

**G&N Aircraft, Inc.**

**RIGHT**

# **Engine Log**

**F.A.A. Certified Repair Station  
MW2R020L**

1701 E. Main Street  
Griffith, IN 46319  
phone: 219.924.7110  
toll free: 800.348.6504  
fax: 219.924.1059

**"Quality not Quantity"**

# G&N Aircraft, Inc. Engine Log Book

- Manufacturer \_\_\_\_\_
- Model \_\_\_\_\_
- Serial Number \_\_\_\_\_
- Engine Total Time \_\_\_\_\_
- Recommended TBO \_\_\_\_\_
- Minimum Octane Fuel \_\_\_\_\_

## Important Notice to Installer

Even though this engine has been test run and set using our dynamometer it must be set in the correct manner and within the limitations as specified in the engine and airframe manufacturers service manuals when installed in the aircraft

### G & N AIRCRAFT, INC. / Limited Piston Engine Warranty

Effective 1/1/2006, G & N Aircraft, Inc., (hereinafter "G & N") makes the following warranty to its customer, subject to the limitations, conditions and exclusions set forth below.

**WARRANTY COVERAGE** - For a period of twelve (12) months after date of delivery to customer, G & N Aircraft, Inc. shall repair or replace, at its option, any aircraft engine, accessory, or part which is found to be defective, to G & N Aircraft, Inc.'s satisfaction, within said warranty period.

For engine warranty after twelve (12) months from the date of delivery to customer and prior to the expiration of the manufacturers recommended time between overhaul ("TBO"), the cost of repair or replacement (including the cost of parts and labor), at G & N Aircraft's option, shall be prorated in the following manner. The customer shall pay a prorated amount based upon the engine's TBO and the engine hours (which shall be deemed the greater of logbook hours, recorded tachometer hours, or a minimum of forty (40) hour per month from date of delivery). For instance, an engine with a TBO of 2000 hours and with 200 hours of usage in a 16 month period would have a prorated warranty coverage of 68% applied to cost of a replacement engine or to the cost of parts and labor for repair of this subject engine, either of which shall be at the option of G & N Aircraft, Inc. Reasonable labor costs associated with the repair of a warranted engine shall be prorated in the same manner on the basis of a flat rate schedule established by G & N Aircraft, Inc.

After the initial twelve (12) months from date of delivery, G & N Aircraft, Inc. will not assume any responsibility for the repair or replacement of engine accessories, including but not limited to the following: magnetos, starter, alternator, ignition harness, turbocharger, carburetor, fuel injection, etc.

Replacement parts supplied for warranted engines still covered by manufacturer's warranty are supplied on an exchange basis prepaid by customer. G & N Aircraft, Inc. will pursue warranty claims with the manufacturer on the owner's behalf. Any allowance by the manufacturer will be credited to the operator's account.

**REQUIRED CONDITIONS AND PROCEDURES NECESSARY FOR OBTAINING WARRANTY WORK** - The following conditions and procedures must be met before G & N Aircraft, Inc. is liable under the provisions of this written warranty. The foregoing warranty shall be effective only if the engine or component to be serviced is returned to G & N Aircraft, Inc.'s facility at customer's expense, together with a detailed description in writing of the nature of the defect. The customer or his representative should contact G & N Aircraft, Inc. for verification and authorization of warranty prior to return and/or repair. Written authorization

must be obtained from G & N Aircraft, Inc. before repairs covered by warranty can be performed other than by G & N Aircraft, Inc. In no event shall allowable repair costs exceed local published shop rates. This warranty shall apply if and only if the engine has been properly installed and maintained in accordance with current approved standards of the Federal Aviation Administration ("FAA") and current recommendations of the manufacturer as specified in applicable factory manuals and service bulletins. The performance of recommended inspections and maintenance must be documented by appropriate logbook entries which must accompany any engine returned for warranty work. Only defects which are reported to G & N Aircraft, Inc. within the warranty period are covered by this warranty and G & N Aircraft, Inc. must be given written notice, within ten (10) days after discovery.

**LIMITATIONS, EXCLUSIONS, AND DISCLAIMERS** - G & N Aircraft, Inc. shall not be liable for freight charges, transportation or delivery expenses, costs, or airframe repairs, all of which are excluded under this warranty. G & N Aircraft, Inc. does not warrant parts, materials or services supplied which are covered by manufacturer's warranty. This written warranty shall not apply to any engine which has been subject to misuse, neglect, accident or damage from the elements, or which has been installed repaired or maintained or altered in any manner which, in the judgment of G & N Aircraft, Inc. has had an adverse effect on the engine or its parts. This warranty shall not apply to any engine which has been operated under conditions which exceed the manufacturer's recommendations. Unless prior approval is given in writing by G & N Aircraft, Inc., this warranty shall not apply to any engine which has been repaired or altered, in any manner other than by G & N Aircraft, Inc. or its authorized representative.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION THE WARRANTY OR MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE WHICH WARRANTIES ARE HEREBY EXCLUDED. G & N Aircraft, Inc.'s liability hereunder shall be limited to the repair or replacement of any engine or part found to be defective within the applicable warranty period as set forth above. IN NO EVENT SHALL G & N AIRCRAFT, INC. BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OR ECONOMIC LOSS OF ANY NATURE WHETHER ARISING IN CONTRACT OR TORT, INCLUDING STRICT LIABILITY IN TORT OR NEGLIGENCE ON THE PART OF G & N AIRCRAFT, INC. The laws of the State of Indiana will control the interpretation and application of this warranty. All disputes regarding this warranty and any related purchase or repair must be adjudicated in Lake County, Indiana.

Warranty No. 60760  
Engine Serial No. 170539-R  
Aircraft Registration No. \_\_\_\_\_



1701 East Main Street  
Griffith, Indiana 46319  
Tel: (219) 924-7110

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

This is to certify that the engine described hereafter has been overhauled to the manufacturer's new parts limits.

