Monitoring

Diesel Engine Combustion Chamber Tester

CHRIS-MARINE®
DEC

The DEC-tester provides reliable and efficient condition monitoring of the combustion chamber in 4-stroke diesel- and gas engines.



Product features

- Bore size 160 to 460 mm
- Monitors current condition of piston ring pack, cylinder liner and inlet/exhaust valves
- Only air needed to control the leakage
- To be used when engine is not running

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Working principle

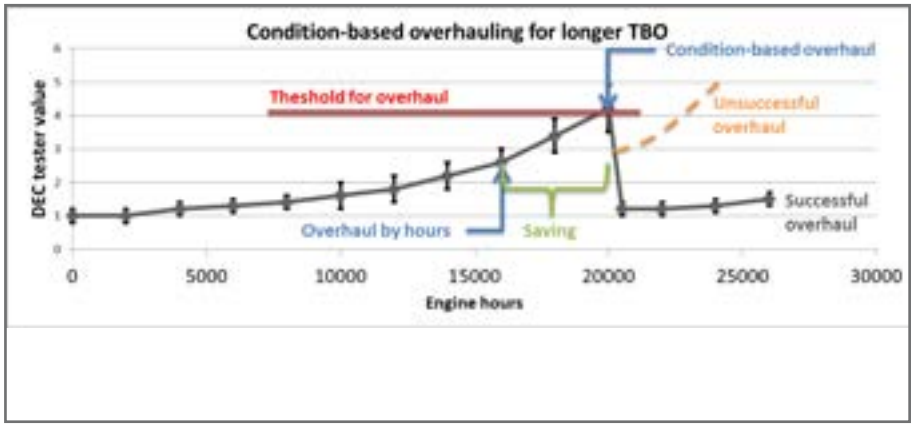
The DEC-TESTER outlet is connected to the indicator cock of the engine cylinder to be monitored with the piston at TDC (valves closed and maximum wear position of cylinder liner).



The DEC-TESTER inlet is connected to air pressure (6-8 bar). The DEC-TESTER will now regulate the pressure to a precise predefined level and then measure the pressure difference over an internal orifice in the device as air flows into the combustion chamber.

The air flow rate / DEC-TESTER value will depend on the condition of the combustion chamber. The more worn the combustion chamber is, the higher the DEC-TESTER value.

Similar methods have been used by chief engineers for years, but precision is greatly improved though the DEC-TESTER due to precise internal pressure regulation.



Savings through regular condition monitoring of the combustion chamber

Engine wear depends on several operating conditions, including the fuel and lube oil type, load pattern and ambient temperature and humidity. This leads to significant differences in engine wear for the same engine type. When taking the operational cost into account, hourly-based overhauling intervals are therefore not optimal.

For engines with the combustion chamber in poor condition, lube oil consumption and oil filter fouling becomes excessive, thereby increasing the operational cost. In order to lower operational cost, such engines can be overhauled with new piston rings even if the recommended overhaul interval has not been reached. Other engines operate under favorable conditions, making it possible to extend the recommended overhaul interval, thereby reducing operational costs.

Technical specifications	
• Cylinder size range	160 mm - 460 mm bore diameter
• Air pressure	6-8 bar (standard working pressure)
• Tube length	2 x 0.6 m
• Indicator valve connection	W 27 x 1/10"
• Weight	3 kg
• Dimensions	200 x 155 x 130 mm (LxWxH)
• Carrying case	230 x 200 x 160 mm (LxWxH)

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