



ENGINE MAINTENANCE RECORDS

Aircraft Registration N414PH
Engine Position Right
Engine Serial No. 516971



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

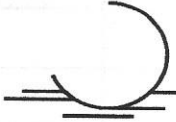
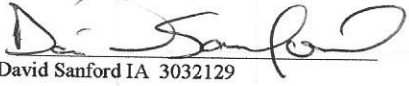
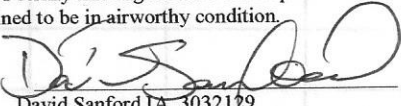
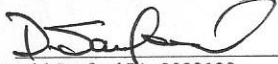
CONTINENTAL TSIO-520-NB Series IV Right S/N: 516971

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.

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

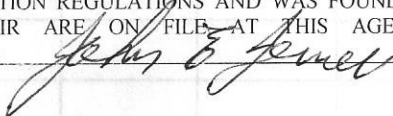
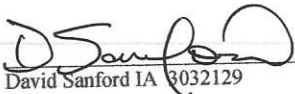
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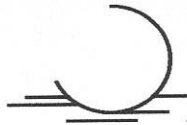
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DATE	TOTAL TIME IN SERVICE	TOTAL TIME SINCE OVERHAUL	TACH OR RECORDING METER TIME	DESCRIPTION OF WORK PERFORMED— SIGNATURE & CERTIFICATE NO. OF PERSON PERFORMING WORK
				forward from previous page
 AIRCRAFT INSPECTION & REPAIR 709 Warehouse Dr. Laurel 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
				 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:  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
				SUB-TOTALS this page TOTALS—Carry forward to next page

**AIRCRAFT INSPECTION & REPAIR**

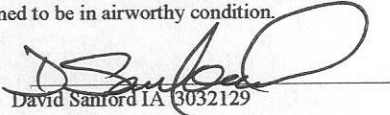
709 Warehouse Dr. Laurel MS 39440

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.


David Sanford IA 3032129

**AIRCRAFT INSPECTION & REPAIR**

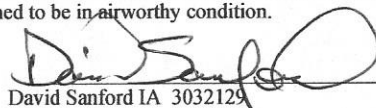
709 Warehouse Dr. Laurel MS 39440

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

TOTALS—Carry forward to next page



by date entered: murphy: 4/17/18 AP227863044

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
				<i>Signature.</i> FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Hobbs 5632.5 WO# S12-22-05381 Date 03-24-2022 Drained the oil and removed the oil filter, inspected the filter element for metal, none found. Installed new filter p/n Ch48109-1 and secured. Added 10 qts of Aeroshell W100 to engine. Performed an engine run for a leak and operational check, no defects noted. All maintenance was done in accordance Cessna 414A maintenance manual. Complied with AD 2000-01-16 inspection of exhaust system by visual inspection I/A/W compliance table in figure 1 column B of this AD. No defects noted. This AD 2000-01-16 is due again at Hobbs 5682.5 or next oil change. <i>The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above.</i> Daniel Little CRS#H00R564Y <i>Daniel Little</i>
				<i>Signature.</i> FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Tach 5688.5 WO# S12-22-05551 Date 07-21-2022 Drained the oil and removed the oil filter, inspected the filter element for metal, none found. Installed new filter p/n Ch48109-1 and secured. Added 9 qts of Aeroshell W100 to engine. Performed an engine run for a leak and operational check, no defects noted. All maintenance was done in accordance Cessna 414A maintenance manual Complied with AD 2000-01-16 inspection of exhaust system by visual inspection I/A/W compliance table in figure 1 column B of this AD. No defects noted. This AD 2000-01-16 is due again at Hobbs 5738.5 or 30 calendar day whichever comes later. <i>The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above.</i> Daniel Little CRS# H00R564Y <i>Daniel Little</i>
				<i>Signature.</i> FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Tach 5743.1 WO# S12-22-05619 Date 10-26-2022 Drained the oil and removed the oil filter, inspected the filter element for metal, none found. Installed new filter p/n AA48108-2 and secured. Added 10 qts of Aeroshell W100 plus to engine. Performed an engine run for a leak and operational check, no defects noted. All maintenance was done in accordance Cessna 414A maintenance manual Complied with AD 2000-01-16 inspection of exhaust system by visual inspection I/A/W compliance table in figure 1 column B of this AD. No defects noted. This AD 2000-01-16 is due again at Hobbs 5793.1 or 30 calendar day whichever comes later. <i>The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above.</i> Daniel Little CRS# H00R564Y <i>Daniel Little</i>