Engine disassembled, cleaned, inspected and reassembled in accordance with manufacturer's overhaul instructions. All steel parts magnafluxed. Engine test run in F.A.A. approved test cell. All applicable Airworthiness Directives and Manufacturer's Service Bulletins are in compliance as of date of overhaul.

A description of these repairs is on file at this agency under:

JOB NO. 60760 DATE 10/09/2006  
MFG. Continental MODEL IO-470-V0  
SERIAL NO. 170539-R TIME IN SVC. 3749.



G & N Aircraft, Inc.

1701 E. Main St.  
Griffith, IN 46319  
(219) 924-7110

*Tom Hall*  
Authorized Signature

C.R.S. #MW 2R020L

The Accessories Listed Below Were Overhauled and Supplied With This Engine

ENGINE	IO-470-V0	SN	170539-R	DATE	10/09/2006
	P/N	S/N	P/N	S/N	
MAG.	10-600656-1	E06HGN04	PROPELLER	NONE	
MAG.	10-600606-1	E06HGN03	PROP. GOV.	NONE	
ALT./GEN.	NONE		TACH. GEN.	NONE	
INJ./CARB.	632916-2	I099312AR	TURBO CHARGER	NONE	
FUEL PUMP	646212-3	J179513BR	WASTE GATE	NONE	
STARTER	PM2407	85002409	CONTROLLER	NONE	
VAC. PUMP	NONE		CONTROLLER	NONE	
DIS. VALVE	631351-10A5	GN81798C	REL. VALVE	NONE	



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W.O.# 60760  
*Tom Hall*  
Authorized Signature

C.R.S. #MW 2R020L

At date of engine overhaul 10/09/2006

Engine model IO-470-V0

Authorized Signature Tom Hall

AD & REV #	REV DATE	APPLIC. SB #	ONE TIME	RECURRING
72-20-02		M73-2	X	
93-10-02		MSB93-12	X	
97-21-02		CSB97-10A	X	
98-01-08		-----	X	
98-17-11		-----	X	
99-19-01		MSB99-3C	X	
2000-23-21		MSB00-5c	X	
94-01-03 R2	06/28/95	MSB644	X	
94-06-09		CSB641	X	

At date of engine overhaul 10/09/2006

Engine model IO-470-V0

Authorized Signature Toni Hall

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## COMPLIANCE RECORD

S/N 170539-R W/O 60760

C/W complied with, P/C/W previously complied with, N/A not applicable.

CRS MW2R020L Tom Hall

NEXT COMPLIANCE HRS. &amp; DATE

## METHOD OF COMPLIANCE

	N/A by P/N
	N/A by P/N
	N/A by P/N
	N/A by P/N
	P/C/W
	N/A by S/N
	N/A by S/N
	P/C/W
	C/W new capacitor

## COMPLIANCE RECORD

S/N 170539-R W/O 60760

C/W complied with, P/C/W previously complied with, N/A not applicable.

CRS MW2R020L *Tam Ball*

NEXT COMPLIANCE HRS. &amp; DATE

## METHOD OF COMPLIANCE

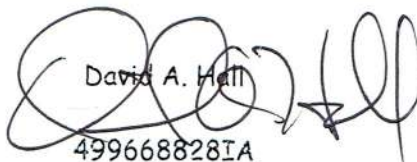
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**D & R AIRMOTIVE, L.L.C.**  
Kirksville Regional Airport  
27165 Airport Trail • Kirksville, MO 63501  
(660) 627-0390

**11/15/2006 N3311X Hobbs Time 351.0 hrs.**  
**SMOH 000.0 hrs.**

This engine Teledyne Continental M/N IO-470-VO, S/N 170539-R, installed in N3311X this date after overhaul @ G & N Aircraft, Inc. Installation with all new engine mounts, bolts, locks and misc hardware. Installed all new flexible hoses and lines from Precision Hose Technology, Inc. Serviced engine with (12) qts. Aeroshell 80 non-detergent oil. Test ran engine for operation, oil and fuel leaks. Ops checks are normal. I certify that this engine has been inspected in accordance with an annual inspection and was determined to be in airworthy condition.

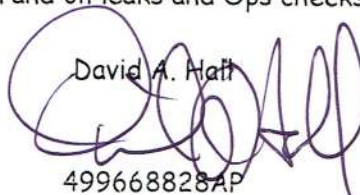
  
David A. Hall  
499668828IA



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**N3311X Hobbs Time 362.3 hrs.**  
**SMOH 11.3 hrs.**

Ran engine to operation temperatures, drained engine oil and removed oil screen to check for metal contaminations, none found. Checked for engine mounts security and all hardware for security. Checked exhaust system for security. Serviced engine with (11) qts. Aeroshell 80 non-detergent oil. Test ran for operation and oil leaks and Ops checks are normal.

  
David A. Hall  
499668828AP


Date



**D & R AIRMOTIVE, L.L.C.**  
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**N3311X 2/27/2007 Hobbs Time 387.7 hrs.**

Ran engine to operation temperatures, drained engine oil and removed oil screen to check for metal contaminations, none found. Serviced engine with (11) qts Aeroshell 15W50 oil, test ran for oil leaks and operations, all Ops checks are normal.

  
David A. Hall  
499668828 AP



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(660) 627-0390

**N3311X 9/15/2007 Hobbs Time 419.5 hrs.**

Ran engine to operation temperatures, drained engine oil and removed oil screen to check for metal contaminations, none found. Checked engine installation for security. Serviced engine with (11) qts. Aeroshell 15W50 oil. Washed engine compartment down, test ran for operation and oil leaks, all Ops checks are normal.

