



OIL REPORT

LAB NUMBER: K25565
 REPORT DATE: 6/5/2018
 CODE: 1/37

UNIT ID: N9272L
 CLIENT ID: 28
 PAYMENT: Verbal, Brian

UNIT	MAKE/MODEL: Lycoming O-360-A4M	OIL TYPE & GRADE: Aeroshell 15W/50
	FUEL TYPE: Gasoline (Leaded)	OIL USE INTERVAL: 23 Hours
	ADDITIONAL INFO: Piper PA-28, Rick Baron, S/N: RL-32262-36A	

CLIENT	BRIAN	PHONE: (260) 747-4810
	PREMIER AVIONICS	FAX:
	11007 WEST PERIMETER RD	ALT PHONE: (260) 418-0761
	FORT WAYNE, IN 46809	EMAIL: brian@premieravionics.net

** Perfect Report*

COMMENTS
 BRIAN: That's more like it - iron dropped back into its normal range, and the water we'd found in the last two samples cleared up. With those improvements we don't have any complaints; this looks to be a well-wearing O-360 with no apparent issues. Insolubles and lead dropped back to where they typically run for this particular engine, indicating blow-by is fine. No measurable contamination was present. Good report all the way around!

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	23	UNIT / LOCATION AVERAGES	25	27	38	33	31	UNIVERSAL AVERAGES
	MI/HR on Unit	1,289		1,266	3,215	1,150			
	Sample Date	5/29/2018	3/29/2018	1/16/2018	9/22/2017	8/31/2017	7/20/2017		
	Make Up Oil Added	2 qts							
	ALUMINUM	3	4	5	4	2	3	3	5
	CHROMIUM	2	3	3	1	1	2	3	4
	IRON	23	28	56	21	12	16	24	27
	COPPER	4	6	4	4	4	5	5	6
	LEAD	2453	3840	3268	2950	2710	2689	3076	4146
	TIN	1	1	1	1	0	0	0	1
	MOLYBDENUM	0	0	0	0	0	1	0	0
	NICKEL	1	1	1	1	0	1	1	2
	MANGANESE	0	0	0	0	0	0	0	0
	SILVER	0	0	0	0	0	0	0	0
	TITANIUM	0	0	0	0	0	0	0	0
	POTASSIUM	0	0	0	1	1	2	0	1
	BORON	1	1	1	2	1	5	1	1
	SILICON	6	5	7	6	5	6	6	5
	SODIUM	2	1	2	2	1	4	1	1
	CALCIUM	82	15	124	139	114	121	114	17
	MAGNESIUM	1	0	1	1	1	2	1	1
	PHOSPHORUS	1356	534	1494	1584	1241	1218	1264	667
	ZINC	34	8	50	58	50	61	59	8
	BARIUM	0	0	0	0	0	1	1	0

Values Should Be*

PROPERTIES	93.1	82-105	87.7	85.3	86.9	91.2	91.7
SUS Viscosity @ 210°F	93.1	82-105	87.7	85.3	86.9	91.2	91.7
cSt Viscosity @ 100°C	18.73	16.0-21.8	17.43	16.83	17.24	18.27	18.38
Flashpoint in °F	450	>440	BOIL	455	480	495	465
Fuel %	<0.5	<1.0	-	<0.5	<0.5	<0.5	<0.5
Antifreeze %	-	-	-	-	-	-	-
Water %	0.0	0.0	POS	POS	0.0	0.0	0.0
Insolubles %	0.3	<0.6	0.5	0.2	0.3	0.3	0.3
TBN							
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com



OIL REPORT

LAB NUMBER: K48156
 REPORT DATE: 8/24/2018
 CODE: 1/37

UNIT ID: N9272L
 CLIENT ID: 28
 PAYMENT: Verbal, Brian

UNIT	MAKE/MODEL: Lycoming O-360-A4M	OIL TYPE & GRADE: Aeroshell 15W/50
	FUEL TYPE: Gasoline (Leaded)	OIL USE INTERVAL: 38 Hours
	ADDITIONAL INFO: Piper PA-28, Rick Baron, S/N: RL-32262-36A	

CLIENT	BRIAN	PHONE: (260) 747-4810
	PREMIER AVIONICS	FAX:
	11007 WEST PERIMETER RD	ALT PHONE: (260) 418-0761
	FORT WAYNE, IN 46809	EMAIL: brian@premieravionics.net

COMMENTS
 BRIAN: Frequent use over the summer is keeping metals in great shape. Iron is even lower than before at 19 ppm, and this was a decently long run of almost 40 hours. That shows healthy wear from steel parts, and other metals are low to match. Water hasn't shown up for a couple samples now, and there's no fuel dilution or dirt in the sample. It's obvious to us that N9272L is maintained and flown with care. All good things to report for this sample collected on 8/17/18!

