every cylinder to check valves and valve seats and for any FOD related damage in cylinders and found none.
2. Performed oil change at this time. Drained old oil, removed old filter and cut open to check for debris, found none. Installed new filter P/N AA48108-2 and 11 quarts of Phillips X/C 20W50 oil.
3. Performed Exhaust AD 2000-01-16, via visual inspection per parts b, c, d, and e. No discrepancies noted at this time. Next inspection due at hour meter 849 or sooner.
4. Changed worn right hand front engine mount with new P/N J-9613-58.
5. Troubleshoot the right hand alternator inoperative. Found that the drive coupling had come apart. Damage was done to crankshaft face gear. Decision was made at this time to send engine to RAM for metal contamination inspection and replacement of crankshaft face gear.

D—
FORMING WORK

Dated: April 19, 2022 Shop Order: 22-0028

Signed Shaun Krzycki
A&P 3624942

Date	Total Time In Service	Total Time Since Overhaul	Recording Meter Time
7/28/2022	5996.3	401.6	799.0

RAM
RAM Aircraft, Limited Partnership • Waco Regional Airport

CONTINENTAL TSIO-520-NB Right S/N 514737

The above referenced engine was disassembled due to metal contamination. The engine was cleaned, inspected and reassembled to service limits per CMI Standard Practice Maintenance Manual M-0 and CMI Overhaul Manual X-30574. Reused camshaft and lifters. Installed overhauled crankcase S/N R05AA321, crankshaft S/N H109417N and new main and rod bearings. C/W MSB96-10B ultrasonic inspection. Rods balanced to RAM specifications and new bolts and nuts installed in rods. Installed new rod bushings and honed. Serviceable gears inspected per RAM Spec. 1818, Rev. P. Replaced alternator drive gear with serviceable p/n 632018. Disassembled, cleaned and inspected cylinders. Honed to ring finish. New rings gapped and fit to pistons and cylinders. Leaked checked valves. See tags for details. Reinstalled cylinder assemblies. Installed overhauled oil cooler S/N 577. Installed accessories in their respective positions with existing time in service with the exception of the vacuum pump, prop governor, alternator and hydraulic pump which were not installed per this work order. Customer furnished with an overhauled turbocharger s/n DEN00110. Cleaned and flushed lifters, wastegate, starter adapter, oil pump and turbo controller. Bench checked. Prop governor needs to be replaced or overhauled if Woodward is installed per SB33574B and per SB 215C if a McCauley is installed. Serviced engine with Aeroshell 100 mineral oil. Run in test cell for 2 hours. Engine is approved for return to service for work performed. Engine preserved per CMI M-0 Standard Practice Maintenance Manual temp. storage up to 90 days. Pertinent details on file under Project No. 10255.

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

SO#	22-0028	Elevate Air Services LLC.				DATE	10/OCT/2022
REG.	N1557T	Crete Municipal Airport [CEK]				HOUR	799.0
MAKE	Continental	MODEL	TSIO-520-NB	SERIAL NO.	514737	ACTT	7360.1
RIGHT	Engine	ETT	5961.5	ETSOH	413.3		

Maintenance Record Right Engine

1. Installed engine after metal contamination inspection. Rigged engine per RAM and Cessna manufacturers recommendations.

Dated: October 10, 2022 Shop Order: 22-0028

Signed Shaun Krzycki
A&P 3624942IA

