**STRUCTURAL STATIC ANALYSIS ON CRANKSHAFT BEARING ASSEMBLY**

**ABSTRACT**

A Crankshaft bearing assembly for supporting a crankshaft for rotation about a crankshaft axis within an engine having an aluminum engine block, the crankshaft bearing assembly including at least one crankshaft bearing divided into a first half and a second half, the first half being integral with the engine block, and the second half being a bearing cap connectable to the engine block. The bearing cap is made of an aluminum alloy having a tensile strength higher than the tensile strength of the engine block. The design and analysis of a single cylinder crankshaft assembly are analyzed using FEA commercial software using **ANSYS**. Three-dimension models of connecting rod and crank shaft were modeled using **SOLID WORKS** software and analyzed using **ANSYS** to find the critical stress status and maximum design load for the crank pin. The maximum deformation, maximum stress point is found by creating contact surface between connecting rod and crank pin using contact stress analysis. The validation of contact analysis of crank shaft is compared with hand calculation and the results are found satisfactory.