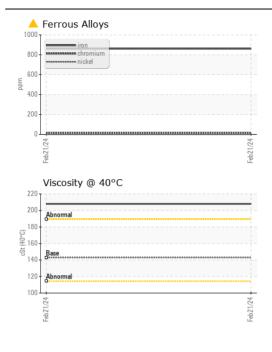
WEAR CONTAMINATION FLUID CONDITION

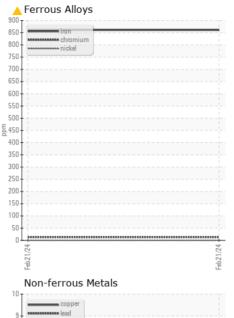
ABNORMAL NORMAL NORMAL

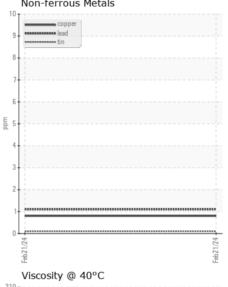
Machine Id **31264**

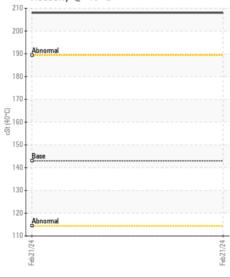
Component Swing Drive

Test	Swing Drive GEAR OIL SAE 80W90 (QTS)							
Sample Number Cilent Info		Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Date Client Info September Sample at the next service Machine Age Ins Client Info September Septembe	The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service						-	
Machille Augle Mach						21 Feb 2024		
Filter Age		Machine Age	hrs	Client Info		689		
Dictanged Client Info Changed Ch		Oil Age	hrs	Client Info		250		
Filter Changed Color Info Info Info Color Info		Filter Age	hrs	Client Info		0		
MEAR		Oil Changed		Client Info		Changed		
Iron		Filter Changed		Client Info		N/A		
Chromium		Sample Status				ABNORMAL		
Chromium	WEAR	Iron	maa	ASTM D5185m	>400	<u> </u>		
Nickel ppm ASTM D5185m -10 0 Silver ppm ASTM D5185m -25 -1 Aluminum ppm ASTM D5185m -25 -1 Aluminum ppm ASTM D5185m -25 -1 Lead ppm ASTM D5185m -25 -1 Lead ppm ASTM D5185m -25 -1 Copper ppm ASTM D5185m -20 -1 Tin ppm ASTM D5185m -20 -1 Tin ppm ASTM D5185m -20 -1 Tin ppm ASTM D5185m -20 -1 White Metal scalar "Visual NONE NONE White Metal scalar "Visual NONE NONE Water WC Method -0.2 NEG Silte Scalar "Visual NONE NONE Water Scalar "Visual NONE NONE Silte Scalar "Visual NONE NONE Debris Scalar "Visual NONE NONE Sand/Dirt Scalar "Visual NONE NONE Appearance Scalar "Visual NONE NONE								
Titanium								
Silver ppm ASTM D5185m 25 <1		Titanium		ASTM D5185m		<1		
Lead		Silver		ASTM D5185m		0		
Copper		Aluminum	ppm	ASTM D5185m	>25	<1		
Tin		Lead	ppm	ASTM D5185m	>50	1		
Vanadium ppm ASTM D5185m 0 White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NONE There is no indication of any contamination in the oil.		Copper	ppm	ASTM D5185m	>200	<1		
White Metal Scalar *Visual NONE NONE NONE ***		Tin	ppm	ASTM D5185m	>10	<1		
Yellow Metal scalar Visual NONE NO		Vanadium	ppm	ASTM D5185m		0		
Silicon ppm ASTM D5185m >50 9		White Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D5185m >20 0 Water WC Method >0.2 NEG Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Appearance scalar *Visual NORML		Yellow Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D5185m >20 0 Water WC Method >0.2 NEG Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Appearance scalar *Visual NORML	CONTAMINATION	Silicon	mag	ASTM D5185m	>50	9		
Water WC Method >0.2 NEG Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML NORML Appearance scalar *Visual NORML NORML Debris scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Debris Scalar *Visual NORML NORML NORML Debris Scalar *Vi								
Debris Scalar *Visual NONE		Water				NEG		
Sand/Dirt Scalar *Visual NONE NONE NONE NORML NORM		Silt	scalar	*Visual	NONE	NONE		