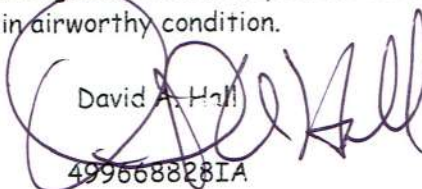
  
David A. Hall 499668828 AP





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**N3311X 12/21/07 Hobbs Time 442.7 hrs.**  
**SMOH 91.7 hrs.**

**ANNUAL INSPECTION** Ran engine to operation temperatures, drained engine oil and removed oil screens to check for metal contaminations, none found. Checked cylinder compressions as follows: Cylinder #1 80/75 #2 80/70 #3 80/74 #4 80/75 #5 80/72 #6 80/74. Cleaned, gapped, repainted, and rotated spark plugs. Checked exhaust system for security and condition. Checked all engine mounting hardware for condition and security. Serviced engine with (11) qts. Aeroshell 15W50 oil. Test ran for oil leaks and operations, all Ops checks are normal. I certify that this engine has been inspected in accordance with an annual inspection and was determined to be in airworthy condition.

  
David A. Hall  
499668828 IA

Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	
			 <p>New Vision Aviation 25093 Ebony Av Callao, Missouri 63534 1-660-651-0326</p> <p>N3311X January 18, 2008 Hobbs time 470.4 Drained oil and removed oil screen and cleaned. Filled with 12 quarts of Philips 20/50 x/country oil. Replaced screen and safety tied. Washed down engine and test ran for leaks. None found. Returned to service this date.</p> <p> Richard Castle AP 2759485 IA</p>



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**N3311X 10/14/2008 Hobbs Time 510.7 hrs.**

Removed right engine tach generator, cleaned oil soaked generator and reinstalled with new gasket. Removed oil screen and replaced crush washer gasket with new, resaftied. Test ran for oil leaks and operations, all Ops checks are normal.

David A. Hall

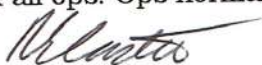
499668828 AP




New Vision Aviation  
25093 Ebony Av  
Callao, Missouri 63534  
1-660-651-0326

N3311X Oct. 24, 2008. Hobbs time 510.7 Removed oil screen and drained oil from right engine. Replaced oil screen with FM Enterprises Model C6LC-L oil filter adapter and a Champion Ch48108-1 oil filter. Installed as per instructions with STC SE09356SC. Filled engine with 11 qts Aeroshell 15/50 oil and test ran and checked for leaks. None found. Removed all six fuel injectors and replaced with six modified fuel injectors from GAMI INC. Installed as per instructions with STC SE09217SC. Test ran engine and check all ops. Ops normal. Returned to service this date.

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Richard Castle AP 2759485 IA



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ough 100W.

Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	
			 <p>New Vision Aviation 25093 Ebony Av Callao, Missouri 63534 1-660-651-0326</p> <p><b>N3311X January 15, 2009. Hobbs Time 567.5</b>  <b>Right Engine -Total time engine SMOH 216.5.</b>            Drained oil and removed oil filter and cut open and inspected for contamination, none found. Filled with 12 qts. Philips 20/50 oil. Installed new Champion oil filter and safetied. Ran compressions, #1-74, #2-68, #3-65, #4-76, #5-68, #6-74. Removed spark plugs and cleaned and tested. Oil was found in bottom spark plugs on #2 and #6 cylinders and G&amp;N engines was notified. Borescoped those cyl and found no anomalies. Reset Mag timing. Inspected all plug wires, &amp; fuel system components. Removed and rerouted fuel line to mixer valve as it was rubbing. Inspected oil radiator and all oil lines, controls and electrical systems. Removed Left exhaust stack and replaced gaskets due to leaks. Removed oil separator drain back line and replaced due to hole rubbed in tube. Washed down engine and test ran for leaks, none found. I certify that this engine was inspected in accordance with an annual inspection and was determined to be in an airworthy condition.</p> <p><i>Richard Castle</i>            Richard Castle AP 2759485 IA</p>
			<p><i>N3311X March 30, 2009 Hobbs time 620.0. Drained oil &amp; removed oil filter and cut open to inspect for contaminants - none found. Filled with 11 qts 20/50 philips oil. Installed new oil filter &amp; safetied. Test ran for leaks - none found. Returned to service this date -</i></p> <p><i>Richard Castle</i> AP 2759485 IA</p>
			<p><i>N3311X June 5, 2009 Hobbs time 684.5</i>  <i>Drained oil &amp; removed filter &amp; cut open - no contamination found. Installed New oil filter &amp; safetied. Filled with 11 Qts 20/50 &amp; county oil test ran for leaks - none found. Returned to service this date. Richard Castle 2759485 AP-IA</i></p>

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.



Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	
7-30-09	743.2		July 30, 2009 Hobbs time 743.2 Drained engine oil & removed filter. Installed new filter & safely tied. Cut open old filter & checked for contamination - none found. Filled w/12 qts 20/50 xc oil. Test ran engine for leaks & wash down engine. Approved this engine for return to service this date. Mizzou AP 2759485
8/18-09	791.6		Complied with MSB09-1A By Inspection. <del>NO</del> No affected cylinders installed on this engine by date of Manufacture, Mizzou AP/IA 2759485
8/18/09	791.6		N3311X Hobbs 791.6. Drained oil & removed oil filter & cut open; no contamination found. Installed new oil filter & 12 qts Phillips 20/50 xc oil. <del>Test</del> Washed down engine & test ran for leaks - none found. Approved for return to service this date. Mizzou 2759485 AP/IA
<div style="border: 1px solid black; padding: 5px;"> DATE: 09/29/2009      HOBBS: 867.1      A/C# N3311X  RIGHT ENGINE: DRAINED OIL AND REMOVED FILTER. CUT FILTER AND INSPECTED, NO CONTAMINATES NOTED. INSTALLED NEW DRAIN PLUG CRUSH WASHER, P/N AN900-10. SERVICED ENGINE WITH NEW OIL FILTER, P/N CH48108-1 AND 12 QUARTS PHILLIPS X/C 20W50 OIL. ENGINE RUN UP NORMAL, NO LEAKS NOTED. TIGHTEN NUTS FOR #2 CYLINDER EXHAUST. MIZZOU WO# 11506.    SIGNED <u>Michael P. Blakely</u>      CERT. NO# <u>2656376</u>  MIZZOU AVIATION      REGIONAL AIRPORT      JOPLIN MO. 64801 </div>			

