

THERMOGASODYNAMIC OPTIMISATION OF A TWO STROKE DIESEL ENGINE UNIFLOW SCAVENGED

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The thermogasodynamic estimation of the internal combustion engines (ICE) supposes the gas exchange and the burning analytical control, and could contribute in a great extent to improve the engine performances by solution adopted still in the design stage of the engines. Being a problem in the past, solving of the differential equations system which describes the gas exchange process and the burning modelling, is made today by using high capacity computers, the classic methods needing a hard working volume. The software must fulfil two main conditions, high accuracy and speed. The paper has in view the optimisation of the scavenging of the two stroke diesel engine uniflow scavenged, high supercharged, being in the design stage.

Key words: gasodynamics, optimisation, diesel engine.

TERMOGASODINAMIČKA OPTIMIZACIJA DVOTAKTNOG DIZEL MOTORA

Praćenje termodinamičkog procesa gasova u motoru SUS pretpostavlja analitičku kontrolu promene gasova i procesa sagorevanja i može u značajnoj meri da poboljša performanse motora i da doprinese odgovarajućem rešenju komore sagorevanja. Nekada je rešavanje diferencijalnih jednačina koje opisuju ovaj problem i kojima je modeliran proces promene gasova i sagorevanja bilo teško ili neizvodljivo, ali danas, korišćenjem računara velikih kapaciteta, je sasvim moguće. Od aplikativnog softvera se traži da ima odgovarajuću tačnost i brzinu. U radu je prikazana optimizacija u dvotaktnom dizel motoru sa napunjenjem, u fazi njegovog projektovanja.

Ključne reči: gasodinamika, optimizacija, dizel motor.