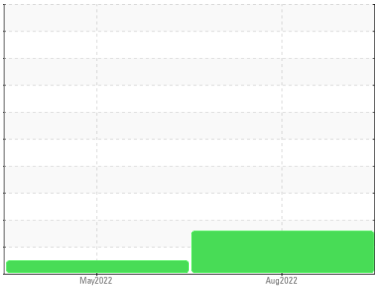
PROBLEM SUMMARY

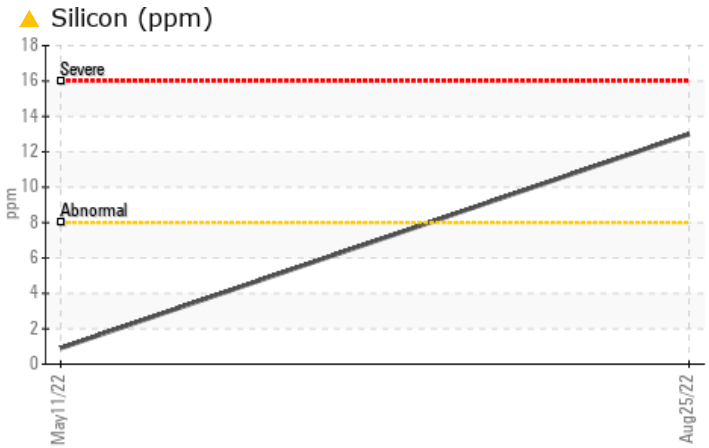
Sample Rating Trend



DIRT

Area
(C-FFAP)
Machine Id
[C-FFAP] BEECHCRAFT KING AIR 200 PCE-81958
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 advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	NORMAL	---
Silicon	ppm	ASTM D5185(m)	>8	▲ **13**	<1	---

Customer Id: FASWIN
Sample No.: WC0727693
Lab Number: 02508066
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
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

11 May 2022 Diag: Kevin Marson

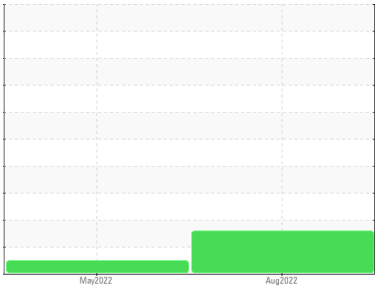
NORMAL

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

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
(C-FFAP)
Machine Id
[C-FFAP] BEECHCRAFT KING AIR 200 PCE-81958
Component
Left Jet Turbine
Fluid
EASTMAN TURBO OIL 2380 (12 QTS)

DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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

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		**WC0727693**	WC0698297	---
Sample Date		Client Info		**25 Aug 2022**	11 May 2022	---
TSN	hrs	Client Info		**10773**	10561	---
TSO	hrs	Client Info		**407**	196	---
Oil Age	hrs	Client Info		**407**	196	---
Oil Changed		Client Info		**N/A**	Not Changd	---
Sample Status				**ABNORMAL**	NORMAL	---

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

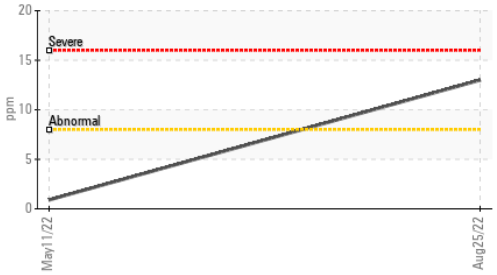
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**<1**	<1	---
Barium	ppm	ASTM D5185(m)	0	**0**	0	---
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	---
Manganese	ppm	ASTM D5185(m)		**0**	0	---
Magnesium	ppm	ASTM D5185(m)	0	**0**	0	---
Calcium	ppm	ASTM D5185(m)	0	**0**	0	---
Phosphorus	ppm	ASTM D5185(m)	2500	**2187**	1575	---
Zinc	ppm	ASTM D5185(m)	0	**2**	<1	---
Sulfur	ppm	ASTM D5185(m)	0	**<1**	154	---
Lithium	ppm	ASTM D5185(m)		**<1**	0	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>8	▲ **13**	<1	---
Sodium	ppm	ASTM D5185(m)		**<1**	0	---
Potassium	ppm	ASTM D5185(m)	>20	**0**	0	---
Water	%	ASTM D6304*	>0.1	**0.067**	0.046	---
ppm Water	ppm	ASTM D6304*	>1000	**671.2**	460.7	---

