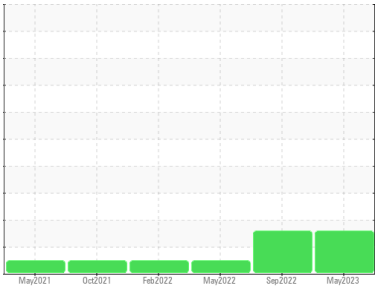
PROBLEM SUMMARY

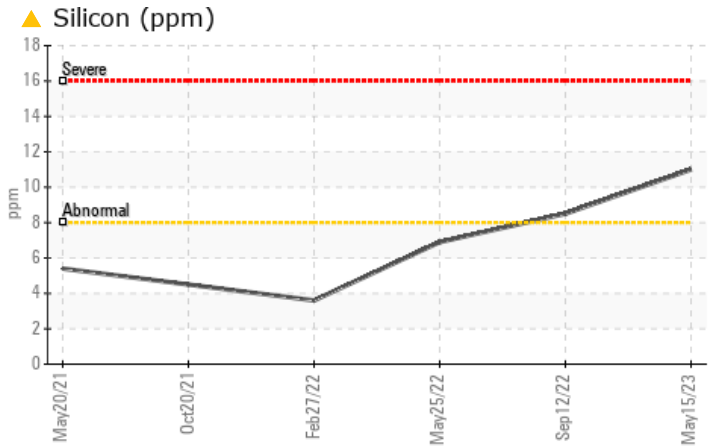
Sample Rating Trend



DIRT

Area
(C-GMNM)
Machine Id
[C-GMNM] BEECHCRAFT KINGAIR BEB200 PCE-94301
Component
Left Jet Turbine
Fluid
EASTMAN TURBO OIL 2380 (12 QTS)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	NORMAL
Silicon	ppm	ASTM D5185(m)	>8	▲ **11**	▲ 8	7

Customer Id: FASWIN
Sample No.: WC0817296
Lab Number: 02558045
Test Package: AVI 3

To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

12 Sep 2022 Diag: Kevin Marson

DIRT

Check seals and/or filters for points of contaminant entry. We recommend an early resample to monitor this condition.All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. Elemental level of silicon (Si) above normal indicating ingress of seal material. The water content is negligible. Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

25 May 2022 Diag: Kevin Marson

NORMAL

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. The water content is negligible. There is no indication of any contamination in the oil. 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.

view report

27 Feb 2022 Diag: Kevin Marson

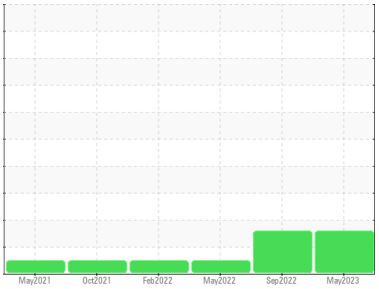
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. The water content is negligible. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
(C-GMNM)
Machine Id
[C-GMNM] BEECHCRAFT KINGAIR BEB200 PCE-94301
Component
Left Jet Turbine
Fluid
EASTMAN TURBO OIL 2380 (12 QTS)

DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system.

Contaminants

Elemental level of silicon (Si) above normal indicating ingress of seal material. The water content is negligible.

Oil Condition

Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0817296**	WC0740150	WC0698304
Sample Date		Client Info		**15 May 2023**	12 Sep 2022	25 May 2022
TSN	hrs	Client Info		**10696**	11363	11165
TSO	hrs	Client Info		**1387**	784	784
Oil Age	hrs	Client Info		**1387**	784	784
Oil Changed		Client Info		**Not Changd**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>8	**0**	0	0
Chromium	ppm	ASTM D5185(m)	>2	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>2	**0**	0	0
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>2	**0**	0	0
Lead	ppm	ASTM D5185(m)	>3	**0**	<1	0
Copper	ppm	ASTM D5185(m)	>3	**0**	0	<1
Tin	ppm	ASTM D5185(m)	>2	**<1**	0	0
Antimony	ppm	ASTM D5185(m)		**<1**	<1	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

