

### ENGINE SURVEY

DATE: 23/5/2025  
VESSEL NAME: S/Y SEAQUELL  
LOCATION: MARINA VELA, BARCELONA



ENGINEER CARRYING OUT SURVEY: HOWARD MAINWARING SMART

The survey to be carried out is functional tests and visual checks carried out with our recommendations for future servicing. This is not a full technical survey being carried out and no engine parts have been removed to carry this survey out.



### Pre Checks and Start up

**Running hours: 12473 + On this counter there are a marking indicating this is not correct and extra hours to be added. The real hours I do not know 100%.**



**Engine oil checks. The oil level was correct and the oil Viscosity seemed ok without Oil sample checks only visual and feel test. They does seem some carbon content as you can see in the on the white cloth. Although normal I would recommend a engine oil change soon.**



**No metal file content could be seen or any hard materials found inside the oil from this visual check.**



**JOHN DEERE**



**Gear box oil below. The level was correct and no visual signs of water content from the color. This oil is in very good condition and is clean. No oil samples were taken only visual checks.**



**Original engine plate still present.  
Lugger Serial: 1401 – 1069  
Model: L6140AL / BW160**



Engine first start up there is visual oil pressure 3.2Bar or around this pressure from analogue gauge with only around 40 degrees. Engine starts first time and runs correctly. We would expect to see higher oil pressure on start up around 4.7 – 5Bar. This would indicated that the engine is soon due a overhaul or investigation into the oil pressure. Once engine running we could also hear that the valves were tapping and would definitely recommend valve clearance checks & adjustments be carried out soon. Adjustments to the owners manual.



All filters are visually new and genuine units.

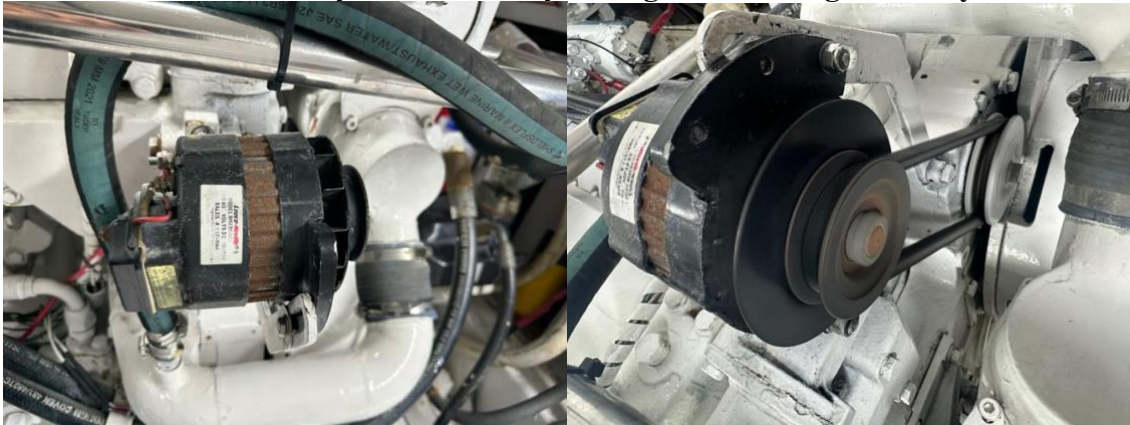


We can see in the photo the air filter housing has had a modification. Filter was working but recommend cleaning or replacement.





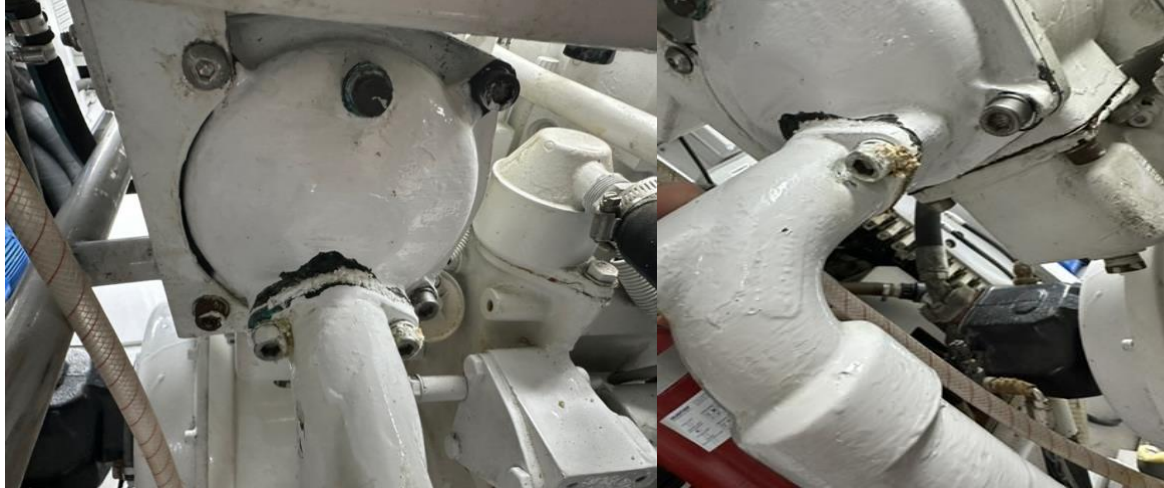
**Engine alternator functioning and operating correct output from gauge I can see. When running we can hear the bearing noise. I would recommend this unit be serviced or replaced. But is operating and working currently.**



