

ENGINE
OIL
ANALYSIS
(SOAP)

UNIT MAKE/MODEL: Continental TSIO-520-P5B OIL TYPE & GRADE:
FUEL TYPE: Gasoline (Leaded) OIL USE INTERVAL:
ADDITIONAL INFO: Cessna P210N, S/N: 513938, 2 cyl repl 1/18

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COMMENTS KEITH/GINA: Thanks for the notes. Hopefully the excess metal we've been finding is coming from the two cylinders that were just replaced. Wear hasn't improved yet, but that may be from a combination of lingering metal from poor wear, along with break-in added on top of that. If the next oil change interval is similar (we suggest 20 hours), that's really when improvements should start to come about. Until then, watch oil consumption and make sure the oil filter is free of excess metal (if any). No fuel dilution was found, so that's an improvement.

ELEMENTS IN PARTS PER MILLION	M/HR on Oil	18	UNIT / LOCATION AVERAGES	29	37	36	25	41	UNIVERSAL AVERAGES
	M/HR on Unit	649		631	602	565	530	505	
	Sample Date	1/12/2018		11/2/2017	8/24/2017	4/26/2017	12/8/2016	10/6/2016	
	Make Up Oil Added			3 qts	3 qts	3 qts	2 qts	2 qts	
ALUMINUM	15	12	12	17	13	17	10	10	
CHROMIUM	52	37	37	55	45	51	22	14	
IRON	135	122	141	196	144	141	61	75	
COPPER	10	8	8	12	9	6	4	5	
LEAD	4538	4866	4923	6418	5569	5808	3049	4881	
TIN	2	2	1	2	2	1	0	1	
MOLYBDENUM	16	10	10	14	12	19	5	6	
NICKEL	68	62	76	103	76	57	30	20	
MANGANESE	4	2	2	2	2	3	1	1	
SILVER	0	0	0	0	0	0	0	0	
TITANIUM	2	2	2	3	2	1	1	1	
POTASSIUM	2	1	0	0	4	0	0	0	
BORON	1	1	2	0	1	0	0	0	
SILICON	15	11	11	13	16	18	8	9	
SODIUM	1	1	1	1	2	0	3	1	
CALCIUM	7	4	2	0	4	7	4	2	
MAGNESIUM	1	1	0	0	2	0	2	4	
PHOSPHORUS	272	859	993	1060	796	263	1030	46	
ZINC	4	2	1	0	2	3	2		
BARIUM	0	0	0	0	0	0	0		

Values
Should Be*

PROPERTIES	SUS Viscosity @ 210°F	87.6	89-105	88.8	94.4	94.6	91.0	90.7
	cSt Viscosity @ 100°C	17.41	17.7-21.8	17.68	19.03	19.07	18.21	18.14
	Flashpoint in °F	460	>445	420	470	430	455	475
	Fuel %	<0.5	<1.0	1.3	<0.5	0.8	<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	0.4	0.3	0.3	0.3	0.3
	TBN							
	TAN							