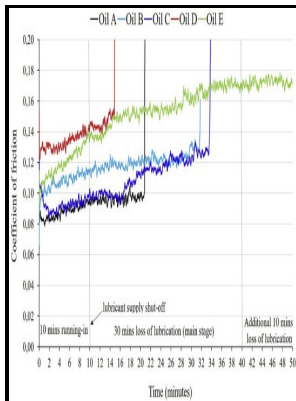


# Observation of the lubricating oil film between piston ring and cylinder of a running engine - the effects of lubricant properties and additives

Council for Scientific and Industrial Research - CYLINDER LINER LUBRICATION METHODS FOR MARINE DIESEL ENGINES



Description: -

-Observation of the lubricating oil film between piston ring and cylinder of a running engine - the effects of lubricant properties and additives

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## A New Approach to Determine Lubrication Regimes of Piston

The reason why the anti-seizure property and wear resistance of the piston ring are not evaluated or measured in the bent state is that it is difficult to get samples each having a shape size necessary for obtaining an accurate measurement result insofar as the annular piston ring with a small sectional area is concerned.

## Measurement of Lubricating Oil Film Thickness between Piston Ring

This will lead to increased engine wear that may result in premature repairs or even engine replacement. The nanoparticles were suspended using oleic acid in four different concentrations in the engine oil 0. Journal of Materials Processing Technology, 2009, 209 4 : 1936—1942.

## Cylinder Liner Lubrication of Marine Two Stroke Crosshead Diesel Engines

All friction tests were repeated twice under the same condition to check the repeatability of the results. After completion of each experiment, the fixtures of cylinder liner and piston ring were cleaned to ensure that each CLPR ran in the same condition.

## Abnormal Cylinder Liner Wear of Main Engine on Ships

Tel: +86-27-86582035; E-mail: yeq whut. The method of claim 8 wherein said capacitance measuring means comprises an alternating current of from about 0. This gear shaft has got two twisted discs or plates which move through appropriate grooves in two plungers so that when the gear shaft moves in a rotary fashion, the discs make the two plungers move in to and fro motion depending on the disc geometry.

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Still, its particles can accelerate the running-in of the friction pair surface under boundary lubrication conditions, improve the smoothness, and reduce friction.

### **Understanding How Engines Consume Oil**

Another oscilloscope output for the same oil is shown in FIG. Soot particles, carried into the lubricant with blowby gases along with wiping of the piston-rings, can combine with anti-wear and viscosity additives in the oil to reduce wear tolerances 5 and increase viscosity 6.

### **Lubricating inside a cylinder liner**

It must also combat corrosive wear. The electrical resistances of the friction pair were recorded by the Labview acquisition system and analyzed to determine the lubrication oil film characteristics of the friction pairs and their wear mechanisms. This figure displays a single oscilloscope trace giving a set of 17 engine cycles and shows the excellent repeatability and sensitivity of the method of this invention for determining capacitance and minimum oil-film thickness.

### **Abnormal Cylinder Liner Wear of Main Engine on Ships**

Using the same processing method, the  $S_q$  values of micro-concave were smaller at load of 400 N and larger at loads of 200 N and 600 N than that of micro V-groove. The micro-concave cylinder liner processed by CE was suitable for running with the load 600 N, the micro-concave cylinder liner processed by CNCMP was suitable for running in the applied load 400 N and the micro V-groove cylinder liner processed by CNCMP was suitable for running with the loads 400 N and 600 N.

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