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	38	UNIT / LOCATION AVERAGES					UNIVERSAL AVERAGES
	MI/HR on Unit	1,327	23	25	27	38	33	
	Sample Date	8/17/2018	5/29/2018	3/29/2018	1/16/2018	9/22/2017	8/31/2017	
	Make Up Oil Added	3 qts	2 qts					
ALUMINUM	3	4	3	5	4	2	3	5
CHROMIUM	2	3	2	3	1	1	2	4
IRON	19	28	23	56	21	12	16	27
COPPER	4	6	4	4	4	4	5	6
LEAD	3429	3846	2453	3268	2950	2710	2689	4146
TIN	2	1	1	1	1	0	0	1
MOLYBDENUM	0	0	0	0	0	0	1	0
NICKEL	1	1	1	1	1	0	1	2
MANGANESE	0	0	0	0	0	0	0	0
SILVER	0	0	0	0	0	0	0	0
TITANIUM	0	0	0	0	0	0	0	0
POTASSIUM	1	0	0	0	1	1	2	1
BORON	1	1	1	1	2	1	5	1
SILICON	8	5	6	7	6	5	6	5
SODIUM	1	1	2	2	2	1	4	1
CALCIUM	80	16	82	124	139	114	121	17
MAGNESIUM	0	0	1	1	1	1	2	1
PHOSPHORUS	1300	536	1356	1494	1584	1241	1218	667
ZINC	32	8	34	50	58	50	61	8
BARIUM	0	0	0	0	0	0	1	0

Values Should Be*

PROPERTIES	93.7	82-105	93.1	87.7	85.3	86.9	91.2
SUS Viscosity @ 210°F	93.7	82-105	93.1	87.7	85.3	86.9	91.2
cSt Viscosity @ 100°C	18.86	16.0-21.8	18.73	17.43	16.83	17.24	18.27
Flashpoint in °F	455	>440	450	BOIL	455	480	495
Fuel %	<0.5	<1.0	<0.5	-	<0.5	<0.5	<0.5
Antifreeze %	-	-	-	-	-	-	-
Water %	0.0	0.0	0.0	POS	POS	0.0	0.0
Insolubles %	0.2	<0.6	0.3	0.5	0.2	0.3	0.3
TBN							
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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9-15-20



OIL REPORT

LAB NUMBER: M62648 UNIT ID: N9272L
 REPORT DATE: 9/15/2020 CLIENT ID: 28
 CODE: 1/37 PAYMENT: Verbal, Brian

UNIT	MAKE/MODEL: Lycoming O-360-A4M	OIL TYPE & GRADE: Aeroshell W100 (AD)
	FUEL TYPE: Gasoline (Leaded)	OIL USE INTERVAL: 29 Hours
	ADDITIONAL INFO: Piper PA-28, Rick Baron, S/N: RL-32262-36A	

CLIENT	BRIAN	PHONE: (260) 747-4810
	PREMIER AVIONICS	FAX:
	4424 ALTITUDE DR	ALT PHONE: (260) 418-0761
	FORT WAYNE, IN 46809	EMAIL: brian@premieravionics.net

COMMENTS
 BRIAN: Metals are reading a smidge higher than they have after similar runs in the past, but that's okay. They're not as high as they were back in the 8/15/19 sample, and even those elevated chrome and iron readings cleared up in no time, so we'll hold out for the same this time. Even if metals stick around these levels, we can still say internal parts are in good shape. If a temporary factor (like flying at a higher power setting, for instance) is at play, maybe metals will improve in the next sample. CamGuard is visible in the calcium/phosphorus readings. Good results!