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
wo: 5951				Engine R - page 1 of 1
 Classic Aviation · 69 Aviation Circle · Weyers Cave, VA 24486 · (540)234-0226				
N414PH ACTT: 6648.6 LH PROP SMOH: 688.1 RH PROP SMOH: 688.1				March 08, 2023 LH ENG SMOH: 688.1 RH ENG SMOH: 688.1 TACH: 5786.6
Heater Hobbs: 1589.0 LH PROP TT: 688.1 RH PROP TT: 688.1				
RH ENGINE: Performed Inspection with reference to the Cessna 414A Inspection Checklist to include the scope and detail of 14 CFR Part 43 Appendix D. Ran engine to operating temperature. Performed compression test. Compressions 1)66/80 2)70/80 3)65/80 4)70/80 5)67/80 6)72/80. Borescoped all cylinders, no discrepancies. Drained oil. Cut open and inspected oil filter, no discrepancies found. Installed new oil filter P/N AA48108-2, torqued to 18 ft/lbs. and safety wired in place. Serviced engine with 11 quarts of Aeroshell W100 plus oil. Pressurized exhaust system, no leaks found. Removed, cleaned, inspected, gapped, and tested the spark plugs. Removed and replaced all spark plugs with new RHB32E and new copper gaskets, torqued to 30 ft/lbs. Removed and replaced RH Hydraulic Pump Gasket. Ops check and leak check satisfactory. Removed RH engine left and right magneto harnesses. Removed left engine left and right magneto distributor housing to gain access to the magneto points. Inspected distributor housing, points, all internal components and found no defects. Checked magneto to engine timing and found no discrepancies. The aircraft, airframe, aircraft engine, propeller or appliance identified was repaired and/or inspected in accordance with current Regulation of the Federal Aviation Agency and is approved for return to service for the work performed. The above work was accomplished in reference to applicable maintenance manuals and other approved or acceptable data as appropriate. I certify that this Engine has been inspected as part of an Annual Inspection Checklist, was found to be in airworthy condition, and is released for return to service.				
Josh Lucas A&P IA 3534518 				
 FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Hobbs 5832.5 WO# S12-23-05802 Date 04-03-2023 Drained the oil and removed the oil filter, inspected the filter element for metal, none found. Installed new filter customer supplied p/n Ch48109-1 and secured. Added 10 qts of Aeroshell W100 to engine. Performed an engine run for a leak and operational check, no defects noted. All maintenance was done in accordance Cessna 414A maintenance manual. Complied with AD 2000-01-16 by inspection of exhaust system by visual inspection I/A/W compliance table in figure 1 column B of this AD. No defects noted. This AD 2000-01-16 is due again at Hobbs 5882.5 or next oil change. The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above. Daniel Little  CRS#H00R564Y				
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TOTALS —Carry forward to next page				

Form LB-1

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
				<i>Signature.</i> FLIGHT SUPPORT ABBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Hobbs 5982.3 WO# S12-23-05974 Date 09-29-2023 Complied with AD 2000-01-16 inspection of exhaust system by visual inspection of the engine beams, firewalls, and canted bulkheads I/A/W compliance table in figure 1 column D of this AD. No defects noted. This AD 2000-01-16 table 1 column (d) is due again in 500 hours at Hobbs 6482.3. <i>The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above.</i> Daniel Little CRS#H00R564Y <i>Signature.</i> FLIGHT SUPPORT ABBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Hobbs 6005.7 WO# S12-23-06010 Date 11-21-2023 Drained the oil and removed the oil filter, inspected the filter element for metal, none found. Installed new filter p/n AA48108-2 customer supplied and secured. Added 10 qts of Aeroshell 100 mineral oil to engine. Performed an engine run for a leak and operational check, no defects noted. All maintenance was done in accordance Cessna 414A maintenance manual. Complied with AD 2000-01-16 inspection of exhaust system by visual inspection I/A/W compliance table in figure 1 column B of this AD. No defects noted. This AD 2000-01-16 is due again at Hobbs 6055.7 or next oil change. <i>The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above.</i> Daniel Little CRS#H00R564Y <i>Daniel Little</i>

