UDC 621.43

Krainiuk A.I. ICE supercharging system with deep cooling of supercharged air/ A.I. Krainiuk, S.V. Alekseiev, A.A. Krainiuk // Internal combustion engines. – 2009. – №2. – Р. 59-65.

The new principle of managing the working process in the combined ICE supercharging system with cascade-type pressure exchanger that allows for the considerable speeding up the engine through supercharging due to the enlarged area of efficient air supply and due to the fact that supercharging air is cooled to the temperature below the environmental one using no additional mechanical energy to perform the cooling cycle has been offered. The basic provisions of the methods used for selecting the main dimensional parameters for the cascade –type pressure exchanger and provisional estimate of a cooling capacity of the system have been expounded. Some results of the experiment-calculated studies of a trial system for 6ЧН12/14 engine supercharging system have been given. The mechanism of enhancement of the cooling effect of super-charging air with increase in temperature of compressing air has been shown. Table 1. Il.3. Bibliogr. 5 names.