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	29	13	27	31	21	38	UNIVERSAL AVERAGES
	MI/HR on Unit	1,449	1,418	1,405	1,379	1,348	1,327	
	Sample Date	8/25/2020	1/20/2020	10/31/2019	8/15/2019	12/28/2018	8/17/2018	
	Make Up Oil Added						3 qts	
	ALUMINUM	7	4	4	9	4	3	5
	CHROMIUM	4	3	2	3	8	2	4
	IRON	36	29	19	22	48	19	27
	COPPER	4	6	2	2	4	3	6
	LEAD	3395	3806	1558	2448	4105	3094	4212
	TIN	1	1	1	0	2	0	1
	MOLYBDENUM	0	0	0	0	0	0	0
	NICKEL	1	1	1	1	2	1	2
	MANGANESE	0	0	0	0	1	0	0
	SILVER	0	0	0	0	0	0	0
	TITANIUM	0	0	0	0	0	0	0
	POTASSIUM	0	0	1	1	1	0	1
	BORON	0	1	3	0	0	1	1
	SILICON	5	5	6	6	13	10	5
	SODIUM	2	1	3	2	2	2	1
	CALCIUM	118	19	150	122	116	107	19
	MAGNESIUM	1	0	1	1	1	1	1
	PHOSPHORUS	129	490	227	115	218	1372	674
	ZINC	19	9	26	19	28	33	8
	BARIUM	0	0	0	0	0	0	0

Values Should Be*

PROPERTIES	SUS Viscosity @ 210°F	90.8	86-105	101.7	95.5	91.5	91.9	93.7
	cSt Viscosity @ 100°C	18.18	17.0-21.8	20.76	19.30	18.35	18.44	18.86
Flashpoint in °F	490	>460	460	515	485	455	455	
Fuel %	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	
Antifreeze %	-	-	-	-	-	-	-	
Water %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Insolubles %	0.4	<0.6	0.5	0.4	0.3	0.2	0.2	
TBN								
TAN								
ISO Code								

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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12-7-20



OIL REPORT

LAB NUMBER: M90910 UNIT ID: N9272L
 REPORT DATE: 12/7/2020 CLIENT ID: 28
 CODE: 1/37 PAYMENT: Verbal, Brian

UNIT	MAKE/MODEL: Lycoming O-360-A4M	OIL TYPE & GRADE: Aeroshell W100 (AD)
	FUEL TYPE: Gasoline (Leaded)	OIL USE INTERVAL: 29 Hours
	ADDITIONAL INFO: Piper PA-28, Rick Baron, S/N: RL-32262-36A	

CLIENT	BRIAN	PHONE: (260) 747-4810
	PREMIER AVIONICS	FAX:
	4424 ALTITUDE DR	ALT PHONE: (260) 418-0761
	FORT WAYNE, IN 46809	EMAIL: brian@premieravionics.com

COMMENTS
 BRIAN: Metals went down after another 29-hour run, which is just what were hoping to see. We weren't too bothered by the wear levels in the previous sample, but metals were up just a bit so we're glad to see a decrease in wear in this report. That suggests a situational/temporary factor caused metals to bump up last sample. Do note a bit of moisture was found in this sample, but that could easily be some temporary condensation that'll resolve on its own. No fuel was detected. Good report!

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	29	29	13	27	31	21	UNIVERSAL AVERAGES
	MI/HR on Unit	1,478	1,449	1,418	1,405	1,379	1,348	
	Sample Date	11/23/2020	8/25/2020	1/20/2020	10/31/2019	8/15/2019	12/28/2018	
	Make Up Oil Added	2 qts						
	ALUMINUM	4	4	7	4	4	9	4
	CHROMIUM	3	3	4	2	3	8	2
	IRON	25	29	36	19	22	48	22
	COPPER	3	6	4	2	2	4	3
	LEAD	3227	3800	3395	1558	2448	4105	3094
	TIN	1	1	1	1	0	2	0
	MOLYBDENUM	0	0	0	0	0	0	0
	NICKEL	1	1	1	1	1	2	1
	MANGANESE	0	0	0	0	0	1	0
	SILVER	0	0	0	0	0	0	0
	TITANIUM	0	0	0	0	0	0	0
	POTASSIUM	0	0	0	1	1	1	0
	BORON	5	1	0	3	0	0	1
	SILICON	4	5	5	6	6	13	10
	SODIUM	6	1	2	3	2	2	2
	CALCIUM	130	20	118	150	122	116	107
	MAGNESIUM	1	0	1	1	1	1	1
	PHOSPHORUS	96	486	129	227	115	218	1372
	ZINC	16	9	19	26	19	28	33
	BARIUM	0	0	0	0	0	0	0