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Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	
10/22 2009	914.5		N3311X - hobbs 914.5 Drained oil & remove filter & cut open No contamination. Filled w/ 12 qts 20/50 oil & installed new CH48108 oil filter & safetied. Removed all spark plugs & cleaned & reinstalled after testing. Wash down eng & test run for leaks - none found - <i>Richard Castle</i> AP 2759485
12/4 2009	918.1		N3311X - hobbs 918.1 Drained oil & removed filter & cut open - no contamination found. Filled w/ 11 qts 20/50 X oil. Installed new CH48108 oil filter & safetied. Test ran engine for leaks & none found. Approved for return to service this date - <i>Richard Castle</i> AP 2759485
			 <p>New Vision Aviation 25093 Ebony Av Callao, Missouri 63534 1-660-651-0326</p> <p><b>N3311X Feb. 1, 2010 Hobbs Time 1035.7 Total time since major overhaul 684.7 TT. 4433.7</b></p> <p>Removed all engine cowlings and drained oil and removed filter and cut open and check for contamination - none found. Installed new CH48108 filter and filled with 12 qts. 20/20 Phillips oil. Washed down engine. Checked torque on all exhaust man. bolts. Replace airfilter with new element. Removed and cleaned all spark plugs and tested. Compressions checked as follows, #1-74, #2-66, #3-72, #4-64, #5-73, #6-76. Inspected magnetos and reset timing to factory specs. Inspected wiring harness, fuel lines, servos, injectors and all related systems. Reset prop governor. Rebuilt prop ice wiring and replaced terminal block to prop ice. Repaired crack to prop spinner. Test ran engine for leaks and none found.</p> <p>I certify that this engine was inspected in accordance with an annual inspection and found to be in an air worthy condition. Approved for return to service this date.</p> <p><i>Richard Castle</i> Richard Castle AP 2759485 IA</p>
			 <p>New Vision Aviation 25093 Ebony Av Callao, Missouri 63534 1-660-651-0326</p> <p><b>N3311X April 8, 2010. Right engine 1085.7 Hobbs Time 1085.7</b></p> <p>Removed eng. cowling and drained oil and removed oil filter and cut open - no contamination found. Installed new oil filter and safetied. Filled with 12 qts 20/50 Philips oil. Washed down engine and test ran for leaks - none found. Recowle engine and approved for return to service this date.</p> <p><i>Richard Castle</i> Richard Castle AP 2759485 IA</p>

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oil  
h 100W.

Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	
5/29/10	1147.0		<p>N3311X Right Engine</p> <p>Drained oil &amp; removed filter &amp; cut open to check for contamination - none found. Installed new oil filter &amp; safety tied. Filled w/12qts 20/50 x/c oil. Washed down engine &amp; test ran for leaks - none found. Approved for return to service this date.</p> <p>McLester - AP 2754485</p>
			<p> New Vision Aviation 25093 Ebony Av Callao, Missouri 63534 1-660-651-0326</p> <p><b>N3311X July 5, 2010. Hobbs Time 1196.4. Total time Right engine 4594.4, SMOH 845.4</b> Remove engine cowl and drained oil and removed oil filter. Replaced filter with new one and safety-tied. Filled with 12/qts 20/50 x/c oil. Tightened up alternator belt. Dressed small nicks from prop blades. Inspected fuel lines, ignition system, exhaust system and controls. Test ran engine for leaks and none found. All ops normal. This engine is approved for return to service this date.</p> <p> Richard Castle AP 2759485 IA</p>
7/1/2010	hobbs 1200.1		<p>N3311X. Removed left mag &amp; repaired shorted wire to condensor. Removed &amp; replaced all spark plugs. Test ran engine and all ops normal. McLester AP 2759485</p>
8/9/2010	hobbs 1249.5		<p>Drained oil &amp; removed filter &amp; filled with 12qts 20/50 x/c oil &amp; installed new oil filter &amp; safety tied. Washed down engine &amp; test ran for leaks - none found. This engine approved for return to service - McLester 2759485 AP</p>

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Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	



**N3311X (Right Engine Logs)  
TCM IO470 VO S/N 170539-R**

Inspected engine as required by FAR91.409 (a) (1) per inspection checklist meeting requirements of FAR 43.15 (2)(c) and FAR 43 App. D.  
 Performed post operational checks per FAR43.15 (c)  
 Compression #1 79/80 #2 76/80 #3 78/80 #4 70/80 #5 79/80 #6 78/80.  
 Current Compression Meets Requirements of **TCM SB84-15** Cylinder Leak Check dated 12/21/84. (Master Orifice reading Minimum 42 P  
 Changed oil and filter (Phillips X-C 20W50). Cleaned fuel injector nozzles. Replaced induction air filter (BA2305)  
 Replaced all spark plugs with new URHB32E spark plugs. Replaced RH oil vernatherm with serviceable used unit.  
 Installed missing right aft engine control cable support brackets #0850723-3 and 0850724-1  
 Replaced both forward engine mounts #J12390-1. Replaced missing outboard front side baffle #0851700-87.  
 CW TCM **SID97-3C** Fuel flow injection system adjustment.  
**AD2009-16-03** eff. 9/9/2009 Superior Air Parts Cylinder Ass. NA parts not installed.  
**AD2009-19-07** eff. 10/7/2009 TCM EQ3 cylinder assy. Per TCM Service Bulletin MSB09-1B. NA cylinders not installed.  
**AD2009-24-52** eff 11/18/2009 (supersedes 2009-24-51) TCM Lifters. Found NA parts not installed per TCM Service Bulletin MSB09-8.

