

Automation of diesel engine test procedure

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Abstract

© 2016 IEEE. Leading engine manufacturers carry on investigations and R&D work to improve reliability and durability of internal combustion engines (ICE), particularly, diesel engines. Diesel engine examination and testing are the main methods for verifying manufacturing quality of parts and assembly components, units and engine in whole, accuracy of assembling, correspondence of main diesel engine characteristics to the requirements of technical specifications. The types of diesel engine test procedures are regulated by the state standards (GOST) and international standards (ISO), which define the procedures for engine commissioning and requirements to engine performance standards. Manufacturers continue to improve the construction of engines and performance indicators even after their commissioning and installation. A current diesel engine test procedure is a complex and time-consuming process that can be compared with experimental studies. For this reason, automation systems for engine testing (AST) are created. The need for constant improvement of performance standards of diesel engines raise the costs with respect to test procedures in the course of development of new engine prototypes. In particular, high costs are associated with a mismatch between a level of automation of manufacturing and R&D works. Therefore, automation of test procedures is one of the main goals to be achieved in order to improve the level of technology at production and quality of manufactured diesel engines.

<http://dx.doi.org/10.1109/ICIEAM.2016.7910938>

Keywords

automation, decomposition, diesel, engine, simulation, test

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