



ENGINE MAINTENANCE RECORDS

Aircraft Registration	<u>N414PH</u>
Engine Position	<u>Right</u>
Engine Serial No.	<u>516971</u>



ENGINE MAINTENANCE RECORDS

Log No. 1

Aircraft Registration No. N414PH

Engine Manufacturer Continental

Model TSID-520-NB

Serial No. 516971

Date installed on aircraft 3/1/13

Time Between Overhauls (TBO) 1600 Hours

If used on multi-engine aircraft:

☒ Right ☐ Left

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
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Date	Total Time In Service	Total Time Since Overhaul	Recording Meter Time
3/1/13	4772.3	0.0	5098.5



RAM Aircraft, Limited Partnership • Waco Regional Airport

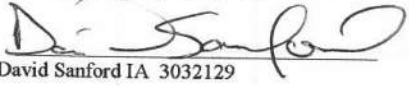
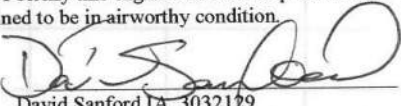
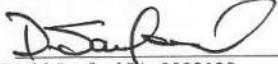
CONTINENTAL TSIO-520-NB Series IV Right S/N: 516971

Above referenced engine overhauled to new parts limits per FAR 43.2(a)(1)(2) to conform w/Continental SM X-30574A. 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. K dated 2/08/10. Installed above referenced engine modified to TSIO-520-NB 325 HP per STC SE4327SW-D in right position of Cessna s/n 414A0421. See 337. Installed new RAM camshaft p/n 1058-1A, s/n XI11101 per STC SE4327SW-D. Installed new lifters p/n 658088 (int.) p/n 658077 (exh.). AD 10-11-04 n/a to lifter p/n installed. AD 97-26-17 c/w per installation of overhauled VAR crankshaft p/n 649898, s/n N05KA291 per Continental CSB96-8. C/W ultrasonic inspection per MSB96-10A. Due at next overhaul or when crankshaft removed. AD 99-19-01 n/a per crankshaft date of manufacture I/A/W Continental MSB99-3C. AD 2000-23-21 N/A to crankshaft serial number/date of manufacture I/A/W Continental Mandatory Service Bulletin MSB00-5D. Engine assembled with Continental heavy style crankcase p/n 654128-1, s/n 0B412PL. Installed new Continental nicked cylinders. Installed Floscan transducer per STC SE5726SW-D. Installed new Hartzell ScimitarPlus propeller model PHC-C3YF-2UF, s/n EB7644B per STC SA09971SC-D. Propeller balanced per Service Manual with spinner and bulkhead installed. Installed overhauled prop governor s/n 000147. Engine accessories exchanged for overhauled or new units except as noted. Re-used customer's vacuum pump s/n 12971-07, air conditioner pump NSN, landing gear hydraulic pump s/n 1584 and tach generator s/n 8996. Installed new Hartzell ALV 9610 alternator (weight 12.75 lbs). See weight and balance change entered in P.O.H. Installed RAM overhauled turbocharger p/n 2060-1, s/n SJR0346R. Installed 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 N/A per S/N. MSB94-8D on magneto timing procedure c/w per timing to STC degree requirements with TDC locator and protractor with pointer. Engine modified to TSIO-520-NB per Continental Service Bulletin M-75-6 Rev. 1. Installed modified connecting rods p/n 1162 per STC SE4327SW-D as FAA-PMA approved replacement. P/N 652130 & 652131 rocker arms installed. 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 new FAA-PMA oil cooler p/n 8000440, s/n 4082542. Installed RAM FAA-PMA oil cooler baffle p/n 1253-1. C/W AD 78-06-01 per installation of intake tube p/n 642590. C/W AD 79-05-09 per installation of new current design oil pressure plunger assy. C/W AD 89-24-01 R1 per installation of starter adapter p/n 642085A4 with current scavenge pump gears. AD 2012-10-13 AND MSB11-4B Starter adapter inspection n/a per p/n installed or manufacture date. C/W AD 93-16-15 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. Engine serviced with Phillips multi-grade 20W50 Type M mineral oil. See RAM Recommended Oil Grade Maintenance Tip MT-1 for recommended oils. Above referenced engine was made eligible for 1600 hr. TBO per Continental SIL98-9 Rev. A, Note 2. Installed RAM FAA-PMA spring loaded induction clamps p/n 1170-2. Installed RAM FAA-PMA rocker arm covers p/n 2766-1. Installed RAM FAA-PMA rocker arm cover gaskets p/n 1387-1. Engine ground run on test stand per RAM specifications for 4 hours. Engine pump pressure, idle, mixture, fuel flow, max RPM, manifold pressure, and oil pressure adjusted per RAM Series IV 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 6607.

