

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL



LIEBHERR LH22M 158368-1250

Front Left Wheel Hub

SAE 75W90 (--- GAL)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0284689	LH0284722	
Sample Date		Client Info		25 Jun 2024	10 Apr 2024	
Machine Age	hrs	Client Info		1070	500	
Oil Age	hrs	Client Info		0	0	
Filter Age	hrs	Client Info		0	0	
Oil Changed		Client Info		Changed	N/A	
Filter Changed		Client Info		None	N/A	
Sample Status				NORMAL	NORMAL	
				•••	50	
Iron	ppm	ASTM D5185(m)	>650	26	52	
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	
Nickel	ppm	ASTM D5185(m)	>4	<1	0	
Titanium	ppm	ASTM D5185(m)	>4	0	0	
Silver	ppm	ASTM D5185(m)	0.5	0	0	
Aluminum	ppm	ASTM D5185(m)	>25	<1	<1	
Lead	ppm	ASTM D5185(m)	>4	0	0	
Copper	ppm	ASTM D5185(m)	>60	14	10	
Tin	ppm	ASTM D5185(m)	>4	0	0	
Vanadium	ppm	ASTM D5185(m)		0	0	
White Metal	scalar	Visual*	NONE	NONE	NONE	
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
Silicon	ppm	ASTM D5185(m)	>75	3	5	
Silicon Potassium	ppm ppm	ASTM D5185(m) ASTM D5185(m)	>75 >20	3 <1	5 <1	
				-	-	
Potassium		ASTM D5185(m)	>20	<1	<1	
Potassium Water	ppm	ASTM D5185(m) WC Method	>20 >0.2	<1 NEG	<1 NEG	
Potassium Water Silt	ppm scalar	ASTM D5185(m) WC Method Visual*	>20 >0.2 NONE	<1 NEG NONE	<1 NEG VLITE	
Potassium Water Silt Debris	ppm scalar scalar	ASTM D5185(m) WC Method Visual* Visual*	>20 >0.2 NONE NONE	<1 NEG NONE VLITE	<1 NEG VLITE VLITE	
Potassium Water Silt Debris Sand/Dirt	ppm scalar scalar scalar	ASTM D5185(m) WC Method Visual* Visual* Visual*	>20 >0.2 NONE NONE NONE	<1 NEG NONE VLITE NONE	<1 NEG VLITE VLITE NONE	
Potassium Water Silt Debris Sand/Dirt Appearance	ppm scalar scalar scalar scalar	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual*	>20 >0.2 NONE NONE NONE NORML	<1 NEG NONE VLITE NONE NORML	<1 NEG VLITE VLITE NONE NORML	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm scalar scalar scalar scalar scalar scalar	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual*	>20 >0.2 NONE NONE NORML NORML	<1 NEG NONE VLITE NONE NORML NORML NEG	<1 NEG VLITE VLITE NONE NORML NORML NEG	
Potassium Water Silt Debris Sand/Dirt Appearance Odor	ppm scalar scalar scalar scalar scalar scalar	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual*	>20 >0.2 NONE NONE NORML NORML	<1 NEG NONE VLITE NONE NORML NORML	<1 NEG VLITE VLITE NONE NORML NORML	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m)	>20 >0.2 NONE NONE NORML NORML >0.2	<1 NEG NONE VLITE NORE NORML NORML NEG 10 148	<1 NEG VLITE VLITE NONE NORML NORML NEG 15	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm scalar scalar scalar scalar scalar scalar	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m)	>20 >0.2 NONE NONE NORML >0.2	<1 NEG NONE VLITE NONE NORML NORML NEG 10	<1 NEG VLITE VLITE NONE NORML NORML NEG 15 104	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m)	>20 >0.2 NONE NONE NORML NORML >0.2 150 5	<1 NEG NONE VLITE NORML NORML NEG 10 148 2	<1 NEG VLITE VLITE NONE NORML NORML NEG 15 104 3	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >0.2 NONE NONE NORML NORML >0.2 150 5	<1 NEG NONE VLITE NORML NORML NEG 10 148 2 0	<1 NEG VLITE VLITE NONE NORML NORML NEG 15 104 3 0	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >0.2 NONE NONE NORML >0.2 150 5 0	<1 NEG NONE VLITE NORML NORML NEG 10 148 2 0 <1	<1 NEG VLITE VLITE NONE NORML NORML NEG 15 104 3 0 2	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >0.2 NONE NONE NORML NORML >0.2 150 5 0	<1 NEG NONE VLITE NORML NORML NORML 10 148 2 0 <1 11 1892	<1 NEG VLITE VLITE NONE NORML NORML NEG 15 104 3 0 2 2 10	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >0.2 NONE NONE NORML NORML >0.2 150 5 0 0	<1 NEG NONE VLITE NORML NORML NEG 10 148 2 0 <1 11	<1 NEG VLITE VLITE NORML NORML NORML 15 15 104 3 0 2 10 3565	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >0.2 NONE NONE NORML >0.2 150 5 0 20 20 20 25	<1 NEG NONE VLITE NONE NORML NORML NEG 10 148 2 0 <1 148 2 0 <1 11 1892 1192 770	 <1 NEG VLITE VLITE NORML NORML NEG 15 104 3 0 2 10 3565 1120 	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) WC Method Visual* Visual* Visual* Visual* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >0.2 NONE NONE NORML >0.2 150 5 0 0 20 1200	<1 NEG NONE VLITE NONE NORML NEG 10 148 2 0 <1 148 2 10 148 2 11 11 1892 1192	<1 NEG VLITE VLITE NONE NORML NORML NEG 15 104 3 0 2 10 3565 1120 1406	

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Submitted By: ? Page 1 of 2





