**Design Thermal Analysis Of Engine Cylinder Fins**

**ABSTRACT**

The major automobile component subject to high temperature variation and thermal stress is engine cylinder. Fins are used on the surface of engine cylinder to increase the heat transfer rate. Heat rejection rate in engine cylinder fins can be enhanced by increasing its surface area. The objective of the present investigation is to examine the thermal properties by varying geometry, material and angle of cylinder fins using Ansys work bench and the models are created by changing the geometry like rectangular, circular, angular and curved shaped fins. Transient thermal analysis shows the deviation of temperature over time and the precise thermal simulation is very useful to identify the design parameters for improved life. The observations from the present investigation work, Aluminium Alloy 2014 showing 17 % higher temperature distribution compared to Aluminium Alloy 204. All the materials are showing linear distribution of temperature alongside the length of fins. Also, the circular fins increase the efficiency of the engine by reducing the weight of the engine.

Keywords: Engine, Fins, Geometry, Material, Heat dissipation