



Mechanical Survey

Main Engine

2004 True North 38

Yanmar 6LY2A - STB

Serial Number: M55107

Engine hours: 468.6 hours as read from the hour meters

The engine space is generally clean and clear of debris. Surface rust is present on the aft and port forward motor mount. There is light patina around the raw water pump and rust adjacent on the engine block. Calcium is pushing out of the engine oil cooler and heat exchanger end caps. A closed cooling system pressure test was conducted to 13 psi for 15 minutes with no loss of pressure. A sacrificial zinc anode was removed for inspection and found to be in marginal condition.

Belts condition: Good

Hoses and Clamps: Good

Oil: Satisfactory

Coolant: Good

Transmission: ZF Hurth

Model: ZF 301C

Serial Number: 20044999

Ratio: 2.693 to 1

Oil level: Good

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Generator

2004 True North 38

Fischer Panda 8 mini HP1

Serial Number: C02-027-045

Engine hours: 147.6 as read from hour meter

The base engine for this generator is a Kubota 2 cylinder. The exhaust hose between the mixing elbow and internal case fitting only has one hose clamp installed. Surface rust is moderate around the front of the engine and motor mounts. A new starter has been installed, this can be determined by non-factory paint. A closed cooling system pressure test was conducted to 12 psi for 15 minutes with no leak down.

Belts condition: Satisfactory

Hoses and Clamps: Satisfactory/marginal

Oil: Good

Coolant: Good

Observations

The main engine is a diesel inboard, turbo after cooled with a closed cooling system and salt water heat exchange. The manufacturer rated horsepower is 420 at 3300 rpm. During sea trial the wide open throttle was 3300 rpm as read from the analog tachometer. The engine started easily with light smoke that lessened as engine operating temperature reached. Water is separated at the muffler so it was not visible for comment. The generator started easily with no smoke. Water is separated with this exhaust system as well so no comment will be made regarding water flow. The generator was run under load for the sea trial with no issues.



Engine oil pressure was noted at 50 - 60 psi, the coolant temperature was noted at 177*, alternator voltage was noted at 14.3vdc (taken with meter at alternator). Inferred temperature readings taken after wide open throttle tests were 152*, transmission oil pressure 320 psi

Generator Inferred temperature readings were 163.5*

Recommendations

1. Protect metal surfaces on the engine and generator by removing rust, priming, painting and monitoring for water leaks.
2. Monitor the calcium around cooler end caps and service as necessary.
3. Replace sacrificial zinc anodes in the engine and generator coolers.
4. Two hose clamps are required at all exhaust connections. Install second clamps at the generator mixing elbow.
5. Consider installing a raw water tell tail for engine and generator water.
6. Consider a complete engine and generator service as part of a regular maintenance program.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Bradley Destache', is written over a light pink rectangular background.

Bradley Destache S.A.M.S. SA
October 9, 2014

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