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EFFECT OF TANGENTIAL GROOVES ON THE PISTON CROWN AND HELICAL GROOVES IN INLET MANIFOLD OF D.I. DIESEL ENGINE

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Abstract

Direct injection diesel engines have served for both heavy duty vehicles and light duty vehicles and have the evident benefit of a higher thermal efficiency than all other engines. However the direct injection diesel engine emits more particulate matter and hence atmospheric air is contaminated with these emissions. In order to reduce the emissions, an attempt is made by providing tangential grooves on the piston crown and helical grooves in the inlet manifold and the results are discussed in this work. From the results it is concluded that the base line engine with these groove configuration gives maximum performance in all aspects and reduces emissions.

Keywords: DI Diesel engine, Helical grooves, Tangential grooves, Swirl motion.