# A CFD INVESTIGATION TO STUDY THE EFFECT OF MIXING QUALITY ON THE CNG-DIESEL DUAL ENGINE PERFORMANCE BY DEVELOPING A 3D MODEL

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## Abstract

In a CNG-DIESEL DUAL FEED ENGINE, the CNG-AIR MIXER plays a vital role. The CNG-AIR MIXER is an important part of the fuel system of CNG-DIESEL DUAL FEED ENGINE. The basic operation of CNG-AIR MIXER mainly depends on restriction barrel known as venturi. When air flows through venturi, its speed increases and pressure decreases. CFD approach is applied to investigate the flow behavior of **methane and air** in a CNG-AIR MIXER to be used for CNG-DIESEL DUAL FEED ENGINE. CFD analysis is done on 8 hole **cng-air** mixer and results of simulations showed that 8-hole cng-air mixer gives superior performance. Also mixing quality at outlet in terms of spread parameter of CNG-MASS fraction will be calculated.

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