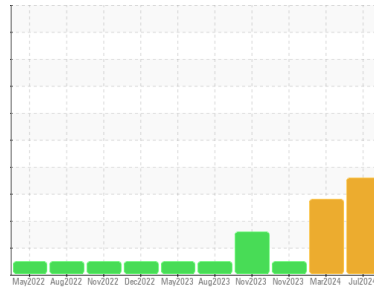




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR PARTICLES



Area

(C-GDHF)

Machine Id

[C-GDHF] BEEHCRAFT KING AIR B200 PCE-PJ0601

Component

Left Jet Turbine

Fluid

EASTMAN TURBO OIL 2380 (18 QTS)

DIAGNOSIS

Recommendation

We advise that you check for visible metal particles in the oil. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

Wear particle analysis indicates that the ferrous cutting and ferrous rubbing particles are abnormal. Light concentration of visible metal present. Bearing and/or gear wear is indicated. Cutting wear particles are caused by either hard protuberances (mis-aligned components, etc.), or abrasives entering the system and embedding themselves in softer materials (sand, etc.), and gouging out mating surfaces.

Contaminants

The water content is negligible. There is no indication of any contamination in the oil.

Oil Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0957299	WC0911741	WC0882235
Sample Date	Client Info	05 Jul 2024	02 Mar 2024	30 Nov 2023
TSN	hrs	20988	5497	5316
TSO	hrs	4901	2125	1944
Oil Age	hrs	181	1784	1205
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >8	0	0	0
Chromium	ppm	ASTM D5185(m) >2	0	0	0
Nickel	ppm	ASTM D5185(m) >2	<1	0	0
Titanium	ppm	ASTM D5185(m) >2	0	0	0
Silver	ppm	ASTM D5185(m) >2	0	0	<1
Aluminum	ppm	ASTM D5185(m) >2	<1	<1	0
Lead	ppm	ASTM D5185(m) >3	0	0	<1
Copper	ppm	ASTM D5185(m) >3	<1	<1	<1
Tin	ppm	ASTM D5185(m) >2	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m) 0	<1	0	<1
Barium	ppm	ASTM D5185(m) 0	<1	0	<1
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m) 0	0	<1	0
Calcium	ppm	ASTM D5185(m) 0	0	<1	0
Phosphorus	ppm	ASTM D5185(m) 2500	2526	2589	2581
Zinc	ppm	ASTM D5185(m) 0	1	2	1
Sulfur	ppm	ASTM D5185(m) 0	2	0	3
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

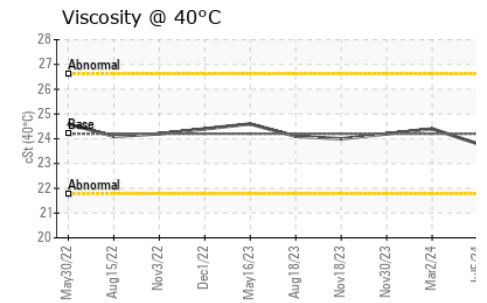
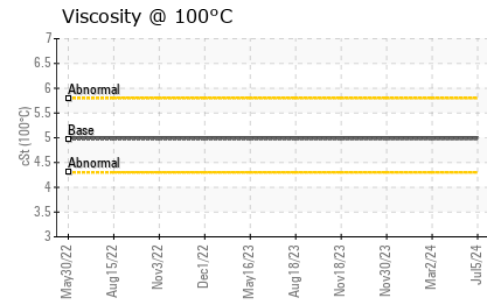
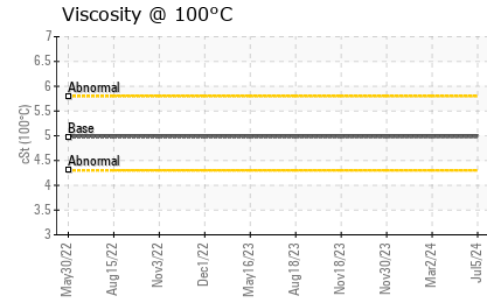
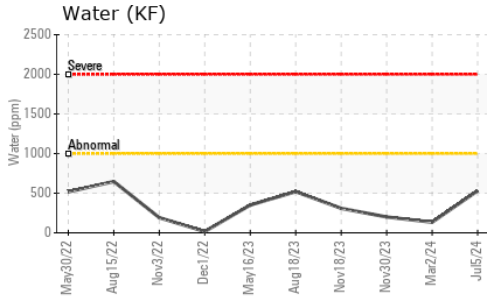
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >8	<1	▲ 45	<1
Sodium	ppm	ASTM D5185(m)	0	0	<1
Potassium	ppm	ASTM D5185(m) >20	<1	2	0
Water	%	ASTM D6304* >0.1	0.053	0.013	0.019
ppm Water	ppm	ASTM D6304* >1000	531	134	200