**Engine sea water pump No leaks present and running correct temperature. Salt debris and flaking to the rear impeller plate. No heat signs on the plate. Visually checking the sea water pump from the tell tail signs I recommend the sea water pump be removed and serviced. The rear gasket normal perish on the rear plates due to salt water and normally indicates the impeller has not been replaced for some time.**

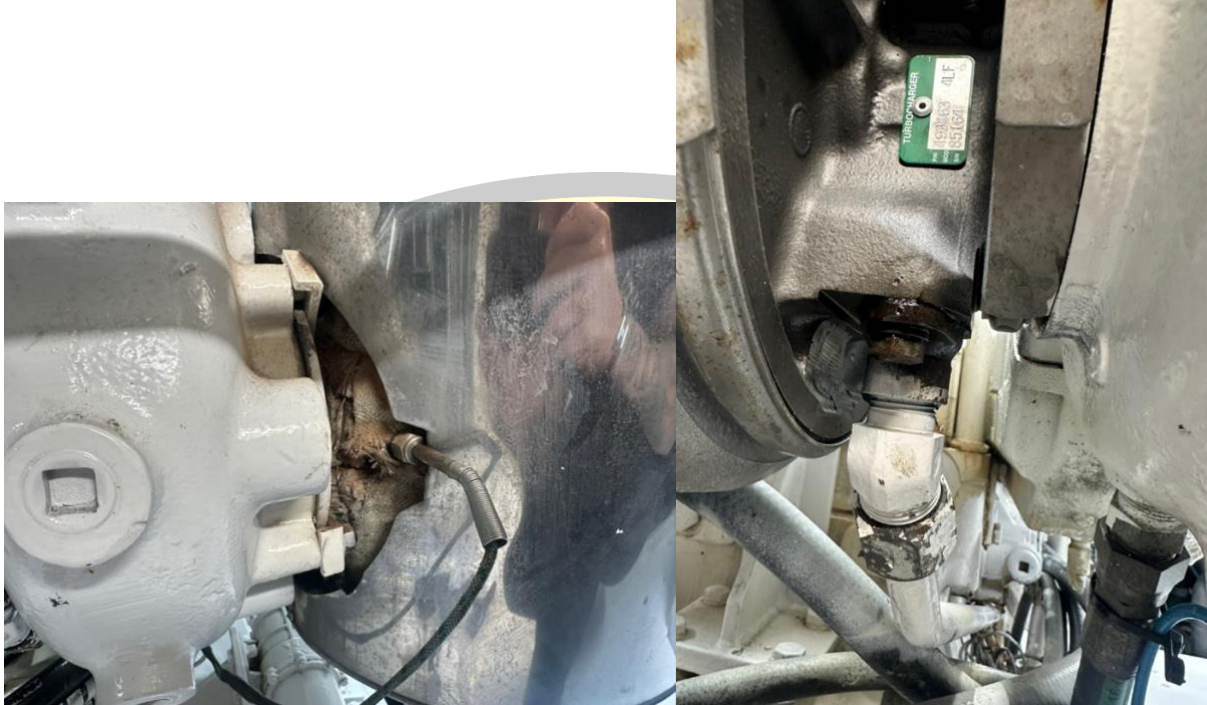


**Engine sea water heat exchangers and coolers. Coolant level was correct and no signs of debris. Temperature was a good and consistent. No signs of overheating. Visual checks as you can see in the photos again the gaskets are perished and salt is protruding the connection. I would recommend anodes be checked and replaced. Heat exchangers removed, serviced and pressure tested. No visual leaks present hot or cold**





**Engine turbo. No signs of smoke or overheating Internally. There is a small oil leak on the turbo oil return. I would say the turbo looks in good condition and the Cartridge for the turbo is new but not a genuine unit. Operation of the turbo was correct and boosting pressures correct.**

