

ABSTRACT

DESIGNING A TRIAL RADIATOR (*RADIATOR TESTER*) LABORATORY SCALE WHICH IS COMPLETED BY ROUND HANDLERS MACHINE AND REGULATOR *WIND BLOWER* ON DIESEL ENGINE L 300

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Cooling system in the engine functions as the protector of the machine by absorbing the heat. Heat engine is produced by fuel in the cylinder. The heat is deliberately created to generate energy, but it will cause excessive heat if it is left unchecked (*over heating effect*). In order to prevent overheating and keep the machine temperature, then it uses radiator. How effective radiator is used can be seen by using a tool called a radiator tester. Therefore, this research was Designed A Trial Radiator (*Radiator Tester*) Labotatory Scale Which is Completed by Round Handler's Machine and Regulator Wind Blower on Diesel Engine L 300.

This research was done by testing the car L 300 diesel in the field then noted rpm and air speed that blew into the radiator. The process of designing a radiator tester L300 diesel engine laboratory scale were making the framework platform machine, making radiator tester cooling system machine to set up a thermometer in the radiator hose in and out, making a mechanism round handlers machine, making a regulatory mechanism wind blower and installing a trial radiator with round handlers machine and wind blower. The rpm test result and air speed on the field was applied to the radiator tester laboratory scale.

From the results of the tests, it showed that there was an increase in value of the effectiveness of the radiator without external airflow to engine speed 1000 rpm and the average value was 0.483. Whereas, there was a decrease on the effectiveness of the radiator when given outside air flow 2.3 m/s at 1500 rpm engine speed, which was 0.63.

Keywords: Effectiveness, Radiators, Temperature, Air Flow