

Current

WOOTOFFF

History2

History1

MOOTOFFOF

[C-FYRG] AUTOGYRO CAVALON 7.683.024

Piston Aircraft Engine

SHELL OIL SPORT PLUS 4 (4 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

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

Sample Number		Client Info		WC0725555	WC0725525	
Sample Date		Client Info		21 Feb 2024	13 Mar 2023	
TSN	hrs	Client Info		505	491	
TSO	hrs	Client Info		505	491	
Oil Age	hrs	Client Info		14	16	
Filter Age	hrs	Client Info		14	16	
Oil Changed		Client Info		Changed	Changed	
Filter Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
Iron	ppm	ASTM D5185(m)	>260	17	19	
Chromium	ppm	ASTM D5185(m)	>10	0	<1	
Nickel	ppm	ASTM D5185(m)	>8	2	3	
Titanium	ppm	ASTM D5185(m)	>4	0	<1	
Silver	ppm	ASTM D5185(m)	>2	<1	0	
Aluminum	ppm	ASTM D5185(m)	>20	6	5	
Lead	ppm	ASTM D5185(m)	>20000	1854	1851	
Copper	ppm	ASTM D5185(m)	>45	8	11	
Tin	ppm	ASTM D5185(m)	>8	0	0	
Vanadium	ppm	ASTM D5185(m)		0	0	
White Metal	scalar	Visual*	NONE	NONE	NONE	
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
Large Particles		DR-Ferr*		37.9		
Small Particles		DR-Ferr*		26.9		
Total Particles		DR-Ferr*	>	64.8		
Large Particles Percentage	%	DR-Ferr*		17		
Severity Index		DR-Ferr*		417		
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*		1		
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
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*				
	000.0010					

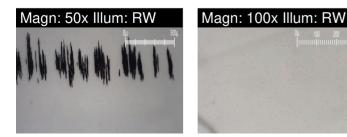
UOM Method

Comple Number Client Info

Test

Limit/Abn





Report Id: GENLUC [WCAMIS] 02618331 (Generated: 03/04/2024 13:59:44) Rev: 1

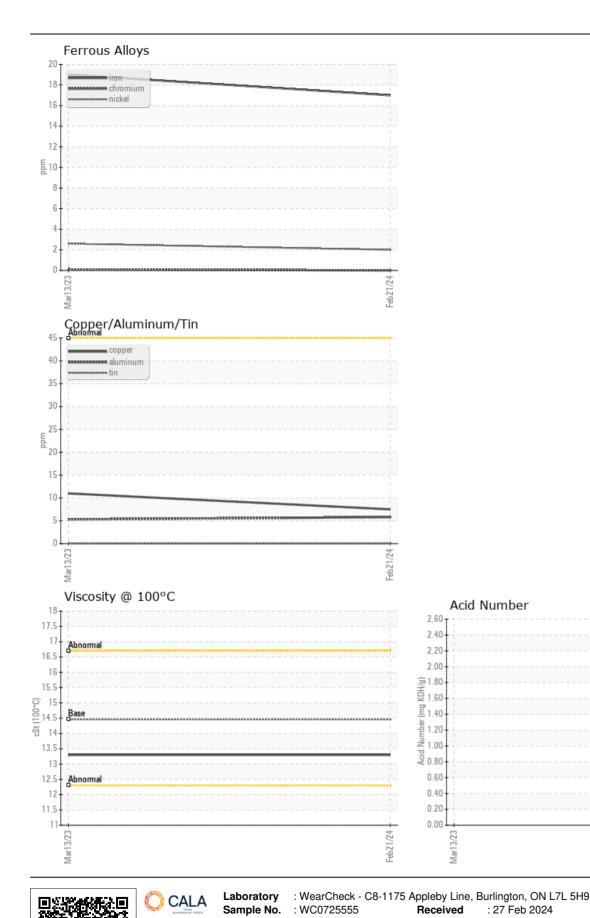
CONTAMINANTS

There is no indication of any contamination in the oil.