DATE 1/27/2011      TACH/HOBBS 1375.7      Eng TT 4773.7      TSMOVH 1024.7  
 "I CERTIFY THAT THIS ENGINE HAS BEEN INSPECTED IN ACCORDANCE WITH AN ANNUAL INSPECTION  
 AND WAS DETERMINED TO BE IN AIRWORTHY CONDITION."

ANTHONY R. SAXTON

AP32537461A

*Anthony R. Saxton*

03/06/2011	1423.7	<p>Changed oil + filter (12 qts Phillips X/C 20W50 + Tempest AA48108-2). Checked filter for contamination - satisfactory.</p> <p>Retorqued F+M Enterprises oil filter adapter to 65 ft. lbs as per F+M. Secured loose ignition leads. Secured several loose fuel injector line clamps. Replaced worn clamp on starter cable. Post inspection runup and leak check satisfactory. END</p> <p><i>P. Matthew Cook</i> A+P 28445411</p>
04/18/2011	1480.3	<p>Changed oil + filter + checked filter for contamination none found. Installed new filter + filled w/12 qts 20/50XC Phillips.</p> <p>Test Ran engine + checked for leaks - none found.</p> <p>Removed all spark plugs + installed new ones. Ran Compression checks. #1-67, #2-60, #3-68, #4-64, #5-74, #6-60.</p> <p>all ops normal - <i>W. Hunter</i> AP 2759485</p>

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Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	
04/29/2011	1494.5		<p>Removed vacuum pump &amp; found drive skewed &amp; pump full of debris. Cleaned all hoses &amp; related piping and installed New Lindbergh 242CW vacuum pump &amp; mount gasket. Test ran engine &amp; pump &amp; all ops normal.</p> <p>Walter AP2754485 Pump ser. # 07AC000092</p>
05/17/2011	1510.0		<p>Changed oil &amp; filter (12 qts Phillips x/c 20W-50 + Tempest AA48108-2). Checked filter for contamination - satisfactory. Retorqued F+M Enterprises oil filter adapter as per F+M to 65 Ft. lbs. Tightened all intake manifold hose clamps. Removed tach generator and installed used serviceable tach generator with new seal and gasket. <del>Walter</del> P. Nathan Cash Post inspection run up and leak check satisfactory. END AP 2844541</p>
06/17/2011	1556.5		<p>Drained oil &amp; removed filter &amp; cut open to inspect - no contamination found. Installed New filter &amp; safety filter &amp; filled w/ 12 qts Phillips 20/50 xc oil. Replaced belt on alternator. Cleaned air filter. Glued filter back onto air cleaner base. Inspected all note mounts, fuel lines, pumps, exhaust, &amp; oil lines all satisfactory. Prop Governor cable needs to be replaced soon. <del>Walter</del> Compression checks as follows: #1 <del>74</del><sup>74</sup>, #2 <del>60</del><sup>60</sup>, #3 <del>71</del><sup>71</sup>, #4 <del>58</del><sup>58</sup>, #5 <del>67</del><sup>67</sup>, #6 <del>66</del><sup>66</sup>. Removed all spark plugs &amp; cleaned, gapped, tested &amp; reinstalled. Wash down eng. and test for leaks - None found - all ops normal.</p> <p>Walter AP2754485 IA</p>

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	
7/21 2011	hobbs 1601.2		Drained oil & removed filter & cut open - no contamination found. Installed new filter & filled w/12 qts 20/50 oil. Tightened Up Alternator Belt. Check compression as follows: #1-66, #2-55, #3-73, #4-72, #5-55, #6-58. Test Ran engine to check for leaks & mag check - all ops normal. <i>Plaster 2759485 AP</i>
08/18/ 2011	1650.0		Changed oil & filter (12 qts Phillips X/C 20W-50 & Tempest AA48108-2). Checked filter for contamination & took oil sample. Retorqued F&M Enterprises oil filter adapter to 65 ft. lbs. Compression test as follows: #1 69/80, #2 65/80, #3 70/80, #4 62/80, #5 68/80, #6 63/80. Master orifice minimum 46/80 as per TCM 3B84-15. Secured chaffing fuel lines. Ops checked satisfactory. <i>EJND</i> <i>P. Plaster Cash</i> <i>A+P 2844541</i>
09- 26- 2011	hobbs 1698.5		Changed oil & filter - cut open & checked for contamination - none found. Filled w/12 qts 20/50 xc oil & installed new oil filter. Removed all spark plugs & installed fresh, tested plugs. Compression #1-60, #2-60, #3-65, #4-72, #5-64, #6-55. Inspected engine, oil, exhaust system, fuel lines, oil line, & eng. controls. Tightened Alternator Belt, Washed down eng & test ran for leaks - none found - all ops normal. <i>Plaster 2759485</i>

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	
10-24-2011	1751.7		Drained oil and removed oil filter & test open - no contamination found. Installed new filter & filled w/ 17QTs 20/50 xc oil. adj. alt. air door to close properly. Test run engine for leaks - none found. Approved for return to service this date. <i>McMaster</i> , 2754485 AP
11/4/2011	1764.6		Ran compression check as follows; #1- 59/80, #2- 62/80, #3- 58/80, #4- 60/80, #5- 60/80, #6- 68/80 - hot check. <i>McMaster</i> 2754485 AP



N#: 3311X  
Date: 21 November 2011

Midwest Corporate Aviation.

