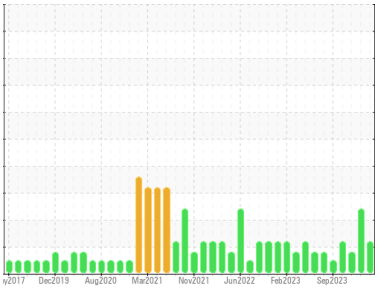
# OIL ANALYSIS REPORT

Sample Rating Trend



**FUEL**

Machine Id
## NEW FLYER 1224
Component
**Diesel Engine**
Fluid
**SAFETY-KLEEN PERFORMANCE PLUS XHD-7 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
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**
All component wear rates are normal.

**Contamination**
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

**Fluid Condition**
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0878001** | WC0890949 | WC0891134 |
| Sample Date | | Client Info | | **19 Mar 2024** | 12 Feb 2024 | 02 Jan 2024 |
| Machine Age | kms | Client Info | | **860207** | 851353 | 841752 |
| Oil Age | kms | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ABNORMAL** | SEVERE | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >75 | **14** | 15 | 13 |
| Chromium | ppm | ASTM D5185(m) | >5 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >15 | **1** | 2 | 2 |
| Lead | ppm | ASTM D5185(m) | >25 | **0** | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >100 | **<1** | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >4 | **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 |

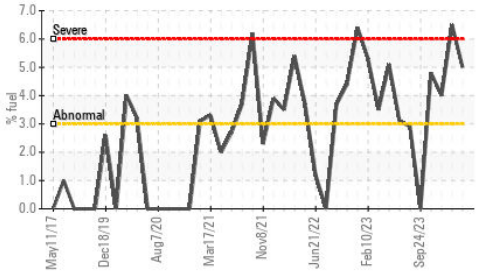
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | | **3** | 22 | <1 |
| Barium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | **54** | 47 | 58 |
| Manganese | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | | **886** | 770 | 940 |
| Calcium | ppm | ASTM D5185(m) | | **958** | 1091 | 1007 |
| Phosphorus | ppm | ASTM D5185(m) | | **891** | 699 | 976 |
| Zinc | ppm | ASTM D5185(m) | | **1093** | 815 | 1152 |
| Sulfur | ppm | ASTM D5185(m) | | **2231** | 1963 | 2606 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **2** | 4 | 2 |
| Sodium | ppm | ASTM D5185(m) | | **1** | 2 | <1 |
| Potassium | ppm | ASTM D5185(m) | >20 | **0** | <1 | <1 |
| Fuel | % | ASTM D7593* | >3.0 | ▲ **5** | ▲ 6.5 | ▲ 4 |

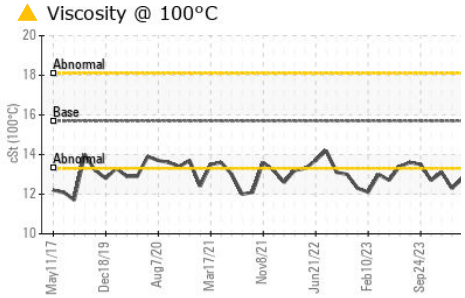
| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | ASTM D7844* | >6 | **0.6** | 0.6 | 0.5 |
| Nitration | Abs/cm | ASTM D7624* | >20 | **9.5** | 11.4 | 8.4 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **20.7** | 23.0 | 19.9 |

# OIL ANALYSIS REPORT

▲ Fuel Dilution




▲ Viscosity @ 100°C



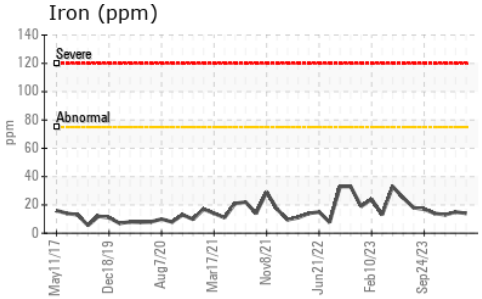

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **17.6** | 22.0 | 16.2 |

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

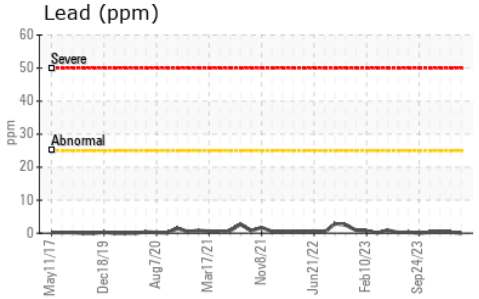
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.7 | ▲ **12.8** | ▲ 12.3 | 13.1 |