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974* 0.43	0.29	0.31	0.31



OIL ANALYSIS REPORT



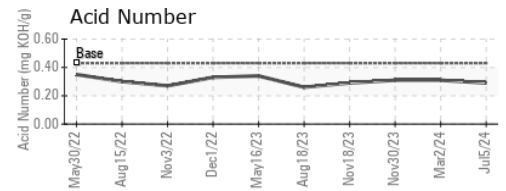
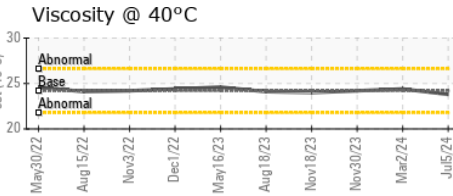
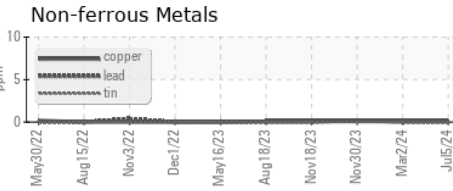
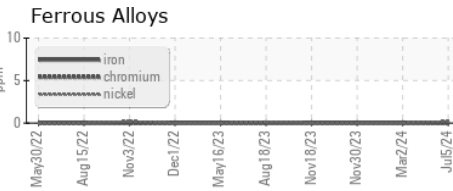
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	▲ VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	24.2	23.8	24.4
Visc @ 100°C	cSt	ASTM D7279(m)	4.97	5.0	5
Viscosity Index (VI)	Scale	ASTM D2270*	134	141	134

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter					



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0957299 **Received** : 12 Jul 2024
Lab Number : 02647624 **Tested** : 16 Jul 2024
Unique Number : 5813176 **Diagnosed** : 17 Jul 2024 - Kevin Marson
Test Package : AVI 3 (Additional Tests: Bottom)

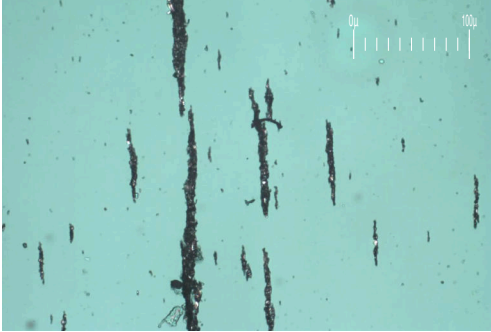
To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

FAST AIR LTD
 80 HANGAR LINE ROAD
 WINNIPEG, MB
 CA R3J 3Y7
 Contact: Denis Bourgouin
 denis.bourgouin@flyfastair.com
 T: (204)772-7622
 F: (204)783-2483

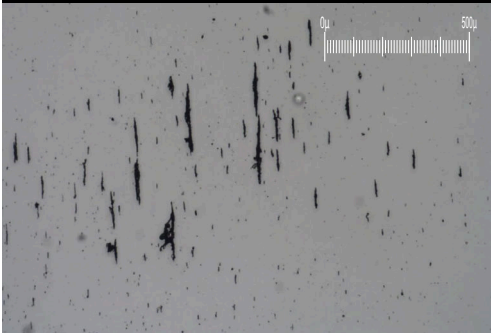
FERROGRAPHY REPORT

Area
(C-GDHF)
 Machine Id
[C-GDHF] BEEHCRAFT KING AIR B200 PCE-PJ0601
 Component
Left Jet Turbine
 Fluid
EASTMAN TURBO OIL 2380 (18 QTS)

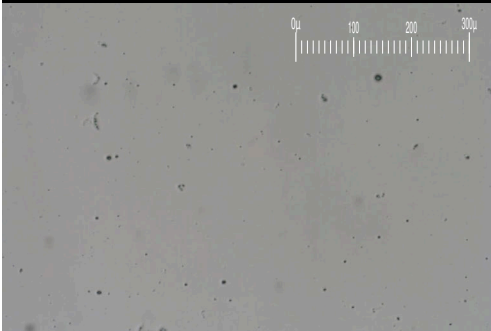
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW

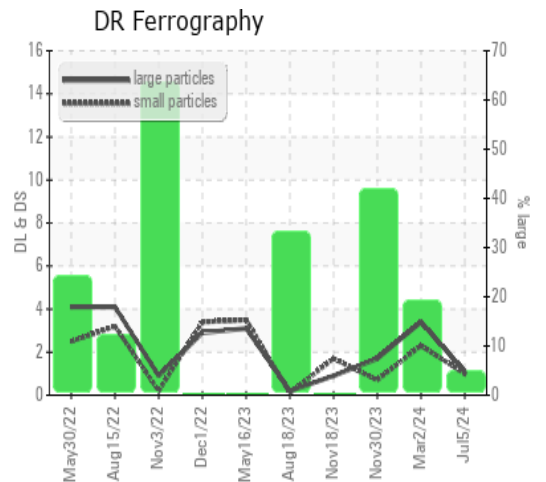


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		1.1	3.4	1.7
Small Particles		DR-Ferr*		1.0	2.3	0.7
Total Particles		DR-Ferr*	>---	2.1	5.7	2.4
Large Particles Percentage	%	DR-Ferr*		4.8	19.3	41.7
Severity Index		DR-Ferr*		0	4	2

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		▲ 4	 2	 2
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*		▲ 1		
Ferrous Rolling	Scale 0-10	ASTM D7684*		 2	 1	 1
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*		 1	 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*				
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Lubricant Degradation	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		 1	 1	 1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		 1	 1	 1

WEAR

Wear particle analysis indicates that the ferrous cutting and ferrous rubbing particles are abnormal. Light concentration of visible metal present. Bearing and/or gear wear is indicated. Cutting wear particles are caused by either hard protuberances (mis-aligned components, etc.), or abrasives entering the system and embedding themselves in softer materials (sand, etc.), and gouging out mating surfaces.



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