ABSTRACT

ANALYSIS OF COOLING WATER LEAK CAUSED THE CYLINDER LINER O-RING SEAL DAMAGE ON THE CYLINDER B3 OF GAS ENGINE 4 IN GRESIK POWER INDONESIA (LINDE). Inc

By
Fana Firul Mustakim
6308 030 001

Waukesha is a Gas Engine type used as a prime mover in a power plant at PT. Gresik Power Indonesia (Linde). Gas Engine operate continuously for 24 hours non-stop. At the time of operation, Gas Engines experiencing a serious disruption of the cooling water leaks on the cylinder liner. The leak occurred because the O-ring seal cylinder liner is damaged. This resulted in the cooling water mixes with the lubricating oil so that the lubricating oil can not function properly.

To find out the cause of the leak of cooling water, there is need for an in-depth analysis. Analysis process as possible so that leaks do not occur in the future. The analysis starts from the most basic to the most complicated that penyebap leak could actually be found and then it can be anticipated before the same case. Analysis carried out on components such as cylinder liners and related other factors that affect the function and workings of the O-ring seal cylinder liners.

By doing good analysis process, it is known the cause of the leak of cooling water, including the following: the composition of the material used to make O-ring seal, installation procedures, operational time, the heat factor, the form of grooves, center line cylinder liner and the square O-ring seal. All these factors are factors that cause damage to the O-ring seal, where the factors are mutually sustainable.

Key words: Gas Engine, O-ring seal, cylinder liner, Periodic Maintenance, Engine Performance, cooling water, lubricating oil