

Machine Id **TWIN DISC STEPHEN T** Component **Starboard Gearbox** Fluid **KENDALL SUPER-D 3 SAE 15W40 (--- GAL)**

RECOMMENDATION

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.

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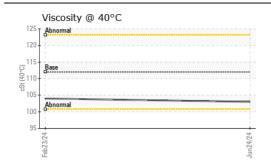
FLUID CONDITION

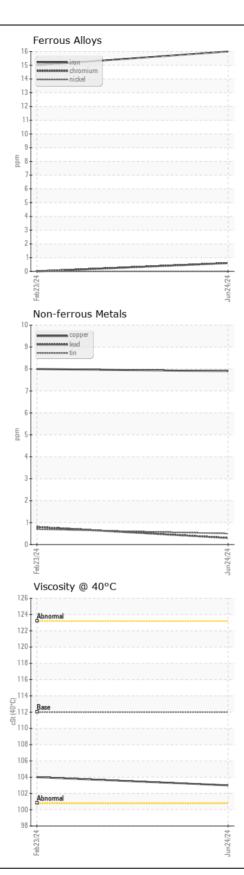
The condition of the oil is acceptable for the time in service.

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Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HRE0000264	WC0843965	
Sample Date		Client Info		24 Jun 2024	23 Feb 2024	
Machine Age	hrs	Client Info		23861	21084	
Oil Age	hrs	Client Info		1000	1000	
Filter Age	hrs	Client Info		1000	1000	
Oil Changed		Client Info		Not Changd	Changed	
Filter Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
			000	10	45	
Iron	ppm	ASTM D5185m	>200	16	15	
Chromium	ppm	ASTM D5185m	>10	<1	0	
Nickel	ppm	ASTM D5185m	>10	0 12	0	
Titanium	ppm	ASTM D5185m			9	
Silver	ppm	ASTM D5185m	. 05	0	0	
Aluminum	ppm	ASTM D5185m	>25	2	<1	
Lead	ppm	ASTM D5185m	>50	<1	<1	
Copper	ppm	ASTM D5185m	>200	8	8	
Tin	ppm	ASTM D5185m	>10	<1	<1	
Vanadium	ppm	ASTM D5185m	NONE	<1	<1	
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal Silicon	scalar ppm	*Visual ASTM D5185m	>50	NONE 3	NONE 3	
Silicon	ppm	ASTM D5185m	>50	3	3	
Silicon Potassium	ppm	ASTM D5185m ASTM D5185m	>50 >20	3 2	3 1	
Silicon Potassium Water	ppm ppm	ASTM D5185m ASTM D5185m WC Method	>50 >20 >0.2	3 2 NEG	3 1 NEG	
Silicon Potassium Water Silt	ppm ppm scalar	ASTM D5185m ASTM D5185m WC Method *Visual	>50 >20 >0.2 NONE	3 2 NEG NONE	3 1 NEG NONE	
Silicon Potassium Water Silt Debris	ppm ppm scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>50 >20 >0.2 NONE NONE	3 2 NEG NONE LIGHT	3 1 NEG NONE NONE	
Silicon Potassium Water Silt Debris Sand/Dirt	ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual	>50 >20 >0.2 NONE NONE NONE	3 2 NEG NONE LIGHT NONE	3 1 NEG NONE NONE	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance	ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NONE NORML	3 1 NEG NONE NONE NONE NORML	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NONE NORML NORML NEG	3 1 NEG NONE NONE NONE NORML NORML NEG	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NONE NORML NORML NEG 3	3 1 NEG NONE NONE NORML NORML NEG 5	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm ppm scalar scalar scalar scalar scalar scalar gpm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NORML NORML NEG 3 35	3 1 NEG NONE NONE NORML NORML NEG 5 31	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NORE NORML NORML NEG 3 35 0	3 1 NEG NONE NONE NORML NORML NEG 5 31 <1	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm ppm scalar scalar scalar scalar scalar scalar gpm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NORML NORML NEG 3 35 0 45	3 1 NEG NONE NONE NORML NORML NEG 5 31 <1 48	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NORML NORML NEG 3 35 0 45 0	3 1 NEG NONE NONE NORML NORML NEG 5 31 <1 48 <1	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NORML NORML NEG 3 35 0 45 0 45 0 481	3 1 NEG NONE NONE NORML NORML NEG 5 31 <1 48 <1 48 <1 504	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium	ppm ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NORML NORML NEG 3 35 0 45 0 45 0 481 1967	3 1 NEG NONE NONE NORML NORML NEG 5 31 <1 48 <1 48 <1 504 1800	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 >0.2 NONE NONE NORML >0.2	3 2 NEG NONE LIGHT NORML NORML NEG 3 35 0 45 0 45 0 481 1967 1052	3 1 NEG NONE NONE NORML NORML NEG 5 31 <1 48 <1 504 1800 988	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Malybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	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 ASTM D5185m	>50 >20 >0.2 NONE NONE NONE NORML	3 2 NEG NONE LIGHT NORML NORML NEG 3 35 0 45 0 45 0 45 0 45 0 45 1967 1052 1170	3 1 NEG NONE NONE NORML NORML NEG 5 31 <1 48 <1 48 <1 504 1800	
Silicon Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Barium Molybdenum Manganese Magnesium Calcium	ppm ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 >0.2 NONE NONE NORML >0.2	3 2 NEG NONE LIGHT NORML NORML NEG 3 35 0 45 0 45 0 481 1967 1052	3 1 NEG NONE NONE NORML NORML NEG 5 31 <1 48 <1 504 1800 988	

Contact/Location: DARRELL KEARNS - SUPCHEOH







Sample No. : HRE0000264 Received 201 KELLY LANE : 11 Jul 2024 Lab Number : 06234123 Tested CHESAPEAKE, OH : 12 Jul 2024 Unique Number : 11122957 Diagnosed : 14 Jul 2024 - Don Baldridge US 45619 Test Package : FLEET Contact: DARRELL KEARNS Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. darrellkearns@superiormarineinc.com * - 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)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Laboratory

Contact/Location: DARRELL KEARNS - SUPCHEOH Page 2 of 2

SUPERIOR MARINE

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