Appearance Scalar *Visual NORML NORM		Debris	scalar	*Visual	NONE	NONE		
Codor Scalar *Visual NORML NORML NORML Emulsified Water Scalar *Visual Scalar *Visual		Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.2 NEG		Appearance	scalar	*Visual	NORML	NORML		
Sodium ppm ASTM D5185m >170 4		Odor	scalar	*Visual	NORML	NORML		
Boron ppm ASTM D5185m 400 1 Barium ppm ASTM D5185m 200 9 Molybdenum ppm ASTM D5185m 12 0 Magnesium ppm ASTM D5185m 12 0 Magnesium ppm ASTM D5185m 12 0 Calcium ppm ASTM D5185m 150 8 Phosphorus ppm ASTM D5185m 1650 1476 Zinc ppm ASTM D5185m 125 10 Sulfur ppm ASTM D5185m 22500 24456		Emulsified Water	scalar	*Visual	>0.2	NEG		
Boron ppm ASTM D5185m 400 1 Barium ppm ASTM D5185m 200 9 Molybdenum ppm ASTM D5185m 12 0 Magnesium ppm ASTM D5185m 12 0 Magnesium ppm ASTM D5185m 12 0 Calcium ppm ASTM D5185m 150 8 Phosphorus ppm ASTM D5185m 1650 1476 Zinc ppm ASTM D5185m 125 10 Sulfur ppm ASTM D5185m 22500 24456	FLUID CONDITION	Sodium	ppm	ASTM D5185m	>170	4		
Barium ppm ASTM D5185m 200 9 Molybdenum ppm ASTM D5185m 12 0 Magnesium ppm ASTM D5185m 10 Magnesium ppm ASTM D5185m 12 0 Calcium ppm ASTM D5185m 150 8 Phosphorus ppm ASTM D5185m 1650 1476 Zinc ppm ASTM D5185m 125 10 Sulfur ppm ASTM D5185m 22500 24456		Boron		ASTM D5185m	400	1		
Manganese ppm ASTM D5185m 10 Magnesium ppm ASTM D5185m 12 0 Calcium ppm ASTM D5185m 150 8 Phosphorus ppm ASTM D5185m 1650 1476 Zinc ppm ASTM D5185m 125 10 Sulfur ppm ASTM D5185m 22500 24456	The condition of the on is acceptable for the time in service.	Barium				9		
Magnesium ppm ASTM D5185m 12 0 Calcium ppm ASTM D5185m 150 8 Phosphorus ppm ASTM D5185m 1650 1476 Zinc ppm ASTM D5185m 125 10 Sulfur ppm ASTM D5185m 22500 24456		Molybdenum	ppm	ASTM D5185m	12	0		
Calcium ppm ASTM D5185m 150 8 Phosphorus ppm ASTM D5185m 1650 1476 Zinc ppm ASTM D5185m 125 10 Sulfur ppm ASTM D5185m 22500 24456		Manganese	ppm	ASTM D5185m		10		
Phosphorus ppm ASTM D5185m 1650 1476 Zinc ppm ASTM D5185m 125 10 Sulfur ppm ASTM D5185m 22500 24456		Magnesium	ppm	ASTM D5185m	12	0		
Zinc ppm ASTM D5185m 125 10 Sulfur ppm ASTM D5185m 22500 24456		Calcium	ppm	ASTM D5185m	150	8		
Sulfur ppm ASTM D5185m 22500 24456		Phosphorus	ppm	ASTM D5185m	1650	1476		
		Zinc	ppm			10		
Visc @ 40°C cSt ASTM D445 143 208			ppm					
		Visc @ 40°C	cSt	ASTM D445	143	208		











Certificate L2367

Laboratory Sample No.

: WC0905384 Lab Number : 06100468 Unique Number: 10898698 Test Package : CONST

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 26 Feb 2024 : 27 Feb 2024 **Tested**

: 28 Feb 2024 - Don Baldridge Diagnosed

MORRISVILLE, NC US 27560 Contact: SCOTT SULLIVAN

SULLIVAN EASTERN INC

2860 C SLATER RD

ssullivan@sullivaneastern.com T: (919)484-8993

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.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (919)484-2136