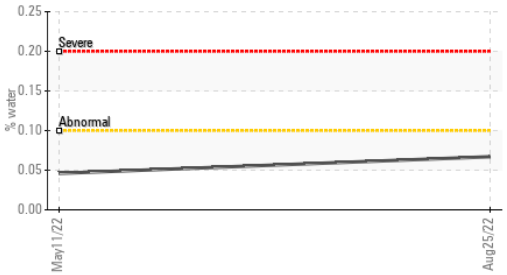
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.43	**0.23**	0.14	---

OIL ANALYSIS REPORT

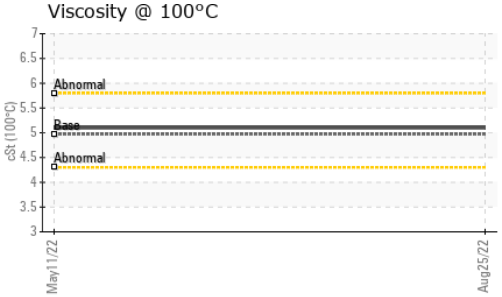
Silicon (ppm)



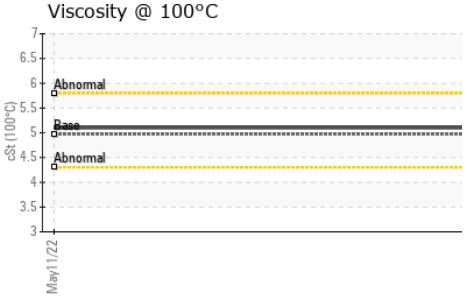
Water



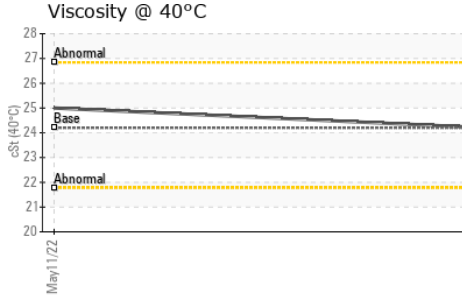
Viscosity @ 100°C



Viscosity @ 100°C

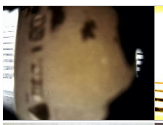


Viscosity @ 40°C



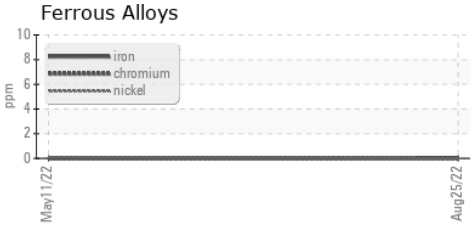
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**NONE**	NONE	---
Debris	scalar	Visual*	NONE	**NONE**	NONE	---
Sand/Dirt	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	**24.2**	25.0	---
Visc @ 100°C	cSt	ASTM D7279(m)	4.97	**5.1**	5.1	---
Viscosity Index (VI)	Scale	ASTM D2270*	134	**144**	136	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

