

ABSTRACT

LOAD ANALYSIS AND MULTI BODY DYNAMICS ANALYSIS OF CONNECTING ROD IN SINGLE CYLINDER 4 STROKE ENGINE

INTRODUCTION

Connecting rod is an integral component of an engine and it is classified under functional component based on its application. It acts as a linking member between piston and crank shaft. The function of the connecting rod also involves transmitting the thrust of the piston [1]. Connecting rod has three main zones. The piston pin end, the center shank and the big end. The piston pin end is the small end, the crank end is the big end and the center shank is of I cross section. Connecting rod is a pin jointed strut in which more weight is concentrated towards the big end [2]. In this paper a design change is suggested in which truss is induced in the connecting rod design. But, before inducing the truss member, basic design calculation will be used to derive the constant and varying design parameters

Motivation

Due to these factors, the connecting rod has been the topic of research for different aspects such as production technology, materials, performance, simulation, fatigue etc.

- Fatigue failure due to cyclic loading
- Bucking
- Tensile fracture due to inertia load.
- Bending stresses due to centrifugal forces.

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