OIL ANALYSIS REPORT


## 075 G4 [2994724]

## B1 Blower

## Outboard Bearing

SHELL CORENA S4 R46 (--- QTS)

## DIAGNOSIS

## Recommendation

No action required at this time. Resample at next normal interval.

## Wear

Wear particles are low and acceptable.

## Contamination

Contamination is on par with new unfiltered oil.

## Fluid Condition

Fluid health indicators are acceptable for continued use.

| SAMPLE INFOR | ATION | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Number |  | Client Info |  | PLS0000679 | PLS0000661 | PLS0000323 |
| Sample Date |  | Client Info |  | 03 Nov 2023 | 28 Feb 2023 | 07 Jul 2021 |
| Machine Age | mths | Client Info |  | 24 | 8 | 0 |
| Oil Age | mths | Client Info |  | 8 | 8 | 0 |
| Oil Changed |  | Client Info |  | Changed | Changed | N/A |
| Sample Status |  |  |  | NORMAL | NORMAL | NORMAL |


| CONTAMINATION |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Water |  | WC Method | >2 | NEG | NEG | NEG |
| WEAR METALS |  | method | limitbase | current | history1 | history2 |
| PQ |  | ASTM D8184 |  | 12 | 10 | 16 |
| Iron | ppm | ASTM D5185m | >20 | 0 | 2 | <1 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Lead | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Tin | ppm | ASTM D5185m | >20 | <1 | 0 | 0 |
| Antimony | ppm | ASTM D5185m |  | --- | --- | 0 |
| Vanadium | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m |  | 0 | 0 | 0 |


| ADDITIVES |  | method | limitbase | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Boron | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m |  | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m |  | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m |  | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m |  | 0 | <1 | 0 |
| Calcium | ppm | ASTM D5185m |  | <1 | <1 | 0 |
| Phosphorus | ppm | ASTM D5185m |  | 79 | 68 | 88 |
| Zinc | ppm | ASTM D5185m |  | 0 | 10 | 0 |
| Sulfur | ppm | ASTM D5185m |  | 162 | 157 | 194 |
| CONTAMINANTS |  | method | limitbase | current | history1 | history2 |
| Silicon | ppm | ASTM D5185m | >15 | <1 | <1 | <1 |
| Sodium | ppm | ASTM D5185m |  | 0 | 1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | <1 |
| INFRA-RED |  | method | limitbase | current | history1 | history2 |
| Soot \% | \% | *ASTM D7844 |  | 0 | 0.1 | 0 |
| Nitration | Abs/cm | *ASTM D7624 |  | 4.3 | 4.5 | 4.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 |  | 8.5 | 8.5 | 8.9 |

## OIL ANALYSIS REPORT



| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Particles $>4 \mu \mathrm{~m}$ | ASTM D7647 | $>10000$ | $\mathbf{1 8 4 6}$ | 6213 | 1770 |  |
| Particles $>6 \mu \mathrm{~m}$ |  | ASTM D7647 | $>2500$ | $\mathbf{4 3 4}$ | 1176 | 447 |
| Particles $>14 \mu \mathrm{~m}$ |  | ASTM D7647 | $>160$ | $\mathbf{7 7}$ | 64 | 41 |
| Particles $>21 \mu \mathrm{~m}$ |  | ASTM D7647 | $>40$ | $\mathbf{3 7}$ | 16 | 15 |
| Particles $>38 \mu \mathrm{~m}$ |  | ASTM D7647 | $>10$ | $\mathbf{3}$ | 0 | 0 |
| Particles $>71 \mu \mathrm{~m}$ |  | ASTM D7647 | $>3$ | $\mathbf{0}$ | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | $>20 / 18 / 14$ | $\mathbf{1 8 / 1 6 / 1 3}$ | $20 / 17 / 13$ | $18 / 16 / 13$ |  |



| FLUID DEGRADATION |  | method | limit/base | current | history1 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Oxidation | Abs/.1mm | *ASTM D7414 | $\mathbf{3 . 1}$ | 3.4 | 3.9 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 |  | $\mathbf{0 . 2 1}$ | 0.19 |



| VISUAL |  | method | limit/base | current | history1 | history2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual |  | NEG | NEG | NEG |


| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |  |
| :--- | :---: | ---: | :--- | :---: | :--- | :---: | :---: |
| Visc @ $40^{\circ} \mathrm{C}$ | cSt | ASTM D445 | 42.3 | $\mathbf{4 8 . 2}$ | 47.9 | 48.9 |
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |  |

Color Bottom


Laboratory Sample No. Lab Number Unique Number Test Package
: WearCheck USA - 501 Madison Ave., Cary, NC 27513
: PLS0000679 Received : 13 Nov 2023 : 06006263 Diagnosed : 27 Nov 2023 : 10740025 Diagnostician : Mike Johnson

*     - 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)
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