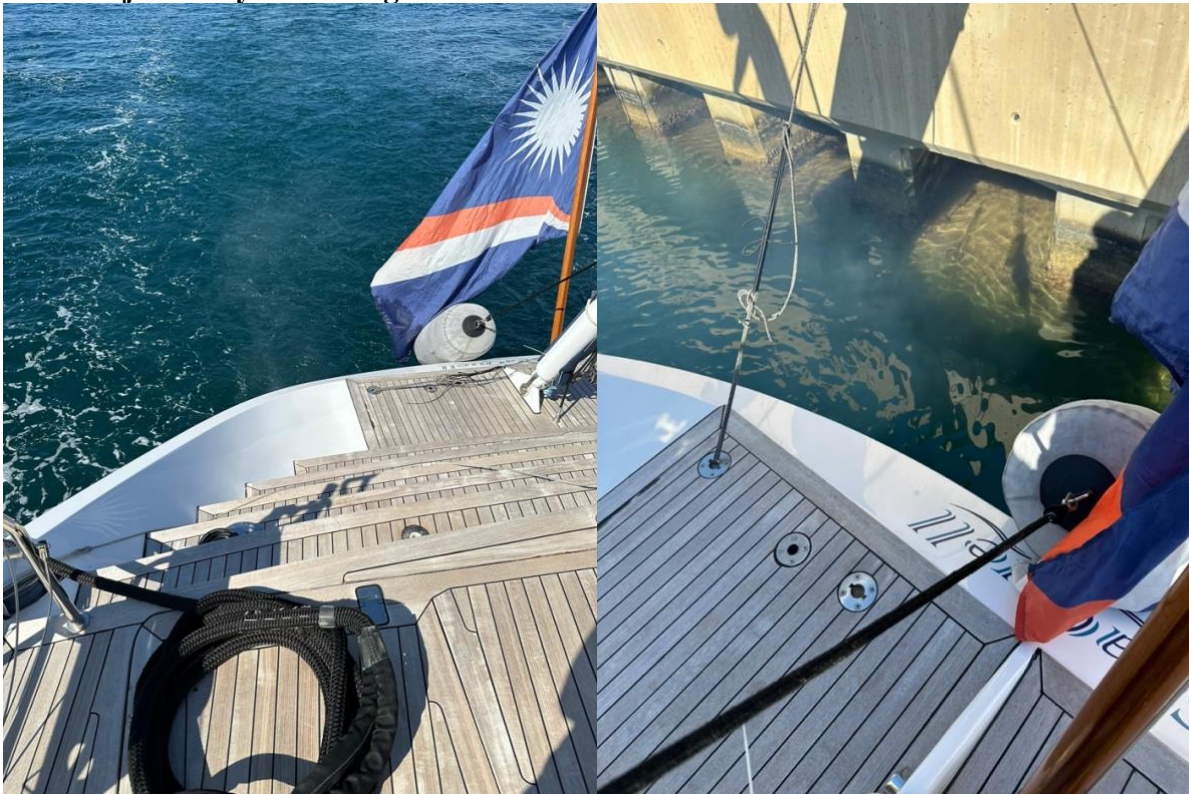


**The exhaust heat wrap material you can see inside is burnt. This happens over long periods and is very normally but I would recommend replacement to stop the fiber particle material going inside the engine and clogging the air filter.**

# JOHN DEERE



**External exhaust visual black smoke worse when cold but also visual on the trip. This would need more investigation. Can be a number of factors starting with turbo outlets being clean to fuel injection system being checked.**



**Over boat outlets working well and a good flow of water coming out from the engines.**





**This is the gasket from the exhaust manifold cooler and would suggest it has been removed and service from the silicone gasket sealant used. Unsure if there is a original gasket present. No signs of any leaks.**



# JOHN DEERE



**Engine Digital and analogue gauges working. Digital gauge slight delay but this is to be expected.**



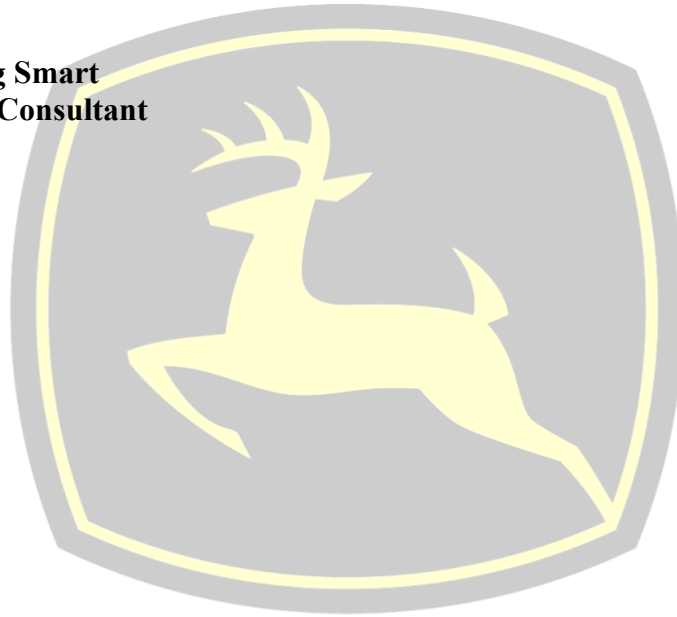
**The gauge in the right bottom photo was not functional would need investigation.**



### **Engine Overview**

**The engine generally is in good condition and in full operation. Currently seems to be no major issues and operates correctly. The checks carried out was visual and miner checks to give our professional recommendations. All recommendations are from our past experience and would highly recommend these repairs and investigations be taken out.**

**Regards  
Howard Mainwaring Smart  
Invicta Engineering Consultant**



# JOHN DEERE

