



# OIL REPORT

LAB NUMBER: P47761

UNIT ID: N814BH

REPORT DATE: 3/3/2022

CLIENT ID: 36294

CODE: 80/37

PAYMENT: CC: AmEx (Bulk)

<b>UNIT</b>	MAKE/MODEL: Continental TSIO-550-K1	OIL TYPE & GRADE: Aircraft Engine Oil
	FUEL TYPE: Gasoline (Leaded)	OIL USE INTERVAL: 18 Hours
	ADDITIONAL INFO: Cirrus SR22T, E/N 1006612, S/N: 348, Top O/H before 05/27/20 sample, chrome cyls	

<b>CLIENT</b>	RANDY ELLS / AARON BOYD	PHONE: (317) 769-4487
	FIRST WING JET CENTER	FAX: (317) 769-3207
	11329 E STATE RD. 32	ALT PHONE:
	ZIONSVILLE, IN 46077	EMAIL: criddle@flyja.com, cjachowske@flyja.com, aboyd@flyja.com

**COMMENTS** RANDY: None of the metals are obviously out of line, though it's worth noting that chrome, iron, and nickel increased despite the oil being in use fewer hours than the last sample. These metals are also a smidge higher than the levels universal averages show are typical for this type of engine. Chrome, iron, and nickel can show exhaust valve wear when they trend up together, but since the metals are still within the normal range we'll just see what happens in the next report. The low flashpoint shows a trace of fuel, which can likely be attributed to operational factors.

<b>ELEMENTS IN PARTS PER MILLION</b>	MI/HR on Oil	18	30	30	49	27	44	<b>UNIVERSAL AVERAGES</b>
	MI/HR on Unit	1,517	1,276	662	553	504	477	
	Sample Date	2/25/2021	5/27/2020	5/4/2015	11/17/2014	7/28/2014	5/14/2014	
	Make Up Oil Added			5 qts	1 qt		2 qts	
		<b>UNIT / LOCATION AVERAGES</b>						
ALUMINUM	6	7	5	4	7	4	5	7
CHROMIUM	26	24	13	13	20	12	20	22
IRON	88	84	44	66	140	83	116	71
COPPER	6	10	19	3	6	3	5	11
LEAD	7962	6777	3202	6441	10200	5974	9397	7600
TIN	1	1	0	0	4	0	0	2
MOLYBDENUM	7	8	3	3	9	3	5	8
NICKEL	31	29	5	41	39	10	21	26
MANGANESE	2	1	2	1	1	1	1	1
SILVER	0	0	0	0	0	0	0	0
TITANIUM	1	1	0	1	1	0	1	1
POTASSIUM	0	1	0	3	2	0	2	0
BORON	0	1	0	1	1	1	1	1
SILICON	6	9	15	6	<b>33</b>	7	5	8
SODIUM	2	1	1	1	1	2	0	1
CALCIUM	5	24	3	83	45	122	67	20
MAGNESIUM	0	1	0	1	2	2	1	1
PHOSPHORUS	15	83	6	144	136	134	111	150
ZINC	2	5	5	2	45	6	1	5
BARIUM	0	0	0	0	0	0	0	0

Values Should Be\*

<b>PROPERTIES</b>	SUS Viscosity @ 210°F	91.4	89.1	90.7	90.5	88.3	92.0	
	cSt Viscosity @ 100°C	18.31	17.77	18.16	18.10	17.56	18.47	
	Flashpoint in °F	<b>430</b>	>430	465	450	475	495	460
	Fuel %	TR	<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 %	0.3	<0.6	0.4	0.4	0.5	0.5	0.3
	TBN							
	TAN							
	ISO Code							

\* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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# OIL REPORT

LAB NUMBER: R77602      UNIT ID: N814BH  
 REPORT DATE: 11/3/2023      CLIENT ID: 36294  
 CODE: 80/436      PAYMENT: CC: MC (Bulk)

<b>UNIT</b>	MAKE/MODEL: Continental TSIO-550-K1	OIL TYPE & GRADE: Phillips XC (A/C) 20W/50
	FUEL TYPE: Gasoline (Leaded)	OIL USE INTERVAL: 50 Hours
	ADDITIONAL INFO: Cirrus SR22T, E/N 1006612, S/N: 348, Top O/H before 05/27/20 sample, chrome cyls	

<b>CLIENT</b>	RANDY ELLS / AARON BOYD	PHONE: (317) 769-4487
	FIRST WING JET CENTER	FAX: (317) 769-3207
	11329 E STATE RD. 32	ALT PHONE:
	ZIONSVILLE, IN 46077	EMAIL: criddle@flyja.com, cjachowske@flyja.com, aboyd@flyja.com

**COMMENTS** RANDY/AARON: N814BH's TSIO-550-K tested well. We haven't seen a sample from it for a few years and it's great to see the spectral results from this 50-hour run, because metals all tested low. This engine's working components seem to be wearing well these days - we see no evidence of a problem in parts like pistons, cylinders or rotating shafts. Nothing unusual from the Phillips XC sample, either - the viscosity was on target and we found no fuel or moisture. Proper oil filtration's apparent in the low insolubles reading. Looks good!

<b>ELEMENTS IN PARTS PER MILLION</b>	MI/HR on Oil	50	<b>UNIT / LOCATION AVERAGES</b>	18	30	30	49	27	<b>UNIVERSAL AVERAGES</b>
	MI/HR on Unit	1,652		1,517	1,276	662	553	504	
	Sample Date	10/9/2023		2/25/2021	5/27/2020	5/4/2015	11/17/2014	7/28/2014	
	Make Up Oil Added					5 qts	1 qt		
ALUMINUM	6	7	6	5	4	7	4	7	
CHROMIUM	15	24	26	13	13	20	12	22	
IRON	64	84	88	44	66	140	83	71	
COPPER	5	10	6	19	3	6	3	11	
LEAD	6806	6777	7962	3202	6441	10200	5974	7600	
TIN	1	1	1	0	0	4	0	2	
MOLYBDENUM	5	8	7	3	3	9	3	8	
NICKEL	12	29	31	5	41	39	10	26	
MANGANESE	1	1	2	2	1	1	1	1	
SILVER	0	0	0	0	0	0	0	0	
TITANIUM	0	1	1	0	1	1	0	1	
POTASSIUM	0	1	0	0	3	2	0	0	
BORON	1	1	0	0	1	1	1	1	
SILICON	5	9	6	15	6	33	7	8	
SODIUM	1	1	2	1	1	1	2	1	
CALCIUM	1	24	5	3	83	45	122	20	
MAGNESIUM	0	1	0	0	1	2	2	1	
PHOSPHORUS	2	83	15	6	144	136	134	150	
ZINC	3	5	2	5	2	45	6	5	
BARIUM	0	0	0	0	0	0	0	0	

Values Should Be\*

<b>PROPERTIES</b>	SUS Viscosity @ 210°F	94.1	86-105	91.4	89.1	90.7	90.5	88.3
	cSt Viscosity @ 100°C	18.96	17.0-21.8	18.31	17.77	18.16	18.10	17.56
	Flashpoint in °F	450	>430	430	465	450	475	495
	Fuel %	<0.5	<1.0	TR	<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 %	0.3	<0.6	0.3	0.4	0.4	0.5	0.5
	TBN							
	TAN							
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