RIGHT <sup>INC</sup>  
~~Log~~ Engine Log

Cessna 310L  
HM: 1792.6

S/N: 310L0161

Cleaned #4 cylinder fuel injector on left and right engines IAW IO-470-VO OHM.

I certify that this aircraft was repaired / inspected in accordance with current Regulations of the Federal Aviation Administration and is approved for return to service for the work performed. Pertinent details of the maintenance are on file at this repair station under W/O # OE  
*[Signature]* for Midwest Corporate Aviation, CRS# BVYR657C.

11/30/2011	1801.5		Drained oil & removed oil filter & test open - no contamination found. Installed new oil filter & filled w/ 12QTs 20/50 xc oil. Removed all spark plug & cleaned, gapped & tested & reinstalled. Compressions run; #1-67, #2-56, #3-65, #4-59, #5-65, #6-68. Worked down engine & test run for leaks - none found. Approved for return to service - <i>McMaster</i> AP2754485 IA
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G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

Date

TACH

TTSN

Hobbs

SMOH

Performed Work: Must include signature,  
certificate number, and repair station number if applicable

2012  
1-5

1833.1

5234.10

Removed This Engine for O.H.

*Kent H. H.*

**MIDWEST AIRCRAFT SERVICES, INC. - Newton City-County Airport - Newton Kansas**

02-27-12 TCM IO-470-VO, S/N 170539-R

SMOH: 000.0 hrs Engine Total Time: 5231.10 hrs

This engine was disassembled, cleaned, inspected, and overhauled using the following new parts: rod bearings, main bearings, rod bolts, rod nuts, crank gear bolts, cam gear bolts, counterweight rollers, counterweight washers, counterweight snap rings, piston pins, superior valve lifters, ignition harness, and spark plugs.

The cylinders were replaced with new Nickel Assemblies from ECI, S/N's 78958-02, 80403-07, 81539-01, 78280-18, 82649-12, 79091-07. The new cylinders came with pistons, valves, springs, rocker shafts, and piston rings. The steel parts were magnafluxed by Air Capital NDI. The crankshaft was magnafluxed and ultrasonic inspected by Rick Romans Inc. The connecting rods, counterweights and camshaft were repaired by Rick Romans Inc. The oil cooler was replaced with an exchange unit from Pacific Oil Cooler. The magnetos were repaired using new felts, snap rings, and functionally tested. The fuel pump, flow divider, and throttle body/fuel control were overhauled by Great Planes Fuel Metering. The crankcase was repaired by DivCo Inc., Tulsa. The starter was replaced with an OH/exchange unit from Lamar.

C/W AD#10-11-04 by installing new Superior lifters. AD#09-19-07 not applicable to new ECI cylinders installed. AD#07-04-19R1 not applicable to new ECI cylinders installed. The engine was serviced with Phillips 20w50X/C. The engine was test run and checked okay.

*Benjamin Sullivan*  
AIP511522005

2/27/2012

TCM

IO-470-VO

S/N 170539R

Description	Part Number	Serial Number	Condition
Left magneto	BL600606	E10GA011R	Repaired
Right magneto	BL600656-A	E10IA032R	Repaired
Alternator	None		
Fuel Pump	646212-3	J179513BR	Overhauled
Flow Divider	631351-10A5	GN81798C	Overhauled
Throttle Body/ Fuel Control	632916-12	1099312AR	Overhauled
Fuel Nozzles	GAMI		Tested
Starter	PM2407-8		Overhauled
Vacuum Pump	242CW	7AC192	Reused As Is

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
	Hobbs	SMOH	



785-54-7055  
Billard Airport  
Topeka Ks. 66616  
R.S. #MI2R006L  
W.O.#12-3449  
T.T 5231.1 hrs

RT engine log  
N3311X  
IO-470-VO  
S/N:170539-R  
3-26-2012  
TSMOH 0

HOBBS 1833.1

Removed engine and sent to Midwest A/C for OH. Sent exhaust to ASW for OH. Reinstalled OH engine with new mounts and hoses. Installed OH Alt with new belt. Had A/C Access Of OK OH Alternator and Tach Generator and repair Governor. Exhaust system was OH by ASW. And installed with new gaskets and nuts. Serviced with Phillips x/c 20w50typeM. I certify that this Engine has been inspected I/A/W an Annual inspection and was determined to be airworthy condition.

*Keith Hetrick*  
Keith Hetrick

04/05 2012	1839.9	6.8	Removed oil filter for post overhaul inspection. Found Satisfactory. Installed new filter and added one quart Phillips Type M oil. P. Nathan Cook A+P 2844541
04/23 2012	1854.4	21.3	Changed oil & filter (12qts Phillips 20W-50 x/c). Checked filter for contamination. Found satisfactory. Post run and leak check satisfactory. P. Nathan Cook A+P 2844541
05/23 2012	1878.0	44.9	Changed oil + filter (12qts Phillips 20W-50 x/c). Checked filter for contamination. Found satisfactory. Post run and leak check satisfactory. P. Nathan Cook A+P 2844541

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

Date

TACH

TTSN

Performed Work: Must include signature,  
certificate number, and repair station number if applicable



785-54-7055  
Billard Airport  
Topeka Ks. 66616  
R.S. #MI2R006L  
W.O.#12-3663  
T.T 5334.2 hrs

RT engine log  
N3311X  
IO-470-VO  
S/N:170539-R  
9-12-2012  
TSMOH 103.1

HOBBS 1936.2

Checked comp all 70/80 or better . Changed oil and filter , Serviced with Phillips x/c 20w50 . Cleaned and gapped S.P. . Cleaned fuel injectors .

