CHECK THE LUBE

Kittiwake Developments explains how its lube oil test kits can help reduce the risk of premature failure of marine propulsion units, gearboxes and hydraulic systems

Determining the presence of water or the gradual degradation of TBN (Total Base Number) of the engine oil can be one of the first indicators of potentially expensive and possibly catastrophic failure of the plant.

Water can enter the oil from many sources including condensation, leakage and malfunction of the oil treatment system, and this, if left unchecked, can cause corrosion, cavitation and additive package instability as well as encouraging the growth of unwelcome micro-organisms.

Regular sampling and analysis of fuel, lubrication and hydraulic oils enables the engineer to assess the condition and performance of the machine oil over time, allowing adjustments to be made to ensure maximum operational performance.

UK-based oil and water test-kit specialist Kittiwake Developments can provide the necessary tools for marine engineers to conduct these crucial maintenance procedures. For example its DIGI Test cell is one piece of equipment that no engine room should be without. Designed to analyse multiple oil breakdown characteristics, the dual purpose DIGI Test cell can measure both water in oil and TBN in one unit. This easy-to-use device provides a fast and accurate digital measurement for each parameter, allowing the engineer to effectively monitor and manage the condition of the oil and the equipment in which it is used.

A rugged and practical piece of equipment, the DIGI Test cell is machined from a tough aluminium casing to withstand the rigours of daily use onboard. The cell has been designed with non-slip twist grips to ensure that it can be fully sealed when in use and features a clear, scratch resistant LED display and 'easy-clean' touch pad controls. Pre-programmed software built into the cell takes the user through a step-by-step process to analyse the oil sample and deliver an instant result. The DIGI Test cell is delivered as a complete kit in an engineer's case for portability and ease of storage.

Maintaining the condition of clean oils, such as hydraulic oil, requires a different set of tests to those conducted on 'dirty' lube oils. The presence of particle contamination in these fluids can be catastrophic and monitoring fluid cleanliness levels will assist in identifying any abnormal conditions before they become critical.

An indication of the cleanliness of hydraulic oil can be achieved using the new Kittiwake Hydraulic Particles test kit. This low cost, portable solution provides high-level qualitative test results that can be readily utilised onboard ship.

Housed in a handy, robust carry case and supplied with an easy to follow, illustrated instruction manual, the Hydraulic Particles test kit contains all that is needed to collect detailed qualitative particle contamination measurements. The test results are compared with standard comparative charts and ISO code cleanliness levels can be established with the use of correlation tables.

In addition, Kittiwakes recently upgraded ECON TAN Drop test kit provides a rapid, accurate and easy to use test to check for increasing levels of TAN (Total Acid Number), caused by oxidation of the lubricant. Used regularly, these tests provide a wealth of useful information to aid onboard preventative maintenance.

For engineers wishing to test for a single parameter such as water in oil or TBN only, Kittiwake also provides an analogue test cell for each characteristic. The ECON range of test cells is available either as individual units or as part of an onboard test laboratory kit.

Manufactured from durable, chemically resistant polypropylene, these economic units make an ideal introduction to regular oil sampling and testing. Econ Test cells can be utilised by the crew to monitor the lubrication of a variety of machinery, thus saving unnecessary equipment downtime and costly repairs.

As technology and education come together, marine engineers increasingly understand that the key to onboard oil condition maintenance is the consistent measurement, monitoring and management of their machinery lubrication systems. MER