2018 International Conference on Diagnostics in Electrical Engineering, Diagnostika 2018, 2018

Improvement of the Vehicle's Onboard Diagnostic System by Using the Vibro-Diagnostics Method

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Abstract

© 2018 IEEE. The article analyzes ways to increase the operational reliability of trucks by monitoring and diagnosing their technical condition. Preventing sudden vehicles failures is possible with the help of built-in diagnostic systems. The article analyzes existing on-board and stationary diagnostic systems. The types of sensors and their signals used to diagnose the condition of vehicles systems are given. Methods of transformation and processing of signals are determined. The connections of structural and diagnostic parameters of the vehicles are established. The possibility of application of vibration diagnostics methods for assessing the technical condition and predicting the remaining life of the vehicle's clutch under operating conditions is explored. The authors proposed a way to improve the on-board diagnostics system with the help of a set of methods, rules and means necessary for measuring the parameters of the system's operation, converting them into diagnostic parameters to assess the technical state of the system under study. The article gives an example of an integrated system for diagnosing vehicle's clutch with vibration sensors.

http://dx.doi.org/10.1109/DIAGNOSTIKA.2018.8526093

Keywords

diagnostics, onboard diagnostic system, reliability, vibrodiagnostics

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