Keith Hetrick



785-54-7055  
Billard Airport  
Topeka Ks. 66616  
R.S. #MI2R006L  
W.O.#12-3699 10-18-2012

RT engine log  
N3311X  
IO-470-VO  
S/N:170539-R  
HOBBS 1942.4

Replaced all mounts J12390-1 .

Keith Hetrick



785-54-7055  
Billard Airport  
Topeka Ks. 66616  
R.S. #MI2R006L  
W.O.#12-3784 12-13-2012

RT engine log  
N3311X  
IO-470-VO  
S/N:170539-R  
HOBBS 2011.8

Replaced induction support mount p.n. 538469 .

Keith Hetrick



785-54-7055  
Billard Airport  
Topeka Ks. 66616  
R.S. #MI2R006L  
W.O.#13-3803 1-16-2013

RT engine log  
N3311X  
IO-470-VO  
S/N:170539-R  
HOBBS 2037.4

CLEANED SPARK PLUGS AND FUEL INJECTORS . CHECKED MAG TIMING OK .  
INSPECTED ENGINE AND EXHAUST OK . TEST RAN OK FOR RETURN TO SERVICE.

Keith Hetrick






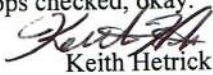
785-354-7055  
Billard Airport  
Topeka Ks. 66616  
R.S. #MI2R006L  
W.O.#13-3854  
T.T 5481.0 hrs

RT engine log  
N3311X  
IO-470-VO  
S/N:170539-R  
4-26-2013  
TSMOH 249.9

HOBBS 2083.0

Removed fuel injectors, cleaned & reinstalled. Cleaned & gapped sparkplugs. Drained oil, removed oil filter & inspected, okay. Installed new filter & serviced engine with 12 qts. Phillips 20W50 XC. Ran up aircraft & checked for leaks, found okay. Removed fuel bowl screens, cleaned & reinstalled. Replaced fwd engine mounts with new Berry mounts P/N 96069-01. I certify that this Engine has been inspected I/A/W an Annual inspection and was determined to be airworthy condition .

Keith Hetrick

Date	TACH	TTSN	Performed Work: Must include signature, certificate number, and repair station number if applicable
			 <p>785-354-7055 Billard Airport Topeka Ks. 66616 R.S. #MI2R006L W.O.#13-3890 HOBBS 2089.8</p> <p>Replaced both fwd engine mounts, P/N J12390-1.</p> <p>Right engine log N3311X IO-470-VO S/N:170539-R 5-13-2013 TSMOH <del>249.9</del> 256.7 PNC</p> <p> Keith Hetrick</p>
07/10/ 2013	2130.8	297.7	<p>Changed oil &amp; filter (12 qts Phillips 20W-50 X/C) Checked filter for contamination, Found satisfactory. Post run and leak check satisfactory. P. Nathan Cook ATP 2844541</p>
* 11/28 2012	1988.7	155.6	<p>This entry is recorded out of chronological order. Changed oil &amp; filter (12 qts Phillips 20W-50 X/C) Checked filter for contamination Found satisfactory. Post run and leak check satisfactory. P. Nathan Cook ATP 2844541</p>
* 01/09 2013	2036.3	203.2	<p>This entry is recorded out of chronological order. Changed oil &amp; filter (12 qts Phillips 20W-50 X/C) Checked filter for contamination Found satisfactory. Post run and leak check satisfactory. P. Nathan Cook ATP 2844541</p>
			 <p>785-354-7055 Billard Airport Topeka Ks. 66616 R.S. #MI2R006L W.O.#13-4038 HOBBS 2158.2</p> <p>Repaired broken field wire to RH Alternator, recowled &amp; ran up &amp; ops checked, okay.</p> <p>Right engine log N3311X IO-470-VO S/N:170539-R 9-18-2013 325.1 TSMOH <del>249.9</del> PNC</p> <p> Keith Hetrick</p>

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

Date

TACH

TTSN

Hobbs

SMOH

Performed Work: Must include signature,  
certificate number, and repair station number if applicable



785-354-7055  
Billard Airport  
Topeka Ks. 66616  
R.S. #MI2R006L  
W.O.#13-4060  
HOBBS 2187.5

Right engine log

N3311X

IO-470-VO

S/N:170539-R

10-11-2013

TSMOH ~~249.9~~ 354.4 PNC

Drained oil, removed oil filter & inspected, no metal found. Installed new oil filter & serviced engine with 12 qts. Phillips 20W50 XC, ran up & leak checked, okay.

*Keith Hetrick*  
Keith Hetrick



785-354-7055  
Billard Airport  
Topeka Ks. 66616  
R.S. #MI2R006L  
W.O.#14-4221  
T.T 5617.0 hrs

RT engine log

N3311X

IO-470-VO

S/N:170539-R

5-28-2014

TSMOH 385.1

HOBBS 2219.0

Removed fuel injectors, cleaned & reinstalled. Cleaned & gapped sparkplugs. Drained oil, removed oil filter & inspected, okay. Installed new filter & serviced engine with 12 qts. Phillips 20W50 XC. Ran up aircraft & checked for leaks, found okay. Removed oil cooler and sent to Pacific Oil Cooler Service for O.H., reinstalled O.H. cooler. Removed fuel bowl screens, cleaned & reinstalled. Replaced fwd engine mounts with new P/N J12390-1. I certify that this Engine has been inspected I/A/W an Annual inspection and was determined to be airworthy condition.

*Keith Hetrick*  
Keith Hetrick



785.354.7055  
Billard Airport  
Topeka, Ks 66616  
R.S. #MI2R006L  
W.O. #14-4236

RT Engine Log

N3311X

0161

6-2-2014

HOBBS: 2220 HRS

REMOVED AND REINSTALLED LT MAG FROM LEFT ENGINE, PN BL600606-1, SN  
E10GA011R.