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

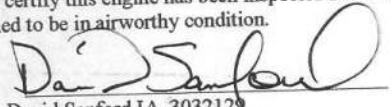
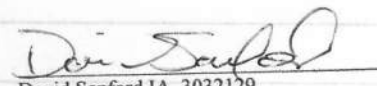
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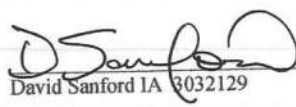
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DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK
				forward from previous page
 AIRCRAFT INSPECTION & REPAIR 709 Warehouse Dr. Laurel MS 39440 Phone: 601-270-5507				
DATE: 03-04-2013	N414PH	RIGHT ENGINE		
TACH: 5124.4	TSO: 37.1			
1. Compression test 1. 78/80 2. 791/80 3. 76/80 4. 7780 5. 76/80 6. 78/80 2. Oil changed service with AS W100 plus and installed CH 48108-1				
Performed annual inspection I/A/W Cessna 414 M.M. and FAR 43appendix D. See AD listing for AD compliance. I certify this engine has been inspected I/A/W an annual inspect and was determined to be in airworthy condition.				
 David Sanford IA 3032129				
 AIRCRAFT INSPECTION & REPAIR 709 Warehouse Dr. Laurel MS 39440 Phone: 601-270-5507				
DATE: 04-02-14	N414PH	RIGHT ENGINE		
TACH: 5161.5	TSO: 37.1			
1. Compression test 1. 79/80 2. 791/80 3. 76/80 4. 7780 5. 78/80 6. 78/80 2. Oil changed service with AS W100 plus and installed CH 48108-1				
Performed annual inspection I/A/W Cessna 414 M.M. and FAR 43appendix D. See AD listing for AD compliance. I certify this engine has been inspected I/A/W an annual inspect and was determined to be in airworthy condition.				
 David Sanford IA 3032129				
 AIRCRAFT INSPECTION & REPAIR 709 Warehouse Dr. Laurel MS 39440 Phone: 601-270-5507				
DATE: 03-20-15	N414PH	RIGHT ENGINE		
TACH: 5246.0	TSO: 121.6			
1. Compression test 1. 76/80 2. 78/80 3. 76/80 4. 74/80 5. 77/80 6. 78/80 2. Oil changed service with AS W100 plus and installed CH 48108-1				
Performed annual inspection I/A/W Cessna 414 M.M. and FAR 43appendix D. See AD listing for AD compliance. I certify this engine has been inspected I/A/W an annual inspect and was determined to be in airworthy condition.				
 David Sanford IA 3032129				