OIL CONDITIO	

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Silicon pm K311 (058) >35 11 11 o indication of any contamination in the oil. Potassium pm K310(089) >30 1 2 Fuel WC Metro >4.0 VE Metro >4.0 < </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
Putassain pin Nithising ≥.0 I 2 in Fuel Water W WC Method 5.0 I<.0 S.10 in Giycol W WC Method 5.01 I NEG NEG S.10 in Giycol Sala Visual NONE NONE I NONE NONE<	AMINANTS	Silicon	ppm	ASTM D5185(m)	>35	11	11	
Water image:	o indication of any contamination in the oil.	Potassium	ppm	ASTM D5185(m)	>20	1	2	
Giycol ··· NCMetho ··· NCMetho ··· NCMetho ··· Silt scala Visual NCM ··· NON ··· Dobris scala Visual NCM ··· NON ··· Sandr/Dirt scala Visual NCM ··· NONM ··· Appearance scalar Visual NCM ··· NORM ··· Codor scalar Visual NCM ··· NORM ··· Codor scalar Visual NCM ··· NORM ··· Codor scalar Normal ··· NORM ··· NORM ··· Sandr/Dirt Scalar Stalar Stalar ··· ··· NORM ··· Sandr/Dirt Scalar Stalar Stalar ··· ··· ··· ··· ··· Sandr/Dirt Scalar Stalar Stalar Stalar ··· ··· ··· ··· ··· Sandr/Dirt Scalar Stalar Stalar Stalar ··· ··· ··· ··· ··· Spheres Scalar Stalar Stalar <		Fuel		WC Method	>4.0	<1.0	<1.0	
Site scalar Visual* NONE VIIII NONE NONE </td <td></td> <th>Water</th> <td></td> <td>WC Method</td> <td>>0.1</td> <th>NEG</th> <td>NEG</td> <td></td>		Water		WC Method	>0.1	NEG	NEG	
Debris scalar Visual* NONE NONE<		Glycol		WC Method		NEG	NEG	
Sandr/Dirt scalar Visual* NONE INONE NONE NONE NONE NORM NO		Silt	scalar	Visual*	NONE	VLITE	NONE	
Appearance scalar Visual* NORM NORM NORM INORM INORM INORM INORM INORM INORM INORM INORM INORM I Cdor scalar Visual* NORM SCILAR Visual* NORM INORM I INORM INORM I I I I I I I I I I I <td></td> <th>Debris</th> <td>scalar</td> <td>Visual*</td> <td>NONE</td> <th>NONE</th> <td>NONE</td> <td></td>		Debris	scalar	Visual*	NONE	NONE	NONE	
Odor scalar Visual* NORML <		Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
Emulsified WatescalarVisual*s0.1 \mathbb{NEG} NEG		Appearance	scalar	Visual*	NORML	NORML	NORML	
Catoraccous MaterialScale 0-10ASTM D7684*Image: Comparison of the oil is further service.Scale 0-10ASTM D7684*Image: Comparison of the oil is further service.Image: Comparison of the oil is further service.Scale 0-10ASTM D7684*Image: Comparison of the oil is further service.Image: Comparison of the oil is further service.Scale 0-10ASTM D7684*Image: Comparison of the oil is further service.Image: Comparison of the oil is further service.Scale 0-10ASTM D7684*Image: Comparison of the oil is further service.Image: Comparison of the oil is further service.Scale 0-10ASTM D5185(m)Image: Comparison of the oil is further service.Scale 0-10ASTM D5185(m)Image: Comparison of the oil is further service.Image: Comparison of the oil is further service.Scale 0-10ASTM D5185(m)Image: Comparison of the oil is further service.Image: Comparison of the oil is further service.Scale 0-10ASTM D5185(m)Image: Comparison of the oil is further service.Image: Comparison of the oil is further servi		Odor	scalar	Visual*	NORML	NORML	NORML	
Sand/DirtScale 0.0ASTM D7684 $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ <td></td> <th>Emulsified Water</th> <td>scalar</td> <td>Visual*</td> <td>>0.1</td> <th>NEG</th> <td>NEG</td> <td></td>		Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	
