Alpha Lubricator Lite
PrimeServ Retrofitting
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**Alpha Adaptive Cylinder Oil Control (Alpha ACC)**

The Alpha ACC is based on an algorithm controlling the cylinder oil dosage proportional to the sulphur content in the fuel.

To explore the potential savings with the Alpha ACC, a large-scale testing programme was initiated on MAN Diesel’s MC and MC-C engines in service for a number of owners.

Results were very good, especially with respect to:
- Cylinder oil consumption
- Particle emissions
- Combustion chamber wear

The outcome of the tests shows substantial annual savings and the Alpha Lubricator System with the Alpha ACC has a payback period of less than two years on most types of MC/MC-C engines.

The Alpha ACC can be retrofitted on all MC/MC-C engines.

**The Principle of the Alpha ACC**

The cylinder oil amount is controlled by the Alpha Lubricator Control Unit.

Two criteria determine the control:
- The cylinder oil dosage must be proportional to the sulphur content in the fuel
- The cylinder oil dosage must be proportional to the engine load, i.e. the amount of fuel entering the cylinders

Implementation of the two above criteria leads to an optimal cylinder oil dosage.

As the main element of cylinder liner wear is of a corrosive nature, the amount of neutralising alkaline components needed in the cylinder will therefore be proportional to the amount of sulphur – which generates sulphurous acids – entering the cylinders. A minimum cylinder oil dosage is also set in order to satisfy the other requirements of a lubricant, such as providing an adequate oil film and detergency properties.
The Retrofit Money Saver
As a retrofit on vessels in service, the Alpha ACC gives:
- Significant savings on cylinder oil
- Lower particle emission levels
- Reduced combustion chamber wear

Alpha Lubricator System Retrofit for Ships in Service
Operating at sea:
- Mounting of Alpha Lubricators (position 2)
- Installation of pump station (position 1)
- Piping between Alpha Lubricators and pump station
- Cabling between Alpha Lubricators and Alpha Lubricator Control Unit (position 5)
- Piping from Alpha Lubricator up to T-piece (but not final connection to T-piece) (position 4)

Why a Lite Version?
Installing the Alpha Lubricator in several engine sizes has been very successful. However, the well-known Alpha Lubricator system has a payback time which exceeds what is commonly accepted for smaller bore engines. Therefore, we have looked into making a costdown without interfering with the well-proven Alpha Lubricator system.

We have removed the backup parts from the system and turned the existing mechanical lubricator into a backup unit. This has enabled us to reach our goal of reducing the investment. This gives a payback time of less than two years, even on engines with a bore size below 60.

Installation
Alpha Lubricator retrofit installations are carried out according to the owner’s choice. All projects are tailor-made based on the following packages delivered by MAN Diesel PrimeServ:
- Provision of parts
- Provision of parts and supervision
- Provision of parts, supervision and installation teams
- Turnkey projects
- Trident financing