BRISK Premium EVO ignition plug

Extensive measurements of MPI type SI (spark-ignition) vehicle engines with BRISK Premium EVO spark plugs were conducted in the Laboratory of Drive Units of the Technical University of Liberec, Faculty of Mechanical Engineering, between 2014 and 2015. The measurements were performed repeatedly in a wide range of the entire operational area of the engine (a total of 40 operating modes in each series of measurement). For the purposes of the measurement, the engine was equipped with pressure sensors to accurately record pressure development in all engine cylinders. All measured operating parameters (engine speed and torque, advanced ignition, mixture richness, temperatures, pressures, fuel consumption, exhaust emissions) were recorded into a system of electronic data collection. The results of measurement were evaluated based on statistical processing of both standard engine operating parameters and specific measurements (thermo-dynamic analysis of pressure development in the cylinders and determination of the main parameters of mixture combustion in the engine cylinder).

The measurement results of the engine with the BRISK Premium EVO spark plugs were compared to the results of similar measurements of the identical engine with standard spark plugs. Based on the results of these comparisons, for the same operating conditions of engines with different types of spark plugs it can be stated that:

- The engine with BRISK Premium EVO spark plugs has high-quality properties in terms of the dynamics and stability of the mixture burning process in the engine cylinders (reliable ignition of the mixture with rapid development of the burning process and lowered variability of combustion parameters).
- The stability of the burning process leads to low parameter variability in the working cycle of the engine with the BRISK Premium EVO spark plugs. The significant effect of low variability in the working cycle of the engine with the BRISK Premium EVO spark plugs is small torque increase under full load modes.
- The vehicle engine with the BRISK Premium EVO spark plugs has slightly higher total efficiency (i.e. lower specific fuel consumption) under significant operating modes for the vehicle drive (at low to high speeds, and low to higher engine loads). This creates an important potential for reducing the vehicle drive fuel consumption.

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