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DEPARTMENT OF MECHANICAL ENGINEERING



PROJECT REPORT ON

**“DESIGN, FABRICATION AND TESTING OF TWO STROKE
SI ENGINE UNDER VARIABLE COMPRESSION RATIO”
(SPONSORED BY KSCST)**

Submitted in partial fulfillment of the requirement for the award of degree of

**BACHELOR OF ENGINEERING
IN
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ABSTRACT

The need of the enhancement for the development of high specific power output for outcome of higher reliability and longer engine life is more important. Hence, it is clear that a fixed compression ratio cannot meet these requirement for higher specific output, so the development of "VARIABLE COMPRESSION RATIO ENGINE"

Variable compression ratio can be obtained by altering either i) the clearance volume ii) both the clearance volume and swept volume. Variation of clearance volume of an operating engine requires either raising or lowering of the entire crankshaft or raising or lowering of piston crown.

The good suited method is, the cylinder head assembly is raised or lowered by means of a fine screw-threaded adjustment mechanism. So, for the change of the clearance volume, instead of an head, a cylinder, static piston and nut is designed. The cylinder is bored to standard specified dimension and also the nut With the rotation of threaded piston in the nut, linear motion of piston varies the clearance volume, hence compression ratio is varied.

The arrangement is tested for its performance parameter studied. It has been observed that bmep, brake thermal efficiency improves & bsfc decreases with the compression ratio within the range of compression ratio variation,(i.e between 6 to 9) considered.