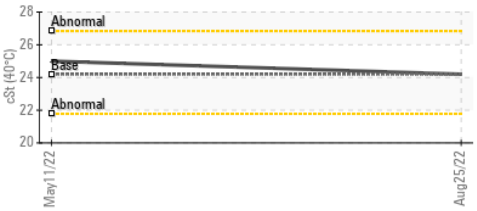
GRAPHS

Ferrous Alloys

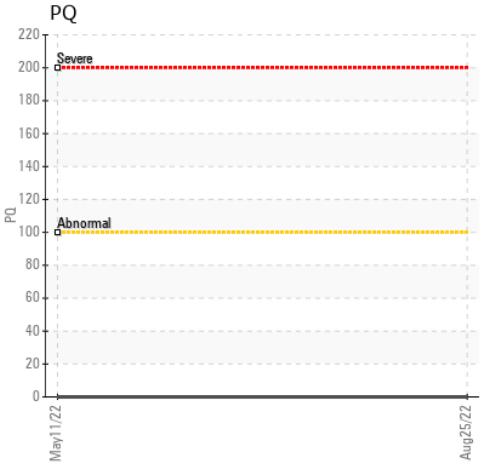


Non-ferrous Metals

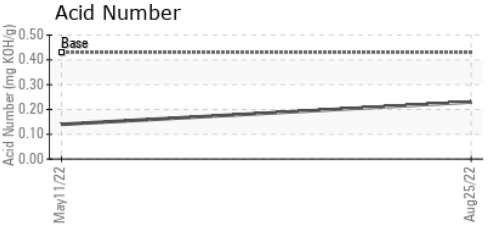
Viscosity @ 40°C



PQ



Acid Number



CALA
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0727693 **Received** : 31 Aug 2022
Lab Number : 02508066 **Diagnosed** : 01 Sep 2022
Unique Number : 5449036 **Diagnostician** : Kevin Marson
Test Package : AVI 3 (Additional Tests: PQ)

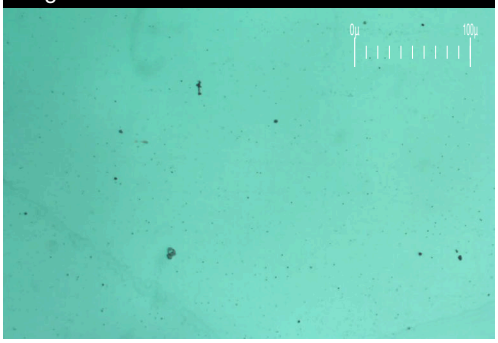
To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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

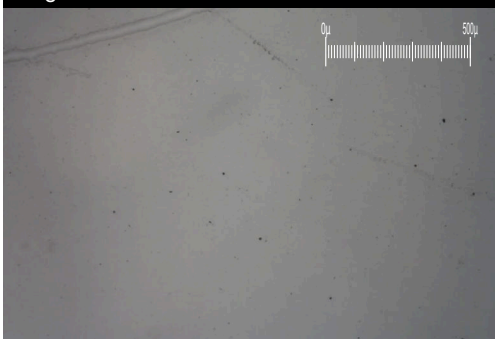
FERROGRAPHY REPORT

Area
(C-FFAP)
Machine Id
[C-FFAP] BEECHCRAFT KING AIR 200 PCE-81958
Component
Left Jet Turbine
Fluid
EASTMAN TURBO OIL 2380 (12 QTS)

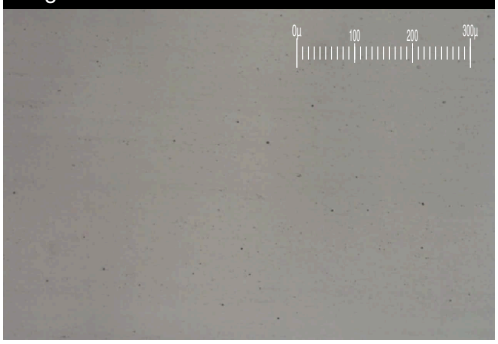
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW

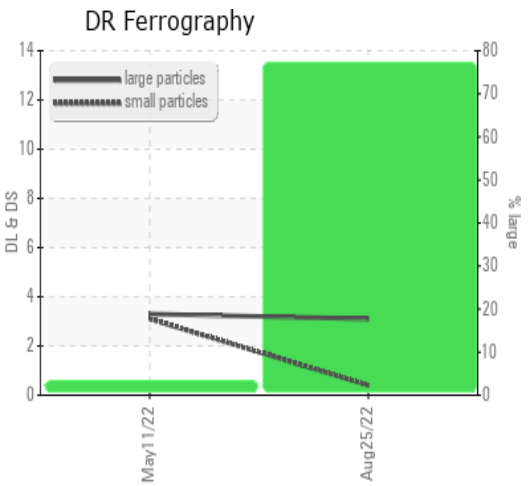


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		**3.1**	3.3	---
Small Particles		DR-Ferr*		**0.4**	3.1	---
Total Particles		DR-Ferr*	>---	**3.5**	6.4	---
Large Particles Percentage	%	DR-Ferr*		**77.1**	3.1	---
Severity Index		DR-Ferr*		**8**	1	---

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