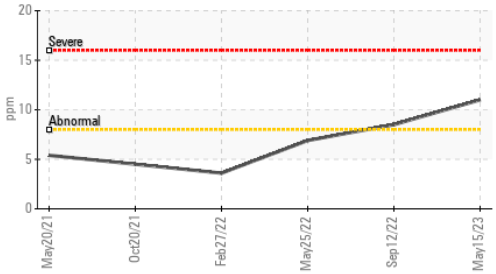
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**<1**	1	<1
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)	0	**0**	0	0
Calcium	ppm	ASTM D5185(m)	0	**0**	0	<1
Phosphorus	ppm	ASTM D5185(m)	2500	**2607**	2089	1557
Zinc	ppm	ASTM D5185(m)	0	**1**	2	1
Sulfur	ppm	ASTM D5185(m)	0	**2**	212	65
Lithium	ppm	ASTM D5185(m)		**<1**	<1	0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>8	▲ **11**	▲ 8	7
Sodium	ppm	ASTM D5185(m)		**<1**	<1	0
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	<1
Water	%	ASTM D6304*	>0.1	**0.050**	0.036	0.044
ppm Water	ppm	ASTM D6304*	>1000	**507.1**	362.0	447.6

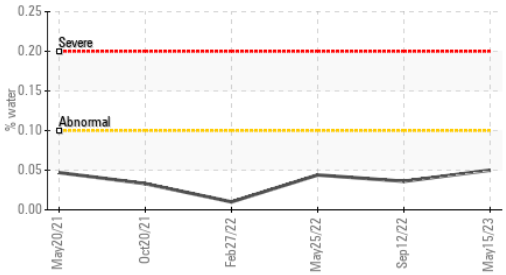
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.43	**0.33**	0.25	0.16

OIL ANALYSIS REPORT

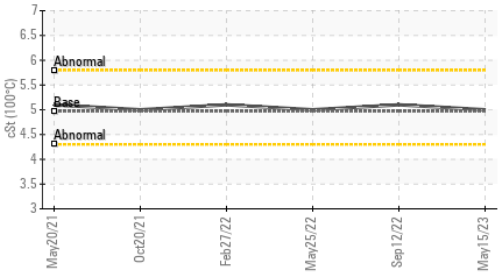
Silicon (ppm)



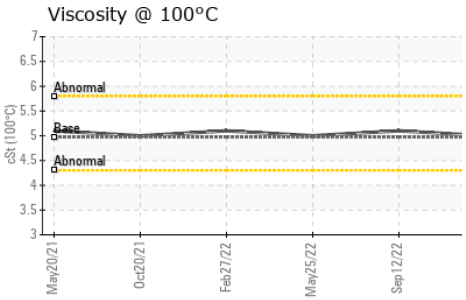
Water



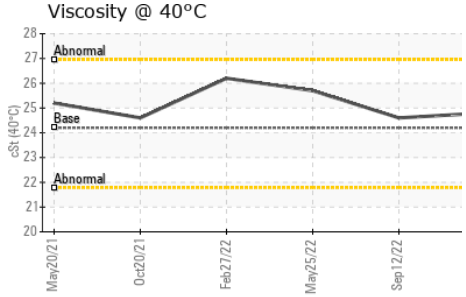
Viscosity @ 100°C



Viscosity @ 100°C



Viscosity @ 40°C



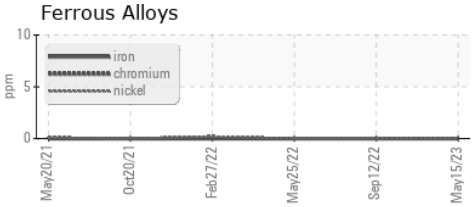
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	VLITE	NONE
Sand/Dirt	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
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	24.2	**24.8**	24.6	25.7
Visc @ 100°C	cSt	ASTM D7279(m)	4.97	**5**	5.1	5
Viscosity Index (VI)	Scale	ASTM D2270*	134	**130**	140	122

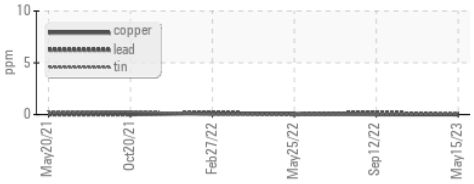
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

