

## ABSTRACT

**Ilham Mustofa**, 2018, NIT : 51145349. T, “The Role of Lathe Machine in the Diesel Generator Engine Cylinder Liner Repair on MV. Energy Prosperity”, Skripsi Program Studi Teknik, Program Diploma IV, Politeknik Ilmu Pelayaran Semarang, Pembimbing 1 : Agus Hendro Waskito, MM, Pembimbing 2 : Capt. Ali Imran Ritonga MM, M.Mar.

When the author did sea project on the MV. Energy Prosperity, the author observed one problem when the author was returning from Samcheonpo, South Korea to Muara Berau, Samarinda, East Kalimantan, Indonesia. Precisely in Luzon, Philippines on March 7, 2017 at 7.15 a.m. MV. Energy Prosperity has been black out at that time. This can happen because the number 3 diesel generator engine was overheat. Overheat is an event where the temperature inside the engine is too high when the engine is operating, causing the piston and piston ring to expand, which results in the absence of clearance between the piston ring and the cylinder liner wall. As a result the level of friction between the piston ring with the cylinder liner wall increases so that it can cause abrasive wear on the cylinder liner wall or commonly called abrasive wear. The cylinder liner repair of the diesel generator was done through boring method using a lathe machine. Lathing is a workpiece incision process which in the general workpiece incision process is done by rotating the workpiece then worn on the chisel which moved in translational parallel to the rotary axis of the workpiece. While boring is the process of enlarging a hole using lathe machine.

Seeing the big role of the lathe machine in the cylinder liner repair of diesel generator engine in the MV. Energy Prosperity, the author was interested to did research so the author could find samples in the form of data based on existing facts to serve as reference data in the production of theses, and the data in the form of facts makes the author could make a conclusion, then the conclusion could be summarized back to be used as a thesis title. So it was born, “The Role of Lathe Machine in the Diesel Generator Engine Cylinder Liner Repair on MV. Energy Prosperity” as the author's thesis title. The author uses a combined research method between Fishbone Analysis and Fault Tree Analysis to describe the factors that cause the cylinder liner repair of the diesel generator engine in the MV. Energy Prosperity can be done through boring methods using a lathe.

Keyword : *abrasive wear, lathing and boring*