

(C-FAJR) Machine Id [C-FAJR] PIPER PA31-350 L-2001-68A

Right Piston Aircraft Engine

PHILLIPS 66 AVIATION X/C OIL SAE20W50 (12 QTS)

RECOMMENDATION

We advise that you check the engine tuning and timing. We advise that you check for excessive valve and valve guide clearance. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

V	V	Λ	D
V	V	А	n

Nickel ppm levels are abnormal. Exhaust valve wear is indicated.

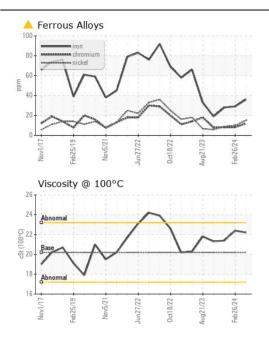
CONTAMINATION

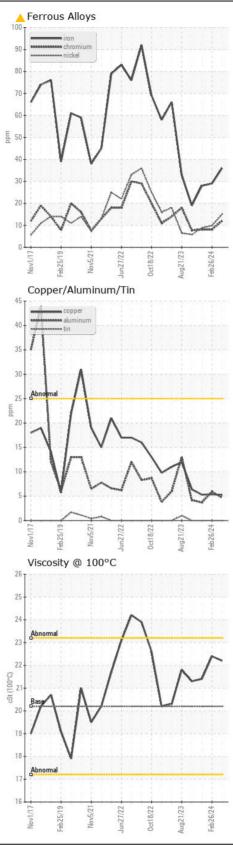
There is no indication of any contamination in the oil.