GRAPHS

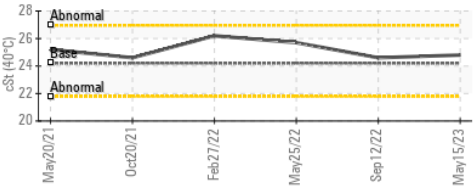
Ferrous Alloys



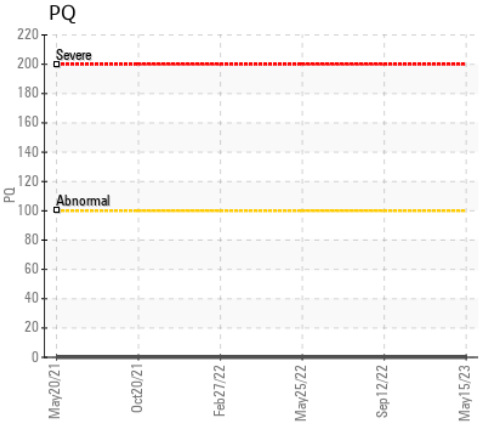
Non-ferrous Metals



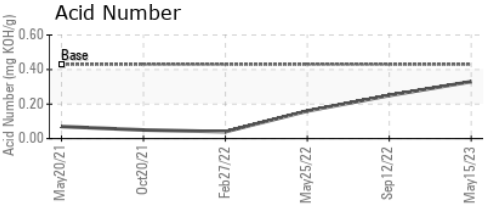
Viscosity @ 40°C



PQ



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0817296 **Received** : 17 May 2023
Lab Number : 02558045 **Diagnosed** : 18 May 2023
Unique Number : 5579085 **Diagnostician** : Kevin Marson
Test Package : AVI 3 (Additional Tests: PQ)

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

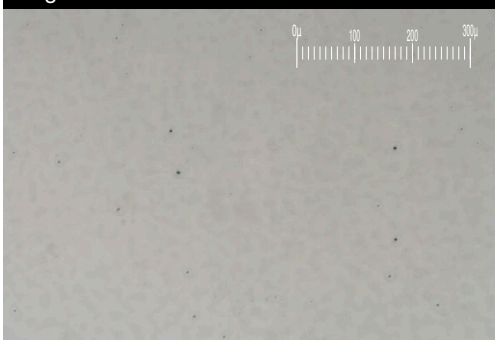
FERROGRAPHY REPORT

Area
(C-GMNM)
Machine Id
[C-GMNM] BEECHCRAFT KINGAIR BEB200 PCE-94301
Component
Left Jet Turbine
Fluid
EASTMAN TURBO OIL 2380 (12 QTS)

Magn: 200x Illum: BC

Magn: 50x Illum: RW

Magn: 100x Illum: RW

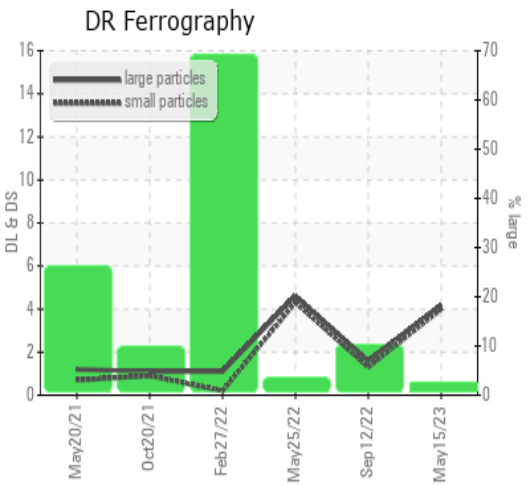


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		**4.2**	1.6	4.6
Small Particles		DR-Ferr*		**4.0**	1.3	4.3
Total Particles		DR-Ferr*	>---	**8.2**	2.9	8.9
Large Particles Percentage	%	DR-Ferr*		**2.4**	10.3	3.4
Severity Index		DR-Ferr*		**1**	0	1

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		**1**	1	1
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		**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*				
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

All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system.



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