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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
 AIRCRAFT INSPECTION & REPAIR 709 Warehouse Dr. Laurel MS 39440 Phone: 601-270-5507				forward from previous page
DATE: 03-14-16	N414PH	RIGHT ENGINE		
TACH: 5279.7	TSO: 155.3			
1. Compression test 1. 74/80 2. 76/80 3. 76/80 4. 72/80 5. 74/80 6. 78/80 2. Oil changed service with AS W100 plus and installed CH 48108-1				
Performed annual inspection I/A/W Cessna 414 M.M. and FAR 43appendix D. See AD listing for AD compliance. I certify this engine has been inspected I/A/W an annual inspect and was determined to be in airworthy condition.				
 David Sanford IA 3032129				
 AIRCRAFT INSPECTION & REPAIR 709 Warehouse Dr. Laurel MS 39440 Phone: 601-270-5507				
DATE: 04/09/18		N414PH	ENGINE: RIGHT	
TACH: 5398.1				
1. Removed engine for repairs due to low oil pressure All work performed in accordance with Cessna 414 M.M. and current FARs. This aircraft is returned to service.				
 David Sanford IA 3032129				
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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
				 Holly Springs Marshall Co. Airport Hwy. 78 West, P.O. Box 399 Holly Springs, MS 38635 Page 1 Disassembled engine due to lightning strike. Steel parts magnafluxed. Crankshaft UltraSonic Inspected. Crankcase Dye Checked OK. Engine reassembled using following parts: 6 #SA536379 crank screw; 16 #SA643629 plate; 16 #SA629104 snap ring; 12 #SA629340 rod bolt; 12 #SA628109 rod nut; 1 #SA646592A1 bearing set; 12 #MS24665-229 cotter key; 4 #SA649205 screw; 2 #SA641909 lock plate; 12 #SA642398 rod bearing; 2 #NAS1805-4 rod nut; 1 #641250 crank screw; 4 #SA631088-.44 screw; 1 #MS35756-8 key; 6 #CN110 ring; 4 #655269 mag rubber; 1 #MS9970-116 o-ring; 1 #MS9970-117 o-ring; 6 #SA628488 camfollower; 6 #SA646277 camfollower; 1 #656818 Cam Gear; 6 #SA640612 o-ring; 1 #SA630899 bearing; 25 #649353-.75 valve cover screw; 1 #SA646550A1 gasket set; 1 #SA401893P03 exhaust stud; 1 #629680 Serviceable oil collar; 1 #6320 Magneto S/N 12120076 O/H by A/C Accessories W/O# 26217. 1 #6320 Magneto S/N 12120077 O/H by A/C Accessories W/O# 26218. 1 Crankshaft S/N N05KA291 UltraSonic Inspected by A/C Specialties W/O# 247169. Engine Run On Test Cell.
				 Holly Springs Marshall Co. Airport Hwy. 78 West, P.O. Box 399 Holly Springs, MS 38635 Page 2 MAINTENANCE RELEASE MAKE <u>CONTINENTAL</u> SERIAL NO. <u>516971</u> MODEL <u>TSIO-520-NB</u> TOTAL TIME <u>UNKN</u> THE <u>ENGINE</u> IDENTIFIED ABOVE WAS REPAIRED AND INSPECTED IN ACCORDANCE WITH CURRENT FEDERAL AVIATION REGULATIONS AND WAS FOUND AIRWORTHY FOR RETURN TO SERVICE. PERTINENT DETAILS OF THE REPAIR ARE ON FILE AT THIS AGENCY UNDER WORK ORDER NO. <u>J7084</u> DATE: <u>2-14-2017</u> SIGN: <u>John Jewell</u> FOR REPAIR STATION NO. <u>JUJR300L</u>
				 AIRCRAFT INSPECTION & REPAIR 709 Warehouse Dr. Laurel MS 39440 Phone: 601-270-5507 DATE: 04/09/18 N414PH ENGINE: RIGHT TACH: 5398.1 1. Installed engine after repairs All work performed in accordance with Cessna 414 M.M. and current FARs. This aircraft is returned to service.  David Sanford IA 3032129
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**AIRCRAFT INSPECTION & REPAIR**

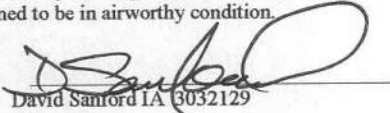
709 Warehouse Dr. Laurel MS 39440

Phone: 601-270-5507

DATE: 05-19-17 N414PH RIGHT ENGINE
TACH: 5334.0 TSO: 209.6

1. Compression test 1. 72/80 2. 74/80 3. 76/80 4. 74/80 5. 74/80 6. 73/80
2. Oil changed service with AS W100 plus and installed CH 48108-1

Performed annual inspection I/A/W Cessna 414 M.M. and FAR 43appendix D. See AD listing for AD compliance. I certify this engine has been inspected I/A/W an annual inspect and was determined to be in airworthy condition.


David Sanford IA 3032129

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

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**AIRCRAFT INSPECTION & REPAIR**

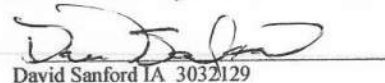
709 Warehouse Dr. Laurel MS 39440

Phone: 601-270-5507

DATE: 08-07-18 N414PH RIGHT ENGINE
TACH: 5400.1 TSO: 275.7

1. Compression test 1. 78/80 2. 78/80 3. 79/80 4. 76/80 5. 79/80 6. 78/80
2. Oil changed service with AS W100 plus and installed CH 48108-1

Performed annual inspection I/A/W Cessna 414 M.M. and FAR 43appendix D. See AD listing for AD compliance. I certify this engine has been inspected I/A/W an annual inspect and was determined to be in airworthy condition.


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**AIRCRAFT INSPECTION & REPAIR**

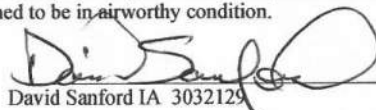
709 Warehouse Dr. Laurel MS 39440

Phone: 601-270-5507

DATE: 09-02-2019 N414PH RIGHT ENGINE
TACH: 5441.2 TSO: 316.8

1. Compression test 1. 66/80 2. 66/80 3. 76/80 4. 64/80 5. 69/80 6. 62/80
2. Oil changed service with 10 Qts AS W100 and installed CH 48109 Filter

Performed annual inspection I/A/W Cessna 414 M.M. and FAR 43appendix D. See AD listing for AD compliance. I certify this engine has been inspected I/A/W an annual inspect and was determined to be in airworthy condition.


David Sanford IA 3032129

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