wo: 6409

Engine R - page 1 of 1



Classic Aviation · 69 Aviation Circle · Weyers Cave, VA 24486 · (540)234-0226

N414PH

HOBBS : 6049.1

RH ENG TSMOH: 950.6

RH ENG TT: 5722.9

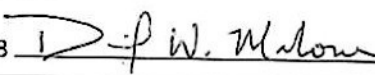
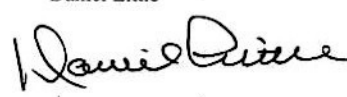
January 31, 2024

RIGHT ENGINE

Removed RH magneto Model No. 6320 S/N 12120077 and removed LH magneto Model No. 6320 S/N 12120076. Installed Magneto Model No. 6320 S/N 12120076 on the RH side with P/N 649954 magneto gasket, timed Magneto to 21 degrees BTDC. Ops check good. Installed new SureFly Electronic Ignition SIM6C in accordance with STC-SE04349CH with reference to Installation Instructions SF1003, Rev C. Ops check normal. For additional information refer to STC SE04349CH Dated 1/29/2024.

The aircraft, airframe, aircraft engine, propeller or appliance identified was repaired and/or inspected in accordance with current Regulation of the Federal Aviation Agency and is approved for return to service for the work performed.

Dylan Neikirk A&P 4315262

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
				wo: 6319 Engine R · page 1 of 1  Classic Aviation · 69 Aviation Circle · Weyers Cave, VA 24486 · (540)234-0226
				N414PH TACH: 5786.6 November 13, 2023
				RIGHT ENGINE Measured piston ring gaps in accordance with Superior Service Letter L05-09, Dated 24-OCT-2006 and found all rings to be within limits. Installed Superior Millennium Cylinder Assembly # SA52006-A22P S/N 526000021693 from Aero Performance Order # 16232778 in the RH #5 position. Torqued cylinder hold down nuts to 500 in/lbs. and 800 in/lbs. reinstalled rocker arms from previous installation and torqued hold down bolts to 110 in lbs. Measured dry tappet to valve stem to spring clearance and found to be within limits. Reinstalled all provided o-rings, seals, and gaskets. In addition to provided gaskets, installed new exhaust gaskets on cylinder #3 and #1, and an intake gasket on cylinder #3. Torqued intake hardware to 70 in/lbs., and exhaust hardware to 110 in/lbs. Measured free length of exhaust slip-joint springs and reinstalled them, checking compressed length when installed and found to be within limits. Reinstalled fuel injector nozzle to cylinders #5, torqued to 60 in/lbs. Post run-up and leak check revealed no discrepancies. The above work was performed in reference to applicable maintenance manuals and other approved or acceptable data as appropriate. I certify that this Engine is airworthy with respect to the work performed and is released for return to service. David Malone A&P IA 3879748 
				Signature FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Hobbs 6058.2 WO# S12-24-06084 Date 02-15-2024
				Drained the oil and removed the oil filter, inspected the filter element for metal, none found. Installed new filter p/n CH48109-1 customer supplied and secured. Added 10 qts of Aeroshell 100 mineral oil to engine. Performed an engine run for a leak and operational check, no defects noted. All maintenance was done in accordance Cessna 414A maintenance manual. Complied with AD 2000-01-16 inspection of exhaust system by visual inspection I/A/W compliance table in figure 1 column B of this AD. No defects noted. This AD 2000-01-16 is due again at Hobbs 6108.2 or next oil change. The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above. Daniel Little CRS#H00R564Y 
				SUB-TOTALS this page TOTALS—Carry forward to next page

