

## ABSTRACT

**Purwo Bagus Wicaksono**, 2017, NIT: 49124550.T, “the emergence of soot on the side of the turbocharger turbine auxiliary engine on mv. armada serasi using method Fault Tree Analysis method” thesis Engineering Studies Program, Program Diploma IV, Merchant Marine Polytechnic Semarang, Supervisor I: H. Sumarno PS, MM Advisor II: Okvita Wahyuni, S.ST., MM.

In the maritime world today, the competition in the use of sea freight transport services is very tight so that the shipping company is prioritizing the cruise was good and satisfying. Efforts to do that is by maintaining the security, accuracy and savings in shipping. In general, the ships are now using diesel engines, both for main propulsion or as auxiliary engines, due to the highly efficient diesel engine. To meet the needs of the shipping fleet, the vessel must be in good condition.

Turbocharger is an additional device mounted on auxillary engine. In auxillary engine operation, when the engine started to operate and emit exhaust gases, it will simultaneously operate turbocharger. Then, \the blower will begin to suck in air from the outside. There are two main components to the turbocharger which are turbine side and blower side. The turbine side is a device that converts the heat and pressure of the exhaust gases into torque to drive the blower side, while the blower side serves to suck outside air to supply clean air into the combustion chamber.

Exhaust gases from the engine were dirty due to poor combustion quality. Poor combustion can be caused on the quality of fuel, bad clouding of the nozzle or the condition of the machine itself. Good combustion process is influenced by many factors. Based on the background of the problems that has been said above, we first determine the subject-matter of the case, it will be the authors discussed in this thesis.

**Keywords:** Fresh water cooler, cooling siste, treatment components