

Numerical Modelling of the Operation of a Novel Two Stroke V4 Engine

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Abstract

The paper presents simulations of the operation of a novel two-stroke engine for road Super Sport motorcycles. Two-stroke engines were preferred to four-stroke engines in Grand Prix motorcycle racing until the start of the MotoGP era when new rules phased out the two-stroke engines. Reasons for the change were the poor fuel economy and significant pollutant emissions. The paper discusses the opportunity of a come back at least in road Super Sport motorcycles thanks to the recent advantages in direct injection and precise lubrication for two-stroke engines, plus the opportunity to use jet ignition, based on performance simulations.

Keywords: internal combustion engines, direct injection, jet ignition, precise oiling, two-stroke engines

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