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EXPERIMENTAL ENGINES FOR RESEARCH  
OF FUELS AND LUBRICANTS

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In case we develop new formulations for fuels and engine oils for old or new engines, it will not be sufficient to conduct only the usual model research on standard tribometers and other laboratory simulating devices. In that case, it is necessary to conduct suitable developing research in realistic conditions. The standard engine tests are good for now, reliable but pretty expensive. Much cheaper and more information giving tests can be conducted with experimental engines supplied like tribological stand. In this paper, we have shown experimental engines for testing fuels and lubricants, which have been projected and finished at the Faculty of Mechanical Engineering in Kragujevac. The engines are produced in both diesel and petrol combinations and have the possibility for automatic regulation of the compression level. With their use in suitable installations and with usage of suitable methods it is possible to determine the octane number of gasoline or Cetan number of diesel fuel. Also we can use them to check the tribology quality of engine oil.

*Key words: Cetan number, experimental engine, fuel, knowledge base, octane number, lubricants*

EKSPERIMENTALNI MOTORI ZA ISPITIVANJE  
GORIVA I MOTORNIH ULJA

Tokom razvoja novih formulacija goriva i motornih ulja za stare ili nove motore nisu dovoljna samo uobičajena modelska ispitivanja na standardnim tribometrima i ostalim laboratorijskim simulacionim uređajima. U tom slučaju je potrebno izvršiti i odgovarajuća - razvojna ispitivanja u realnim uslovima. Standardni motorski testovi su za sada dobri, pouzdani ali i veoma skupi. Znatno jeftinija i vrlo informativna ispitivanja se mogu uraditi sa eksperimentalnim motorima opremljenim kao tribološki punkt. U radu su prikazani eksperimentalni motori za ispitivanje goriva i maziva, koji su projektovani i realizovani na Mašinskom fakultetu u Kragujevcu. Motori su realizovani u benzinskoj i dizel varijanti i imaju mogućnosti automatske regulacije stepena kompresije. Njihovom primenom sa odgovarajućim instalacijama i uz korišćenje odgovarajućih metoda moguće je određivanje oktanskog broja benzina ili cetanskog broja dizel goriva. Takođe se mogu koristiti i za proveru triboloških kvaliteta motornog ulja.

*Ključne reči: baza znanja, cetanski broj, eksperimentalni motor, gorivo, motorno ulje, oktanski broj*