Fibres Scale 0-10 ASTM D7684* Image: Scale 0-10 Image: Scale 0-10 ASTM D7684* Image: Scale 0-10 Image: Scale 0-10 ASTM D7684* Image: Scale 0-10 Image:		Carbonaceous Material	Scale 0-10	ASTM D7684*				
SpheresSale 010ASTM D7684'Image: Comparison of the origon of the origo		Sand/Dirt	Scale 0-10	ASTM D7684*				
Other Scale 0-10 ASTM D7684' I I I I NDITION Sodium ppm ASTM D5185(m) I		Fibres	Scale 0-10	ASTM D7684*				
NDITION Sodium ppm ASTM D5185(m) <1 2 Boron ppm ASTM D5185(m) 65 68 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Maganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Phosphorus ppm ASTM D5185(m) 0 0 Zinc ppm ASTM D5185(m) 1633 11729 2880 Sulfur ppm ASTM D5185(m) 1931 1970 Sulfur ppm ASTM D5185(m) 1931 1970 Acid Number (AN) mg KOHg ASTM D5185(m) 1333 1		Spheres	Scale 0-10	ASTM D7684*				
Normalization Pprint Participation		Other	Scale 0-10	ASTM D7684*		1		
Boron ppm ASIM D5185(m) 65 68 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 12 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 172 28800 Phosphorus ppm ASTM D5185(m) 1633 1729 Zinc ppm ASTM D5185(m) 1931 1970 Sulfur ppm ASTM D5185(m) 1933 14559 Acid Number (AN) mg KOH ASTM D5185(m) 4803 4559	NDITION	Sodium	ppm	ASTM D5185(m)		<1	2	
MolybdenumppmASTM D5185(m)2<		Boron	ppm	ASTM D5185(m)		65	68	
ManganeseppmASTM D5185(m)00MagnesiumppmASTM D5185(m)1720CalciumppmASTM D5185(m)277728800PhosphorusppmASTM D5185(m)16331729ZincppmASTM D5185(m)19311970SulfurppmASTM D5185(m)I48034559Acid Number (AN)mg KOHJASTM D974*II		Barium	ppm	ASTM D5185(m)		0	0	
MagnesiumppmASTM D5185(m)1720CalciumppmASTM D5185(m)277728800PhosphorusppmASTM D5185(m)16331729ZincppmASTM D5185(m)19311970SulfurppmASTM D5185(m)48034559Acid Number (AN)mg KOHyASTM D974*2.533		Molybdenum	ppm	ASTM D5185(m)		<1	2	
CalciumppmASTM D5185(m)27772880PhosphorusppmASTM D5185(m)16331729ZincppmASTM D5185(m)19311970SulfurppmASTM D5185(m)480344559Acid Number (AN)mg KOH/gASTM D974*2.533		Manganese	ppm	ASTM D5185(m)		0	0	
PhosphorusppmASTM D5185(m)16331729ZincppmASTM D5185(m)19311970SulfurppmASTM D5185(m)48034559Acid Number (AN)mg KOH/gASTM D974*2.53		Magnesium	ppm	ASTM D5185(m)		17	20	
Zinc ppm ASTM D5185(m) 1931 1970 Sulfur ppm ASTM D5185(m) 4803 4559 Acid Number (AN) mg KOH/g ASTM D974* 2.53		Calcium	ppm	ASTM D5185(m)		2777	2880	
Sulfur ppm ASTM D5185(m) 4803 4559 Acid Number (AN) mg KOH/g ASTM D974* 2.53		Phosphorus	ppm	ASTM D5185(m)		1633	1729	
Acid Number (AN) mg KOH/g ASTM D974* 2.53		Zinc	ppm	ASTM D5185(m)		1931	1970	
		Sulfur	ppm	ASTM D5185(m)		4803	4559	
Visc@100°C cSt ASTM D7279(m) 14.46 13.3 13.3		Acid Number (AN)	mg KOH/g	ASTM D974*		2.53		
		Visc @ 100°C	cSt	ASTM D7279(m)	14.46	13.3	13.3	
Lubricant Degradation Scale 0-10 ASTM D7684*		Lubricant Degradation	Scale 0-10	ASTM D7684*				



Lab Number : 02618331

Unique Number : 5735441

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.

Test Package : AVI 3

Tested

Diagnosed

:04 Mar 2024

: 04 Mar 2024 - Kevin Marson

GENERAL AIRSPRAY LTD.

6375 AIRPORT DRIVE, R.R. #1 LUCAN, ON CA N0M 2J0 Contact: Paul Hodgins genairspray@hotmail.com T: (519)227-4091 F: (519)227-1588

ISO 17025:2017 Accredited Laboratory

Contact/Location: Paul Hodgins - GENLUC

Feb21/24

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