Values Should Be*

PROPERTIES	90.4	86-105	90.8	101.7	95.5	91.5	91.9
SUS Viscosity @ 210°F	90.4	86-105	90.8	101.7	95.5	91.5	91.9
cSt Viscosity @ 100°C	18.07	17.0-21.8	18.18	20.76	19.30	18.35	18.44
Flashpoint in °F	525	>460	490	460	515	485	455
Fuel %	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5
Antifreeze %	-	-	-	-	-	-	-
Water %	POS	0.0	0.0	0.0	0.0	0.0	0.0
Insolubles %	0.3	<0.6	0.4	0.5	0.4	0.3	0.2
TBN							
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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3.17.21

G. E. BOA

26 hrs.

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Aircraft: PIPER
S/N: 2843077
Tail No.: N9272L

Date: 4/5/2021
Engine S/N: RL3226236A
Engine Model: LYC. 360

LEESBURG FL 32784
United States

Hobbs 3829.9 Tach 112.0

Values in (parenthesis) below your results are average values from all our analysis data for the same engine model with similar engine hours and oil hours. See www.avlab.com/explain for detailed explanation of the statistical analysis used with your laboratory results.

CURRENT SAMPLE		SAMPLE APPEARS NORMAL. Send next sample at normal interval.										Normal	Elevated	High	
Sample Date: 3/17/2021 Analysis Date: 4/2/2021 Sample Number: P34 Cylinder Type: steel TSN/TSO: 1500.1 Oil Hours: 26 Filter Hours: 26 Oil Added: Filter Wt. (mgs): Flashpoint(deg. F): H2O (ppm): Total Acid No.:	*** OIL ANALYSIS RESULTS IN PARTS PER MILLION ***														
	Iron	Copper	Nickel	Chromium	Silver	Magnesium	Aluminum	Lead	Silicon	Titanium	Tin	Moly.			
	18.2 (28.6)	1.2 (5.2)	0.3 (1.6)	1.5 (3.2)	N/A	N/A	3.6 (5.5)	1933 (2857)	2.6 (4.2)	N/A	< 0.1 (0.0)	N/A			
	*** FILTER ANALYSIS RESULTS ***														
	Material:	Stainless Steel	Carbon Steel	Alloy Steel	Bearing Alloy	Copper	Silver	Magn.	Alum.	Grit	Misc.				
	Amount:														
	Type:														
	Form:														
Comments: ALL OIL VALUES SEEM FINE. WE WILL CONTINUE TO MONITOR THIS ENGINE WITH YOUR NEXT SAMPLE.															
PREVIOUS SAMPLE 1		SAMPLE APPEARS NORMAL. Send next sample at normal interval.										Normal	Elevated	High	
Sample Date: 2/2/2016 Analysis Date: 2/15/2016 Sample Number: P118 Cylinder Type: unknown TSN/TSO: 965.1 Oil Hours: 65.1 Filter Hours: 65.1 Oil Added: Filter Wt. (mgs): Flashpoint(deg. F): H2O (ppm): Total Acid No.:	*** OIL ANALYSIS RESULTS IN PARTS PER MILLION ***														
	Iron	Copper	Nickel	Chromium	Silver	Magnesium	Aluminum	Lead	Silicon	Titanium	Tin	Moly.			
	38.7 (N/A)	25.6 (N/A)	1.0 (N/A)	4.3 (N/A)	N/A	N/A	8.2 (N/A)	4142 (N/A)	5.9 (N/A)	N/A	< 0.1 (N/A)	N/A			
	*** FILTER ANALYSIS RESULTS ***														
	Material:	Stainless Steel	Carbon Steel	Alloy Steel	Bearing Alloy	Copper	Silver	Magn.	Alum.	Grit	Misc.				
	Amount:														
	Type:														
	Form:														
Comments: ALL OIL VALUES SEEM FINE. WE WILL CONTINUE TO MONITOR THIS ENGINE WITH YOUR NEXT SAMPLE.															
PREVIOUS SAMPLE 2		SAMPLE APPEARS NORMAL. Send next sample at normal interval.										Normal	Elevated	High	
Sample Date: 5/14/2015 Analysis Date: 6/2/2015 Sample Number: P10 Cylinder Type: unknown TSN/TSO: 900.6 Oil Hours: 18.6 Filter Hours: 18.6 Oil Added: Filter Wt. (mgs): Flashpoint(deg. F): H2O (ppm): Total Acid No.:	*** OIL ANALYSIS RESULTS IN PARTS PER MILLION ***														
	Iron	Copper	Nickel	Chromium	Silver	Magnesium	Aluminum	Lead	Silicon	Titanium	Tin	Moly.			
	16.6 (N/A)	9.6 (N/A)	0.7 (N/A)	1.3 (N/A)	N/A	N/A	3.5 (N/A)	2531 (N/A)	3.7 (N/A)	N/A	< 0.1 (N/A)	N/A			
	*** FILTER ANALYSIS RESULTS ***														
	Material:	Stainless Steel	Carbon Steel	Alloy Steel	Bearing Alloy	Copper	Silver	Magn.	Alum.	Grit	Misc.				
	Amount:														
	Type:														
	Form:														
Comments:															



