

[W49079] Machine Id EPIROC D60 G18SED0760 Component Left Final Drive

JOHN DEERE GL-5 80W90 (--- GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. 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

Bearing and/or bushing wear is indicated. Gear wear is indicated.

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate aluminasilicate (coarse dirt) ingress.

FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

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Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0212992	JR0202773	JR0197306
Sample Date		Client Info		21 Apr 2024	20 Feb 2024	16 Jan 2024
Machine Age	hrs	Client Info		10263	9966	9736
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Not Changd
Filter Changed		Client Info		N/A	None	N/A
Sample Status				SEVERE	SEVERE	NORMAL
PQ		ASTM D8184		874	942	11
Iron	ppm	ASTM D5185m	>500	A 719	▲ 1082	0
Chromium	ppm	ASTM D5185m	>10	6	4 9	0
Nickel	ppm	ASTM D5185m	>10	2	<u> </u>	0
Titanium	ppm	ASTM D5185m		7	12	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	92	146	0
Lead	ppm	ASTM D5185m	>25	4 97	1 26	0
Copper	ppm	ASTM D5185m	>50	128	1 54	<1
Tin	ppm	ASTM D5185m	>10	2	2	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal Silicon	scalar ppm	*Visual ASTM D5185m	NONE	NONE	NONE	NONE <1
Yellow Metal Silicon Potassium	scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m	NONE >75 >20	NONE 288 24	NONE 465 41	<1 0
Yellow Metal Silicon Potassium Water	scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method	>75 >20 >0.2	NONE 288 24 NEG	NONE 465 41 NEG	<1 0 NEG
Yellow Metal Silicon Potassium Water Silt	scalar ppm ppm scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual	>75 >20 >0.2 NONE	NONE 288 24 NEG MODER	NONE 465 41 NEG NONE	<1 0 NEG NONE
Yellow Metal Silicon Potassium Water Silt Debris	scalar ppm ppm scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>75 >20 >0.2 NONE NONE	NONE 288 24 NEG MODER NONE	NONE 465 41 NEG NONE NONE	<1 0 NEG NONE
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt	scalar ppm ppm scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual	>75 >20 >0.2 NONE NONE NONE	NONE 288 24 NEG MODER NONE NONE	NONE 465 41 NEG NONE NONE NONE	<1 0 NEG NONE NONE NONE
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance	scalar ppm ppm scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	NONE >75 >20 >0.2 NONE NONE NONE	NONE 288 24 NEG MODER NONE NONE NORML	NONE 465 41 NEG NONE NONE NONE NONE	 <1 0 NEG NONE NONE NONE NONE NONE
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor	scalar ppm ppm scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual	>75 >20 >0.2 NONE NONE NONE NORML	NONE 288 24 NEG MODER NONE NONE NONE NORML NORML	NONE 465 41 NEG NONE NONE NONE NORE NORML	 <1 0 NEG NONE NONE NONE NONE NORML NORML
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	scalar ppm ppm scalar scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>75 >20 >0.2 NONE NONE NONE NONE NORML NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NORML NEG	NONE 465 41 NEG NONE NONE NONE NORML NORML NEG	 NONE <1 0 NEG NONE NONE NORML NORML NEG
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	scalar ppm scalar scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NEG 20	NONE 465 41 NEG NONE NONE NONE NORML NORML NEG	 <1 0 NEG NONE NONE NONE NORML NORML NEG
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	scalar ppm ppm scalar scalar scalar scalar scalar scalar scalar	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NORML NEG 30 5	NONE 465 41 NEG NONE NONE NONE NORML NORML NEG 39	<pre>>NONE </pre> <1 0 NEG NONE NONE NONE NORML NORML NEG <1 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	scalar ppm scalar scalar scalar scalar scalar scalar ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NORML NEG 30 5 2	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0	 NONE <1 0 NEG NONE NONE NORML NORML NEG <1 0 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NORML NEG 30 5 3	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0 <1	<pre>>NONE </pre> <1 0 NEG NONE NONE NONE NORML NORML NEG <1 0 0 0 0 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NONE NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NEG 30 5 3 <1 7	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0 <1 10	<pre>>NONE </pre> <1 0 NEG NONE NONE NONE NORML NORML NEG <1 0 0 0 0 0 0 0 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NORML NEG 30 5 3 <1 7 21	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0 <1 10 39	<pre>>NONE </pre> <1 0 NEG NONE NONE NONE NORML NORML NEG <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NORML NEG 30 5 3 30 5 30 5 30 5 31 <1 7 21 110	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0 <1 10 39 135	<1 0 NEG NONE NONE NONE NORML NORML NORML NORML 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Malybdenum Manganese Magnesium Calcium	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NONE NORML >0.2	NONE 288 24 NEG MODER NONE NONE NONE NORML NEG 30 5 3 30 5 3 31 110 1847	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0 <1 10 39 135 2144	<1 0 NEG NONE NONE NONE NORML NORML NORML NORML 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Boron Barium Malybdenum Manganese Magnesium Calcium Phosphorus	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NEG 30 5 3 <1 7 21 110 1847 83	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0 <1 10 39 135 2144 164	<1 0 NEG NONE NONE NORML NORML NORML NEG 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	*Visual ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML >0.2	NONE 288 24 NEG MODER NONE NONE NORML NORML NEG 30 5 3 <1 7 21 110 1847 83 25477	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0 <1 10 39 135 2144 164 25250	NONE <1 0 NEG NONE NONE NORML NORML NEG <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Yellow Metal Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	scalar ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm ppm	*Visual ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	NONE >75 >20 >0.2 NONE NONE NORML >0.2	NONE 288 24 NEG MODER NONE NONE NONE NORML NORML NEG 30 5 3 30 5 30 10 10 110 1847 83 25477 145	NONE 465 41 NEG NONE NONE NORML NORML NEG 39 12 0 <1 10 39 12 0 <1 10 39 135 2144 164 25259 152	<1 0 NEG NONE NONE NONE NORML NORML NORML NORML 0 0 0 0 0 0 0 0 0 0 0 0 0 10 0 0 0 10 0 0 10 0 0 18976

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Submitted By: JOHN GUASCHINO



RDU - MARTIN MARIETTA Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : JR0212992 Received PO BOX 30013 : 19 Apr 2024 Lab Number : 06154755 Tested RALEIGH, NC : 22 Apr 2024 : 23 Apr 2024 - Sean Felton US 27622 Unique Number : 10990178 Diagnosed Test Package : CONST (Additional Tests: PQ) Contact: Chad Franks Certificate L2367 chad.franks@martinmarietta.com To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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