

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend





#### Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 40 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

#### Fluid Condition

The condition of the oil is acceptable for the time in service.

			Apr2022	AUg2U23		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0062943	GFL0041327	
Sample Date		Client Info		28 Aug 2023	07 Apr 2022	
Machine Age	hrs	Client Info		4008	571	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
			100	c0	40	motoryz
Iron Obus milium	ppm	ASTM D5185(m)	>100	60	48	
Chromium	ppm		>20	2	<	
Titerium	ррп		>4	<1	<	
Cilver	ррп		0	0	<	
Aluminum	ppm	ASTM DE105(III)	>3	<1	< 1	
Auminum	ppin		>20	5	5	
Coppor	ppin		>40	1 2	161	
Copper	ррпп		>330	1	101	
Antimony	ppm	ASTM DE105(III)	>10	<1	0	
Vanadium	ppin			0	0	
Pandlium	ppm			0	0	
Cadmium	ppm	AGTM D5105(III)		0	0	
	ррш	ASTIN D5105(III)		U	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	5	171	
Barium	ppm	ASTM D5185(m)	10	0	8	
Molybdenum	ppm	ASTM D5185(m)	100	62	97	
Manganese	ppm	ASTM D5185(m)	1	<1	9	
Magnesium	ppm	ASTM D5185(m)	1 - 1		0 0 F	
Calcium			450	986	695	
Duolain	ppm	ASTM D5185(m)	3000	986 1115	695 1572	
Phosphorus	ppm ppm	ASTM D5185(m) ASTM D5185(m)	450 3000 1150	986 1115 1054	695 1572 763	
Phosphorus Zinc	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	3000 1150 1350	986 1115 1054 1205	695 1572 763 904	
Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	430 3000 1150 1350 4250	986 1115 1054 1205 2373	695 1572 763 904 2139	
Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	430 3000 1150 1350 4250	986 1115 1054 1205 2373 <1	695 1572 763 904 2139 <1	  
Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>Method</b>	450 3000 1150 1350 4250 limit/base	986 1115 1054 1205 2373 <1 current	695 1572 763 904 2139 <1 history1	    history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	430 3000 1150 1350 4250 limit/base >25	986 1115 1054 1205 2373 <1 current 8	695 1572 763 904 2139 <1 history1 29	    history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	430 3000 1150 1350 4250 limit/base >25 >216	986 1115 1054 1205 2373 <1 current 8 10	695 1572 763 904 2139 <1 history1 29 8	    history2 
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	430 3000 1150 1350 4250 iimit/base >25 >216 >20	986 1115 1054 1205 2373 <1 current 8 10 10	695 1572 763 904 2139 <1 history1 29 8 8 8	    history2 
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	430 3000 1150 1350 4250 iimit/base >25 >216 >20 iimit/base	986 1115 1054 1205 2373 <1 current 8 10 10 10 current	695 1572 763 904 2139 <1 history1 29 8 8 8 8	    history2   history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	430 3000 1150 1350 4250 iimit/base >25 >216 >20 iimit/base >3	986 1115 1054 1205 2373 <1 current 8 10 10 10 current 0.7	695 1572 763 904 2139 <1 history1 29 8 8 8 8 <u>history1</u> 0.2	   history2  history2  history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	430 3000 1150 1350 4250 imit/base >25 >216 >20 imit/base >3 >20	986 1115 1054 1205 2373 <1 current 8 10 10 current 0.7 11.9	695 1572 763 904 2139 <1 history1 29 8 8 8 8 history1 0.2 10.0	   history2   history2 history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7844* ASTM D7824* ASTM D7624*	430 3000 1150 1350 4250 imit/base >25 >216 >20 imit/base >3 >20 >30	986 1115 1054 1205 2373 <1 current 8 10 10 current 0.7 11.9 25.6	695 1572 763 904 2139 <1 <u>history1</u> 29 8 8 8 <u>history1</u> 0.2 10.0 25.4	    history2   history2  history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/cm	ASTM D5185(m) ASTM D7844* ASTM D7844* ASTM D7624*	430 3000 1150 1350 4250 imit/base >25 >216 >20 imit/base >3 >20 >30 limit/base	986 1115 1054 1205 2373 <1 current 8 10 10 current 0.7 11.9 25.6 current	695 1572 763 904 2139 <1 history1 29 8 8 8 8 history1 0.2 10.0 25.4 history1	   history2   history2  history2  history2
Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm Abs/cm Abs/.1mm	ASTM D5185(m) ASTM D7844* ASTM D7844* ASTM D7844* ASTM D7414*	430 3000 1150 1350 4250 imit/base >25 >216 >20 imit/base >3 >20 >30 imit/base >25	986 1115 1054 1205 2373 <1 current 8 10 10 current 0.7 11.9 25.6 current 21.4	695 1572 763 904 2139 <1 29 8 8 8 8 history1 0.2 10.0 25.4 history1 19.8	   history2   history2  history2    history2



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