*Keith Hetrick*  
KEITH HETRICK

01/09/2015 Hobbs: 2265.4

Removed failed vacuum pump and installed new Tempest AA3216CW pump serial number 078S10. Ops checked satisfactory.

*P. Nathan Cook*

P. Nathan Cook A&amp;P 2844541

01/14/2015 Hobbs: 2270.5

Changed oil and filter. Serviced with 12 qts. Phillips 20W-50 X/C. Post-run inspection and leak check satisfactory.

*P. Nathan Cook*

P. Nathan Cook A&amp;P 2844541

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil  
of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

Date

TACH

TTSN

Hobbs

SMOH

Performed Work: Must include signature,  
certificate number, and repair station number if applicable



785.354.7055  
Billard Airport  
Topeka, Ks 66616

R.S. #M12R006L  
W.O. #15-4535  
TSMOH: 484.4 HRS

RT Engine Log  
N3311X  
IO-470-VO  
SN: 170539-R  
6-1-2015  
HOBBS: 2318.3 HRS  
T.TIME: 5716.0 HRS

PERFORMED COMPRESSION TEST, ALL CYCLINDER AT 75/80 OR BETTER.  
DRAINED OIL, REMOVED OIL FILTER, INSPECTED FOR METAL, NONE NOTED,  
INSTALLED NEW FILTER, SERVICED WITH 12 QT OF PHILLIPS X/C 20/50. RAN TO OPS, NO  
LEAKS FOUND.

REMOVED RH ENGINE OUTBOARD EXHAUST FOR REPAIR, REINSTALLED.  
CLEANED, GAPPED, TESTED SPARKPLUGS, AND ROTATED ALL SPARKPLUGS  
REINSTALLED WITH NEW GASKETS, PN M674, AND TORQUED.  
REMOVED, CLEANED AND REINSTALLED FUEL INJECTORS.

I CERTIFY THIS ENGINE HAS BEEN INSPECTED I/A/W/ AN ANNUAL INSPECTION AND  
FOUND TO BE IN AIRWORTHY CONDITION AND APPROVED FOR RETURN TO SERVICE.

*Keith Hetrick*  
KEITH HETRICK

NORTH-SCOUT AVIATION, INC. - FAA REPAIR STATION: 5NSR498C  
27165 DAVID HALL TRAIL, KIRKSVILLE, MO 63501-7870 - TEL. 660-627-6023

## MAINTENANCE RECORD

WO # WOM-00074

COMPLETION DATE 02/26/2016 AIRCRAFT Cessna 310L N# N3311X HOBBS 2363.7

Right Engine - Continental IO-470-VO S/N 170539-R. Changed oil and filter. Serviced with 12 quarts Phillips 20W-50 X/C and Champion CH48108-1 filter. Disassembled and inspected original oil filter - no abnormalities found. Post-engine run inspection and leak check, found satisfactory.

A complete description of work performed is on file at the organization under the work order number indicated above.

I certify that unless otherwise specified, the work was accomplished in accordance with 14 CFR Part 43 and in respect to that work, the article is approved for return to service.

Form: NSF0211  
Revision Number: 001  
Revision Date: 03/19/2015

Authorized Signature

*Leo Joe*

North-Scout Aviation, Inc.  
FAA CRS #5NSR498C

NORTH-SCOUT AVIATION, INC. - FAA REPAIR STATION: 5NSR498C  
27165 DAVID HALL TRAIL, KIRKSVILLE, MO 63501-7870 - TEL. 660-627-6023

N# N3311X

## MAINTENANCE RECORD

WO # WOM-00101

COMPLETION DATE 05/31/2016 AIRCRAFT Cessna 310L TACH ----- HOBBS 2385.5

Maintenance - Continental IO-470-VO S/N 170539-R (Right). Extracted oil sample through drain plug and sent for analysis - replaced crush gasket. Checked drain plug for leaks - none found.

A complete description of work performed is on file at North-Scout Aviation, Inc. under the work order number indicated above.

I certify that unless otherwise specified, the work was accomplished in accordance with 14 CFR Part 43 and in respect to that work, the article is approved for return to service.

Form: NSF0211  
Revision Number: 002  
Revision Date: 05/05/2016

Authorized Signature

*Leo Joe*

North-Scout Aviation, Inc.  
FAA CRS #5NSR498C

N# N3311X

MAINTENANCE RECORD

WO # WOM-00104

COMPLETION DATE 09/01/2016

AIRCRAFT Cessna 310L

TACH -----

HOBBS 2395.4

Annual Inspection - Right Engine - Continental IO-470-VO S/N 170539-R; TT on engine 5793.1 hrs. - SMOH 561.5 hrs. Drained oil, removed filter and inspected for contaminations - no discrepancies found. Serviced with 12 qts. Phillips 20W50 X/C oil and installed Champion CH48108-1 filter. Checked cylinder compression: #1 78/80, #2 75/80, #3 76/80, #4 75/80, #5 78/80, #6 77/80. Timed left and right magnetos. Cleaned, gapped and rotated spark plugs. Removed, cleaned and reinstalled all fuel injectors. Checked exhaust system for condition and security. Replaced fuel injector lines and clips on cylinders #3 & #5. Airworthiness Directives checked through 08/29/2016. Post engine run check found satisfactory.

A complete description of work performed is on file at North-Scout Aviation, Inc. under the work order number indicated above.

I certify that that this engine has been inspected in accordance with an annual inspection and was determined to be in airworthy condition.

Authorized Signature



Form: NSF0211  
Revision Number: 002  
Revision Date: 05/05/2016

North-Scout Aviation, Inc.  
FAA CRS #5NSR498C

G&N Aircraft Recommended oil after break in: Any approved straight weight AD oil of a viscosity respective of operating outside air temperature, i.e. Grade 65W through 100W.

