

The reliability of automotive subsystems influence on the motor vehicles fuel economy

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Abstract

The reliability theory consistently regards all phases of vehicle construction and operation. The properties determining the vehicle reliability, which are also called potential objectives, are precisely formulated from early design and manufacturing phases and accomplished in the production process. The analysis of reliability from the perspective of potential properties allows us to identify certain categories of potential properties. One refers to potential properties that depend on the deterioration of operating functions. In this category, we can find the resistance to breakage and deformation, stability of operating processes, stability of the physical-mechanical properties of the construction materials and of the working environment. Secondly, the potential properties required to accomplish the required level of production and reduce the manufacturing costs, such as manufacturing technology, the corresponding volume of production, simplicity of manufacture and failure-free manufacturing. Thirdly, there are potential properties needed to maintain the reliability at a high level during service, such as developing the quality of diagnoses, technical maintenance, reducing all types of costs and increasing productivity. Here we find the technology of the diagnosis and the totality of the external expenses and the adaptability to the automation of diagnosing tools. Operating reliability is the result of the full accomplishing of the potential reliability of components. The reliability of automotives treated as a subsystem can successfully be evaluated by defining certain operating indicators and characteristics, the economic characteristic being of great interest and importance.

Keywords: vehicles reliability, reliability, reliability of automotives

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