ASPECTS REGARDING THE ELECTRICAL COMMAND OF DIESEL INJECTION

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Abstract

The paper presents the preliminary tests for a new method of controlling diesel injection at the injector of a compression ignition engine. The purpose of the paper is to verify the possibility of obtaining certain quantities of fuel, sprayed by injector by this method. It was also verified the possibility of changing the value amount of diesel sprayed by injector according to certain parameters. Unlike conventional injection systems, in this method the injector receives the fuel from an electrically operated piston pump element via an electromagnet. The entry into service of the electromagnet is controlled by an electrical circuit equipped with a capacitor battery. The capacitor battery is designed to store electricity and restore it to the action control of the electromagnet. In this way, the actuation time of the piston pump element is very short. The opening time of the injector can also be easily modified. The tests presented in the work are carried out using a prototype, which has been tested only on a stand designed by the author and not on a running engine. At this preliminary testing stage it was followed whether the proposed method allows fuel injection through the injector. It was also monitored if there was a possibility of changing the dose of injected fuel. It was looked which of the constructive and functional factors influence the modification of the injected dose.

Key words: diesel, fuel, injection