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THE BASICS OF DEVELOPING AN ALTERNATIVE CONCEPT FOR COMMERCIAL AND MILITARY VEHICLE OPERATION (RANDOM STRATEGY)

The efficiency of commercial automobiles and wheeled military vehicles mainly depends on the choice of maintenance (M) and current repair (CR) concept. In the paper the difficulties of adapting the (M) and (CR) planning strategies to the structural characteristics of modern transport facilities are pointed out. The advantages of using the (M) and (CR) random strategy for transport facilities based on the stochastic nature of failures and malfunctions are substantiated. Considering the failures and malfunctions as random values and identifying the patterns of their distribution based on γ percentage resources, it is proposed to develop a list of regulated maintenance and repair work, periodicity and labor intensity based on a random strategy, which will increase the efficiency of preserving the technical resource of the rolling stock throughout the entire life cycle of the vehicle.

Keywords: *random strategy, resource, regulated service, adaptation, probability of unfailing operation.*

Introduction

Current provisions on the technical operation of modern commercial automobiles and wheeled military vehicles, the underlying concept, the normative basis and technology do not correspond to the actual processes of preventing malfunctions and failures. The main reason for the situation is the discrepancy between the list of preventive maintenance, performance frequency, and labor intensity that correspond to the actual necessity. This is due to new constructive solutions for transport facilities and qualitative changes in the exploitation materials.

Materials and methods

The provisions in the current situation[1] and the "plan" for the operation of wheeled military vehicles[2], the fixed normative basis, the frequency of work, the list of works, and labor intensity often lead to unnecessary work, which increases labor and material costs and inefficient downtime, as well as reduces the vehicle readiness index. As a descriptive example, we can mention the labor intensity for the operation of automobile engines, braking systems, transmissions and other operating regulations, which is practically unnecessary, as they are solved by structural innovations (mechanisms for automatic adjustment of gaps, management of engine crankcase and transmission oil coolant levels, and electronic electromechanical control of temperature, etc.) [2,6]. The labor intensity of these works is 8 ÷ 12% in the maintenance list (M2), while the implementation frequency does not exceed the value of 0.1-0.2.

Due to lack of functionality, many auto parts of military transport facilities eventually lose their airtightness and physical and mechanical properties, especially rubber technical machine components, bushings, piston rings, valves of all types, springs, engine power system, etc., where a maintenance list for additional work and

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