GRAPHS

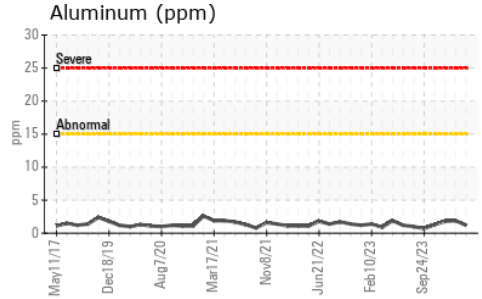
Iron (ppm)



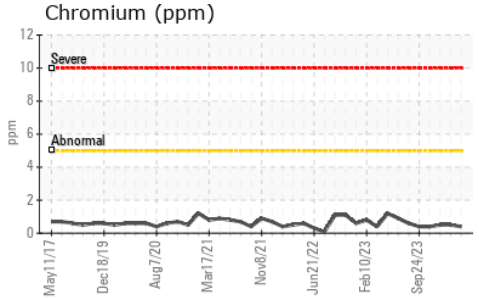

Lead (ppm)



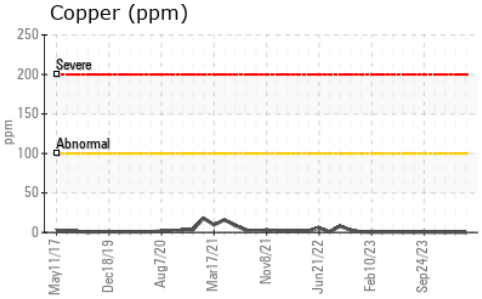

Aluminum (ppm)



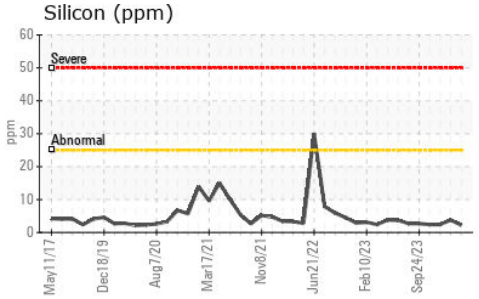

Chromium (ppm)



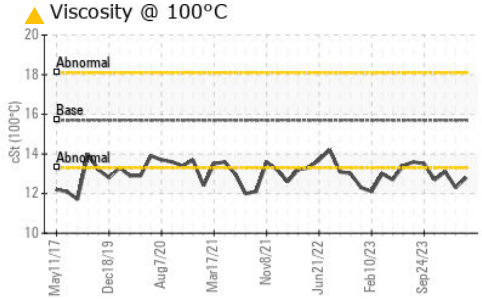

Copper (ppm)



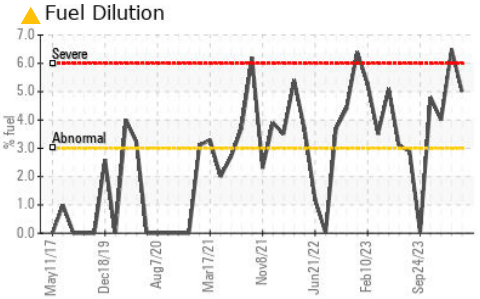

Silicon (ppm)




▲ Viscosity @ 100°C




▲ Fuel Dilution




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0878001 **Received** : 26 Mar 2024
**Lab Number** : 02624623 **Tested** : 27 Mar 2024
**Unique Number** : 5749742 **Diagnosed** : 27 Mar 2024 - Wes Davis
**Test Package** : MOB 1 ( Additional Tests: PercentFuel )

*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.*

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