



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	NORMAL
OIL CONDITION	NORMAL

Area
(C-GGBM)
Machine Id
[C-GGBM] PIPER AIRCRAFT CORP PA32R-300 L17479-48A
Component
Piston Aircraft Engine
Fluid
PHILLIPS 66 AVIATION X/C OIL SAE20W50 (12 QTS)

RECOMMENDATION

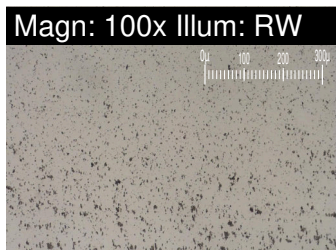
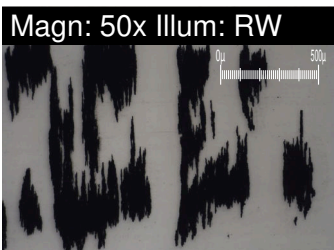
Confirm the source of the lubricant being utilized for top-up/fill.
Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0725557	WC0725528	WC0613862
Sample Date		Client Info		09 Apr 2024	10 Dec 2022	21 Dec 2021
TSN	hrs	Client Info		3204	3197	3192
TSO	hrs	Client Info		956	948	944
Oil Age	hrs	Client Info		12	5	11
Filter Age	hrs	Client Info		12	5	11
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

Iron	ppm	ASTM D5185(m)	>90	18	16	17
Chromium	ppm	ASTM D5185(m)	>20	2	4	3
Nickel	ppm	ASTM D5185(m)	>15	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>5	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	6	8	8
Lead	ppm	ASTM D5185(m)	>20000	1072	889	1396
Copper	ppm	ASTM D5185(m)	>25	2	1	2
Tin	ppm	ASTM D5185(m)	>30	0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Large Particles		DR-Ferr*		108.4	---	---
Small Particles		DR-Ferr*		82.2	---	---
Total Particles		DR-Ferr*	>---	190.6	---	---
Large Particles Percentage	%	DR-Ferr*		13.7	---	---
Severity Index		DR-Ferr*		2840	---	---
Ferrous Rubbing	Scale 0-10	ASTM D7684*		4		
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		2		
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*		1		
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				



CONTAMINANTS

There is no indication of any contamination in the oil.

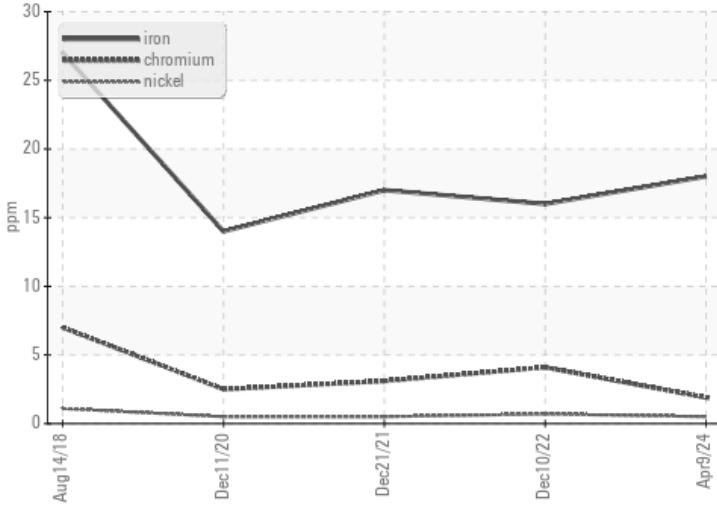
Silicon	ppm	ASTM D5185(m)	>15	2	6	8
Potassium	ppm	ASTM D5185(m)	>20	0	<1	2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Silt	scalar	Visual*	NONE	VLITE	VLITE	VLITE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		1		
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		2		