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
				<i>Signature.</i> FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model 414A SN 414A0421 Hobbs 6064.5 WO# S12-24-06092 Date 02-29-2024 Removed right engine right magneto and installed gasket p/n 10-400613, reinstalled magneto and secured, timed to engine timing, leak and operational check good on engine run. Performed capacity check of Garmin GI-275 stand-by instrument back-up battery and passed in 84 mins I/A/W Garmin GI-275 installation manual #190-02246-00 Rev.7 page 5-1. Next inspection due in 392 days on MAR 28, 2025. Removed and replace right engine right cowl door latch receptacle p/n 244-16 off/on and secured, ops ck good. All maintenance was done in accordance Cessna 414A maintenance manual The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above. Daniel Little CRS#H00R564Y <i>Daniel Little</i>

Form LB-1

wo: 6474

Engine R - page 1 of 1



Classic Aviation - 69 Aviation Circle - Weyers Cave, VA 24486 - (540)234-0226

N414PH

AFTT: 6940.5
LH ENG TT: 6711.0
TACH: 6078.5Heater Hobbs: 1688.2
LH PROP TT: 980.0LH ENG SMOH: 980.0
RH ENG SMOH: 980.0April 01, 2024
LH ENG TT: 6711.0
RH PROP TT: 980.0

RIGHT ENGINE:

Ran engine to operational temperature. Compressions are as follows: 1)71/80 2)65/80 3)71/80 4)70/80 5)74/80 6)77/80. Master orifice reading 44/80. Borescoped all cylinders, no defects found. No oil change at this time. Removed, cut open, and inspected oil filter, with nothing remarkable found. Installed new oil filter P/N CH48109-1, torqued to 18 ft/lbs., and safety wired. Pressure tested exhaust system with no discrepancies noted. Cleaned, gapped, inspected, bench tested, rotated, and reinstalled all spark plugs with new copper gaskets and torqued them to 30 ft/lbs. Removed and inspected fuel servo screen, nothing found, reinstalled with new gasket P/N 649983 and safety wired. Installed new LH and RH customer supplied Air/Oil Separator Filters P/N AM108535A0 and installed new stat-o-seals P/N NAS1523-4B under cap nut. Removed, hydroponically cleaned, and inspected all fuel injector nozzles. Reinstalled nozzles using a new seal kit P/N ORW-6 and torqued to 60 in/lbs. Replaced 1 fuel injector air rail seal P/N 633958-3. Installed new Gaskets P/N 642892 for LH and RH Oil Filler Tube Cap. Corrected RH Magneto timing to 21° BTDC and torqued mounting hardware to 120 in/lbs. Moved LH engine Fuel Distribution Valve to RH engine and RH engine fuel distribution valve to LH side for troubleshooting purposes per request of customer with no change to RH engine fuel flow. Operational check satisfactory. Verified magnetos making spark. Performed a RH Engine Fuel System Setup referencing Continental SID 97-3. Pressurized the engine induction system and fixed induction leaks as needed. Isolated and pressurized upper deck system to check for leaks. Removed LH fuel pressurization air rail and reinstalled it after the air rail was welded. Replaced hose from metering valve to upper deck air rail with 306-8 hose. Post maintenance run-up and leak check satisfactory.

The above work was accomplished in reference to applicable maintenance manuals and other approved or acceptable data as appropriate. I certify that this Engine has been inspected in reference to a an Annual Inspection Checklist, including the scope and detail of 14 CFR Part 43 Appendix D., was found to be in airworthy condition, and is released for return to service.

