



# OIL REPORT

LAB NUMBER:  
 REPORT DATE: 11/7/2018  
 CODE: 20/75

UNIT ID:  
 CLIENT ID:  
 PAYMENT: CC: Visa (Bulk)

<b>UNIT</b>	MAKE/MODEL: Lycoming O-320-E3D	OIL TYPE & GRADE: Aeroshell 15W/50
	FUEL TYPE: Gasoline (Leaded)	OIL USE INTERVAL: 34 Hours
	ADDITIONAL INFO: Piper PA-28-140, Mixed cyls	

<b>CLIENT</b>	
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**COMMENTS** Aluminum and iron may show corrosion, if the engine sat for a while. Else, they indicate piston and cylinder/shaft wear. If any nickel jugs are on a board, then nickel is probably okay (averages are based on O-320's with mostly steel cylinders). The extra copper is common for Lycoming's running 15W/50. However the levels of boron, calcium, and zinc are unusual and suggest non-AD oil has been used; that can cause detonation. Check for intake leaks (silicon) and metal in the filter. If all is well, try ~10 hrs.

<b>ELEMENTS IN PARTS PER MILLION</b>			<b>UNIT / LOCATION AVERAGES</b>					<b>UNIVERSAL AVERAGES</b>
	MI/HR on Oil							
	MI/HR on Oil	34						
	MI/HR on Unit	5,120						
	Sample Date	10/8/2018						
	Make Up Oil Added							
	ALUMINUM	<b>35</b>	35					6
	CHROMIUM	10	10					7
	IRON	<b>76</b>	76					32
	COPPER	<b>41</b>	41					6
	LEAD	2801	2801					2967
	TIN	0	0					1
	MOLYBDENUM	4	4					1
	NICKEL	<b>14</b>	14					3
	MANGANESE	1	1					0
	SILVER	0	0					0
	TITANIUM	0	0					0
	POTASSIUM	3	3					1
	BORON	<b>20</b>	20					1
	SILICON	<b>13</b>	13					5
	SODIUM	4	4					1
	CALCIUM	<b>577</b>	577					16
	MAGNESIUM	6	6					1
	PHOSPHORUS	591	591					476
	ZINC	<b>315</b>	315					5
	BARIUM	0	0					0

Values Should Be\*

<b>PROPERTIES</b>							
	Actual Value	Target Range					
SUS Viscosity @ 210°	91.0	82-105					
cSt Viscosity @ 100°C	18.21	16.0-21.8					
Flashpoint in °F	480	>440					
Fuel %	<0.5	<1.0					
Antifreeze %	-						
Water %	0.0	0.0					
Insolubles %	0.3	<0.6					
TBN							
TAN							
ISO Code							

\* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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