OIL CONDITION

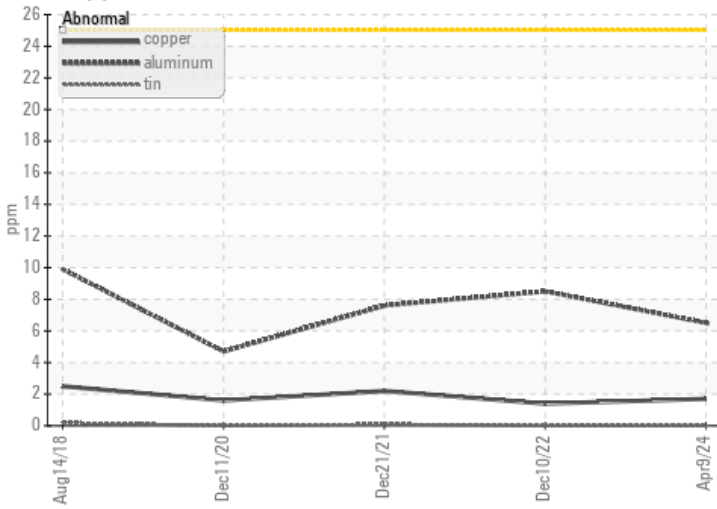
Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Boron	ppm	ASTM D5185(m)		<1	<1	<1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	0	<1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		10	5	6
Calcium	ppm	ASTM D5185(m)		70	14	80
Phosphorus	ppm	ASTM D5185(m)		268	1174	76
Zinc	ppm	ASTM D5185(m)		4	2	4
Sulfur	ppm	ASTM D5185(m)		1316	1041	1414
Acid Number (AN)	mg KOH/g	ASTM D974*	0.15	0.54	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	19.8	18.5	18.3	18.8
Lubricant Degradation	Scale 0-10	ASTM D7684*				

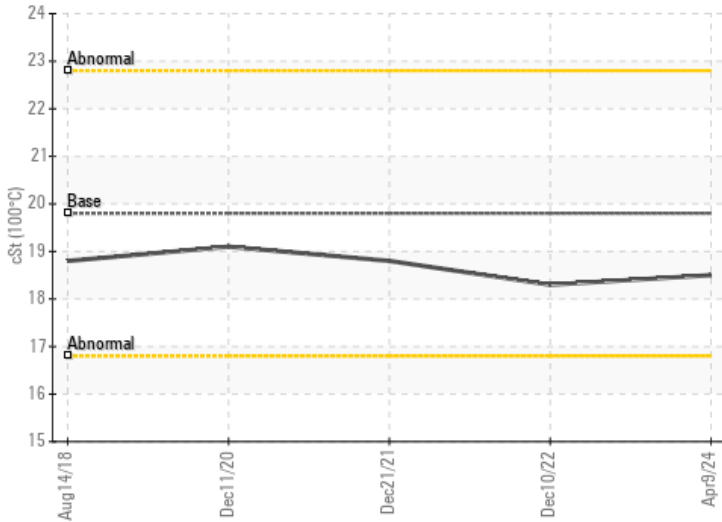
Ferrous Alloys



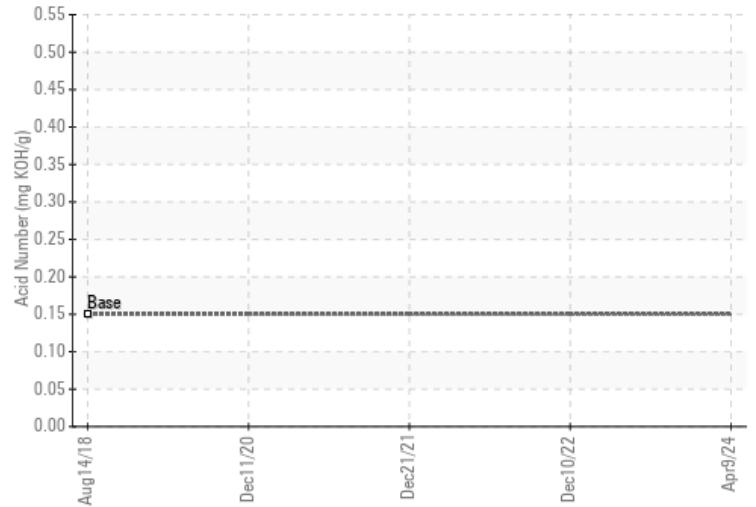
Copper/Aluminum/Tin



Viscosity @ 100°C



Acid Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0725557
Lab Number : 02628155
Unique Number : 5761287
Test Package : AVI 3
Received : 11 Apr 2024
Tested : 19 Apr 2024
Diagnosed : 19 Apr 2024 - Kevin Marson

GENERAL AIRSPRAY LTD.
 6375 AIRPORT DRIVE, R.R. #1
 LUCAN, ON
 CA N0M 2J0
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 genairspray@hotmail.com
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 F: (519)227-1588

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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