David Malone A&P IA 3879748

SUB-TOTALS this page

TOTALS—Carry forward to next page

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
				<i>Signature.</i> FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Hobbs 6108.9 WO# S12-24-06132 Date 04-23-2024 Drained the oil and removed the oil filter, inspected the filter element for metal, none found. Installed new filter p/n CH48109-1 customer supplied and secured. Added 10 qts of Aeroshell W100 customer supplied to engine. Performed an engine run for a leak and operational check, no defects noted. All maintenance was done in accordance Cessna 414A maintenance manual. Complied with AD 2000-01-16 inspection of exhaust system by visual inspection I/A/W compliance table in figure 1 column B of this AD. No defects noted. This AD 2000-01-16 is due again at Hobbs 6158.9 or next oil change. <i>The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above.</i> Daniel Little <i>Daniel Little</i> CRS#H00R564Y Form LB-1
				<i>Signature.</i> FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 CRS# H00R564Y N# 414PH Model TSIO-520-NB SN 516971 Tach 6158.8 WO# S12-24-06153 Date 05-24-2024 Drained the oil and removed the oil filter, inspected the filter element for metal, none found. Installed new filter p/n AA48108-2 customer supplied and secured. Added 10 qts of Aeroshell W100 oil customer supplied to engine. Performed an engine run for a leak and operational check, no defects noted. All maintenance was done in accordance Cessna 414A maintenance manual. Complied with AD 2000-01-16 inspection of exhaust system by visual inspection I/A/W compliance table in figure 1 column B of this AD. No defects noted. This AD 2000-01-16 is due again at Hobbs 6208.8 or next oil change. <i>The aircraft - Airframe - Engine - Propeller - or Appliance identified above was repaired and inspected in accordance with current Federal Aviation Regulations and was approved for return to service. Pertinent details of this repair are on file at this agency under the work order identified above.</i> Daniel Little <i>Daniel Little</i> CRS#H00R564Y Form LB-1

Clear Sky Aviation LLC, Tel: 434-284-5109

Aircraft Regist.: N414PH Tach Time: 6202.8 Rt Eng S/N: 516971
Date Opened: 9/11/2024 Date Complete: 9/11/2024 WO#: 0002



Work Performed: Right Engine - drained oil, removed and cut oil filter, installed and safetied new oil filter Tempest P/N 48108, added 10qts Aeroshell W100 Plus. Nothing detected upon filter media examination. Ran and leak checked engine, all ok. All work completed per manufacturer's instructions and applicable FAR's.

Mechanic Name: TR Proven

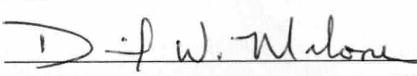
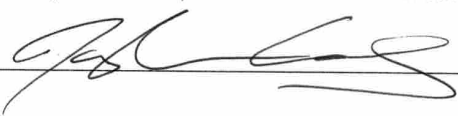
A&P Cert.:

1715019

Not performed under repair station.

Signature:

TOTALS—Carry forward to next page

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
				wo: 6892 Engine R - page 1 of 1  Classic Aviation · 69 Aviation Circle · Weyers Cave, VA 24486 · (540)234-0226 N414PH AFTT: 7153.4 RH PROP SMOH: 1192.9 LH ENG SMOH: 1192.9 RIGHT TACH: 6291.4 LH PROP SMOH: 1192.9 RH ENG SMOH: 1192.9 January 02, 2025 RIGHT ENGINE: Ran engine to operational temperature. Completely removed oil sump quick drain, drained oil, and collected an oil sample. Removed, cut open, and inspected oil filter element. Some ferrous metal found. Installed a new oil filter P/N CH48109-1, torqued to 18 ft lbs. and safety wired. Reinstalled oil quick drain with a new gasket P/N MS35769-1, torqued it to 17 ft/lbs., and safety wired. Serviced engine with 11 quarts of owner supplied AeroShell W80 oil. Advised oil change and sample again in approximately 10 hours TIS. Removed upper spark plugs. Borescoped all cylinders with nothing remarkable found. Reinstalled upper spark plugs with new copper washers and torqued them to 30 ft/lbs. Removed RH Alternator to gain access to the Propeller Governor Oil Transfer Collar. Removed RH portion of collar. Inspected collar, crankshaft, and any visible gears with nothing concerning found. Reinstalled RH portion of Governor Oil Transfer Collar and torqued hardware to 80 in/lbs. Reinstalled Alternator and torqued mounting hardware to 170 in/lbs. Clockd RH Magneto on RH Engine to omit interference with upper engine cowling. Set Magneto to fire at 21° BTDC on cylinder #1. Torqued magneto mounting hardware to 120 in/lbs. Post maintenance run up and leak check satisfactory. The above work was accomplished in reference to applicable maintenance manuals and other approved or acceptable data as appropriate. I certify that this Engine is airworthy with respect to the work performed and is released for return to service. David Malone A&P IA 3879748 
				 Signature. FLIGHT SUPPORT A BBA Aviation company 100 Aviation Drive, Suite 100 Charlottesville, VA 22911 Tel (434) 978-1474 Registration: N414PH Make: Cessna Model: 414A Serial Number: 414A0421 TACH: 6296.6 Date: FEB 28, 2025 RH ENGINE: Removed and replaced RH and LH Intake Manifold Elbows with new Elbows P/N 1111-1 with reference to Cessna 414A Service Manual. Leak check good. Ops check good. I certify the airframe/engine was repaired and inspected in accordance with current FAR and was approved for return to service. Josh Lucas A&P 3534518 
				SUB-TOTALS this page TOTALS—Carry forward to next page

