## Stress Analysis of Turbine Blades of Turbocharger Using Structural Steel

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**Abstract :** Turbocharger is a device that is driven by the turbine and increases efficiency and power output of the engine by forcing external air into the combustion chamber. This study focused on the distribution of stress on the turbine blades and total deformation that may occur during its working along with turbocharger to carry out its static structural analysis of turbine blades. Structural steel was selected as the material for turbocharger. Assembly of turbocharger and turbine blades was designed on PRO ENGINEER. Furthermore, the structural analysis is performed by using ANSYS. This research concluded that by using structural steel, the efficiency of engine is improved and by increasing number of turbine blades, more waste heat from combustion chamber is emitted.

Keywords : turbocharger, turbine blades, structural steel, ANSYS

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