OIL REPORT

LAB NUMBER: N72327
 REPORT DATE: 8/9/2021
 CODE: 20/37

UNIT ID: N9272L
 CLIENT ID: 185443
 PAYMENT: Sub Account

UNIT	MAKE/MODEL: Lycoming O-360-A4M	OIL TYPE & GRADE: Phillips XC (A/C) 20W/50
	FUEL TYPE: Gasoline (Leaded)	OIL USE INTERVAL: 37 Hours
	ADDITIONAL INFO: Piper PA-28, Rick Baron, S/N: RL-32262-36A	

CLIENT	RICK BARON	PHONE: (260) 450-2460
	1028 LAKESHORES DR	FAX:
	DECATUR, IN 46733	ALT PHONE:
		EMAIL: eyedr4u@hotmail.com

37 HRS
Hobbs

COMMENTS
 RICK: Amended report with correct hours on the oil. Iron usually builds up over the hours, so it's not too surprising to see it a little higher after a longer oil run. This reading looks okay for the hours on the oil. Lead usually trends the same way, though, and it's unusually low for a 36.8-hour oil run. Unusually low blow-by isn't anything we'd complain about, though. The other metals are steady, and that's a good thing. No water was found this time, and there's still no sign of excess dirt or fuel, either. Good report.

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	37	UNIT / LOCATION AVERAGES	29	29	13	27	31	UNIVERSAL AVERAGES
	MI/HR on Unit	1,535		1,478	1,449	1,418	1,405	1,379	
	Sample Date	7/14/2021		11/23/2020	8/25/2020	1/20/2020	10/31/2019	8/15/2019	
	Make Up Oil Added	1 qt		2 qts					
	ALUMINUM	4	4	4	7	4	4	9	5
	CHROMIUM	2	3	3	4	2	3	8	4
	IRON	40	27	25	36	19	22	48	27
	COPPER	3	5	3	4	2	2	4	6
	LEAD	2116	2972	3227	3395	1558	2448	4105	4192
	TIN	0	1	1	1	1	0	2	1
	MOLYBDENUM	0	0	0	0	0	0	0	0
	NICKEL	1	1	1	1	1	1	2	2
	MANGANESE	0	0	0	0	0	0	1	0
	SILVER	0	0	0	0	0	0	0	0
	TITANIUM	0	0	0	0	0	0	0	0
	POTASSIUM	1	1	0	0	1	1	1	0
	BORON	0	1	5	0	3	0	0	1
	SILICON	4	6	4	5	6	6	13	5
	SODIUM	1	2	6	2	3	2	2	1
	CALCIUM	112	102	130	118	150	122	116	19
	MAGNESIUM	1	1	1	1	1	1	1	1
	PHOSPHORUS	61	960	96	129	227	115	218	661
	ZINC	13	37	16	19	26	19	28	8
	BARIUM	0	0	0	0	0	0	0	0

Values Should Be*

PROPERTIES	97.3	86-105	90.4	90.8	101.7	95.5	91.5
SUS Viscosity @ 210°F	97.3	86-105	90.4	90.8	101.7	95.5	91.5
cSt Viscosity @ 100°C	19.72	17.0-21.8	18.07	18.18	20.76	19.30	18.35
Flashpoint in °F	455	>430	525	490	460	515	485
Fuel %	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5
Antifreeze %	-	-	-	-	-	-	-
Water %	0.0	0.0	POS	0.0	0.0	0.0	0.0
Insolubles %	0.3	<0.6	0.3	0.4	0.5	0.4	0.3
TBN							
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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