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
 ACE Flight Solutions 95 Aviation Way Fredericksburg VA 22406				
Engine R Aircraft Registration: N414PH Aircraft Make & Model: Cessna 414A A/C S/N: 414A0421 Engine Make/Model: TSIO-520-NB SN: 516917 Hobbs: 6299.9				
• Drained old oil and removed old filter. Cut open and inspected for particulate, significant particulate noted. • Installed replacement 48108 filter and serviced with 10 qts of Type M engine oil. • Removed and replaced with new, all spark plugs with fine wire plugs. • Removed all 6 cylinders and discovered significant degradation of cylinders, pistons, rings, piston pins and rods. • Removed all rods and rod bearings. • Removed all pistons and piston pins. • Installed set of 6 serviceable used cylinders from RAM aircraft engines. Rings had already been matched and gapped by RAM. • Installed new exhaust gaskets and new intake gaskets. • Replaced 2 intake boots. • Removed both LH & RH mags. Timed internally. • Reinstalled and timed both mags to engine. • Installed new set of pistons and new piston pins in all cylinders. • Reinstalled all rods with new bearings, bolts, nuts and cotter keys post overhaul by aircraft specialties services. • Replaced with new, multiple hardware items through engine. • Replaced fuse for digital magneto. • Remove and replace with new, all rocker shafts and hardware. • Performed compression test, results as follows: 1: 76/80. 2: 76/80. 3: 74/80. 4: 72/80. 5: 72/80. 6: 76/80. • AD search completed through 2/20/2026. No ADs applicable at this time. • Work performed referencing Cessna 414/414A Shop Manual, IPC, Continental IPC & Shop Manual and AC 43.13 • This engine has been inspected per the requirements of an annual inspection, referencing FAR 43 App. D, and has been found to be in an airworthy condition at this time				
Signed: <u>Paul Wilkinson</u> Date: 2/18/2026 Name (Printed): Paul Wilkinson A&P/IA License Number: 2650852				
wo: 7545 Engine L - page 1 of 1  Classic Aviation - 69 Aviation Circle - Weyers Cave, VA 24486 - (540)234-0226				
N414PH TACH: 6310.1 LH ENGINE Fuel calibration; installed test equipment, adjusted Fuel system in reference to Continental M-O chapter 6 and RAM STC-4327 Specifications. Cleaned engine compartment, torqued oil hose fittings for turbo supply. The aircraft, airframe, aircraft engine, propeller or appliance identified was repaired and/or inspected in accordance with current Regulation of the Federal Aviation Agency and is approved for return to service for the work performed. Details of work performed are on file with Classic Aviation under work order: 7545. April 14, 2026				
Sawyer Brill A&P IA 4318502 <u>Sawyer Brill</u>				
SUB-TOTALS this page				
TOTALS —Carry forward to next page				

TOTALS brought forward from previous page

Joel Ymca

George Brill

Red Hill

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