FLU	In I	CON	
ILU		COR	

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Cı	urrent	History1	History2
Sample Number		Client Info		W	C0896315	WC0838457	WC0826692
Sample Date		Client Info		03	Jun 2024	26 Feb 2024	31 Oct 2023
TSN	hrs	Client Info		0		0	0
TSO	hrs	Client Info		30	65	2852	2659
Oil Age	hrs	Client Info		65	;	42	38
Filter Age	hrs	Client Info		65	;	42	38
Oil Changed		Client Info		Cł	nanged	Changed	Not Changd
Filter Changed		Client Info		Cł	nanged	Changed	Not Changd
Sample Status				AB	NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>90		36	29	28
Chromium	ppm	ASTM D5185(m)	>20		12	8	8
Nickel	ppm	ASTM D5185(m)	>15		15	10	9
Titanium	ppm	ASTM D5185(m)			<1	0	0
Silver	ppm	ASTM D5185(m)	>5		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>25		5	6	4
Lead	ppm	ASTM D5185(m)	>20000		9800	6805	6616
Copper	ppm	ASTM D5185(m)	>25		5	5	5
Tin	ppm	ASTM D5185(m)	>30		0	0	0
Vanadium	ppm	ASTM D5185(m)			0	0	0
White Metal	scalar	Visual*	NONE		NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE		NONE	NONE	NONE
Silicon	nnm	ASTM D5185(m)	>15		5	5	4
Potassium	ppm ppm	ASTM D5185(m)	>20		0	<1	0
i otassium					v		
Fuel	ppm	()			-10	<10	
Fuel Water	ppm	WC Method	>4.0		<1.0 NEG	<1.0	<1.0
Water	ppm	WC Method WC Method			NEG	NEG	<1.0 NEG
Water Glycol		WC Method WC Method WC Method	>4.0 >0.1		NEG NEG	NEG NEG	<1.0 NEG NEG
Water Glycol Silt	scalar	WC Method WC Method WC Method Visual*	>4.0 >0.1 NONE		NEG NEG VLITE	NEG NEG VLITE	<1.0 NEG NONE
Water Glycol Silt Debris	scalar	WC Method WC Method WC Method Visual* Visual*	>4.0 >0.1 NONE NONE		NEG NEG VLITE NONE	NEG NEG VLITE NONE	<1.0 NEG NONE NONE
Water Glycol Silt Debris Sand/Dirt	scalar scalar scalar	WC Method WC Method WC Method Visual* Visual*	>4.0 >0.1 NONE NONE NONE		NEG NEG VLITE NONE NONE	NEG NEG VLITE NONE NONE	<1.0 NEG NONE NONE NONE
Water Glycol Silt Debris Sand/Dirt Appearance	scalar scalar scalar scalar	WC Method WC Method WC Method Visual* Visual* Visual*	>4.0 >0.1 NONE NONE NONE		NEG NEG VLITE NONE	NEG NEG VLITE NONE NONE NORML	<1.0 NEG NONE NONE
Water Glycol Silt Debris Sand/Dirt	scalar scalar scalar	WC Method WC Method WC Method Visual* Visual*	>4.0 >0.1 NONE NONE NONE		NEG NEG VLITE NONE NONE	NEG NEG VLITE NONE NONE	<1.0 NEG NONE NONE NONE NORE
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water	scalar scalar scalar scalar scalar scalar	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual*	>4.0 >0.1 NONE NONE NORML NORML		NEG NEG VLITE NONE NORML NORML NEG	NEG NEG VLITE NONE NORML NORML .2%	<1.0 NEG NONE NONE NONE NORML NORML .2%
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	scalar scalar scalar scalar scalar scalar ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m)	>4.0 >0.1 NONE NONE NORML NORML >0.1		NEG NEG VLITE NONE NORML NORML NEG	NEG NEG VLITE NONE NORML .2% <1	<1.0 NEG NONE NONE NONE NORML .2%
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	scalar scalar scalar scalar scalar scalar ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m)	>4.0 >0.1 NONE NONE NORML NORML >0.1		NEG NEG VLITE NONE NORML NORML NEG	NEG NEG VLITE NONE NORML NORML .2% <1 0	<1.0 NEG NONE NONE NONE NORML .2% <1 <1
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	scalar scalar scalar scalar scalar scalar ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m)	>4.0 >0.1 NONE NONE NORML NORML >0.1		NEG NEG VLITE NONE NORML NORML NEG <1 0 0	NEG NEG VLITE NONE NORML NORML .2% <1 0 0	<1.0 NEG NONE NONE NONE NORML .2% <1 <1 0
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	scalar scalar scalar scalar scalar scalar ppm ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>4.0 >0.1 NONE NONE NORML NORML >0.1		NEG NEG VLITE NONE NORML NORML NEG <1 0 0 0 0	NEG NEG VLITE NONE NORML .2% <1 0 0 0	<1.0 NEG NONE NONE NONE NORML .2% <1 <1 0 0
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>4.0 >0.1 NONE NORME NORML >0.1 0.0 0.0 0.0 0.0		NEG NEG VLITE NONE NORML NORML NEG <1 0 0 0 0 0 0 0	NEG NEG VLITE NONE NORML .2% <1 0 0 0 0 0	<1.0 NEG NONE NONE NONE NORML .2% <1 <1 0 0 0 0
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>4.0 >0.1 NONE NORME NORML >0.1 0.0 0.0 0.0 0.0 0.0 0.0		NEG NEG VLITE NONE NORML NORML NEG <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NEG NEG VLITE NONE NORML .2% <1 0 0 0 0 0 0 0 0 0 0 0	<1.0 NEG NONE NONE NONE NORML .2% <1 <1 0 0 0 0 3
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	 >4.0 >0.1 NONE NONE NORML >0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.7 		NEG NEG VLITE NONE NORML NORML NORML 0 C C C C C C C C C C C C C C C C C C	NEG NEG VLITE NONE NORML .2% <1 0 0 0 0 0 0 6 3	<1.0 NEG NONE NONE NONE NORML .2% <1 <1 0 0 0 3 <1
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	 >4.0 >0.1 NONE NONE NORML NORML >0.1 0.0 		NEG NEG VLITE NONE NORML NORML NORML 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NEG NEG VLITE NONE NORML .2% <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1.0 NEG NEG NONE NONE NORML NORML .2% <1 <1 0 0 0 0 3 <1 0 0 0 0 0 0
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	 >4.0 >0.1 NONE NONE NORML NORML >0.1 		NEG NEG VLITE NONE NORML NORML NORML 0 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NEG NEG VLITE NONE NORML .2% <1 0 0 0 0 0 0 0 0 0 0 0 0 0 3 3 0 3	<1.0 NEG NEG NONE NONE NORML .2% <1 <1 0 0 0 0 3 <1 0 0 0 3 <1 0 0 2
Water Glycol Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium	scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	WC Method WC Method Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	 >4.0 >0.1 NONE NONE NORML NORML >0.1 0.0 		NEG NEG VLITE NONE NORML NORML NORML 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NEG NEG VLITE NONE NORML .2% <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1.0 NEG NEG NONE NONE NORML NORML .2% <1 <1 <1 0 0 0 0 3 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0





SKYCARE AIR AMBULANCE

Laboratory : WearCheck Sample No. : WC08963 Lab Number : 02640484 Unique Number : 5789646 Test Package : AVI 1

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0896315 **Received** : 07 Jun 2024 : 02640484 **Tested** : 07 Jun 2024 : 5789646 **Diagnosed** : 07 Jun 2024 - Kevin Marson : AVI 1

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. BOX 289, 17 AIRPORT ROAD SIOUX LOOKOUT, ON CA P8T 1A3 Contact: Jason Murphy prm@skycare.ca T: (807)737-0039 F: (807)737-0040