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THE MAIN TRENDS IN THE DEVELOPMENT OF THE AUTOMOTIVE INDUSTRY AND THE TECHNICAL OPERATION OF CARS

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A B S T R A C T

The article describes that one of the most important problems facing road transport is to increase the operational reliability of cars. It also considers ensuring the operability and realization of the potential properties of the car, incorporated during its creation (in particular, operational reliability), reducing the cost of maintenance and repair, and reducing the corresponding downtime. Ensuring an increase in the productivity of transportation while reducing their cost, that is, increasing efficiency and ensuring environmental friendliness are the main tasks of the technical operation of the rolling stock of road transport.

K E Y W O R D S

technical operation, car, resource, transportation, service, transport repair.

INTRODUCTION

As an area of practical activity, the technical operation of vehicles is a complex of interrelated technical, economic, organizational and social measures that provide:

1) timely transfer to the operation service of the enterprise or external clientele of serviceable vehicles of the necessary nomenclature and quantity and at the right time for them;

2) maintenance of the car park in working condition when:

- ✓ rational costs of labour and material resources;
- ✓ regulatory levels of industrial, road and environmental safety;
- ✓ normative working conditions of the personnel. As a branch of science, the technical operation of vehicles determines the ways and methods of managing the technical condition of vehicles and their fleets in various conditions of use to ensure:
- ✓ timeliness and safety of the implementation of transport processes with the maximum use of the technical and operational properties of vehicles;
- ✓ the regularity and safety of transportation with the most complete implementation of the technical and operational properties of vehicles;
- ✓ given levels of performance and technical condition;
- ✓ optimization of material and labour costs;
- ✓ minimizing the negative impact of the car on the population, personnel and the environment.

METHODOLOGY & EMPIRICAL ANALYSIS

The efficiency of the technical operation of vehicles is ensured by the engineering and technical service, which implements the goals and objectives of the technical operation of vehicles.

Depending on the type of enterprises and their type of activity, the subsystem of the technical operation of vehicles can organizationally and economically act as:

- the production structure (subsystem) of a particular enterprise (truck convoy) or their associations (holdings), which, along with the use of machines for their intended purpose, maintains their fleet in working condition;
- an independent business entity providing paid services to owners of various vehicles of all forms of ownership.

In the first case, the main contribution of the technical operation of vehicles is that it provides the subsystem of the production or commercial operation of the enterprise with efficient and technically serviceable vehicles, i.e. provides the very possibility of implementing the transport process. In this case, the task of the subsystem of production or commercial operation and management is to use serviceable cars most efficiently, receive income and pay off the system of technical operation of cars in accordance with its actual contribution to the transport process and the profit received. In other words, between the subsystems of an enterprise (or a group of enterprises), organizational, managerial and production and economic relations and connections are established.

In the second case, which is widespread in market conditions, the technical operation system is transformed into a service system (service).

Service (service system) - a set of means, methods and methods for providing paid services for the acquisition, efficient use, maintenance of operability, efficiency, production, road and environmental safety of motor vehicles throughout their entire service life. The Contractor provides services to legal entities and individuals - car owners (consumers) in accordance with existing rules. The consumer uses, purchases, orders car maintenance and repair services or intends to use them. The executor and consumer can be an enterprise, organization, institution, farmers or citizens. Technical operation and service usually include the following main types of work and services in various combinations for different enterprises:

- selection and delivery of vehicles, equipment, spare parts and materials necessary for the enterprise or client;
- buy and sell new and used cars, units, their evaluation;
- pre-sales service and warranty repair;
- refuelling, washing, cleaning and storage;
- maintenance and repair of vehicles during their operation;
- instrumental technical inspection and preparation for it; - sale of spare parts, materials, components and accessories;
- car rental and leasing;
- technical assistance on the line, evacuation;
- modernization, re-equipment and re-equipment of cars, tuning;
- collection and disposal of waste generated during the operation of vehicles, including the acceptance and recycling of decommissioned products;
- information support for car owners;
- training and consultation of personnel of enterprises, entrepreneurs, individuals - car owners.

RESULTS

In relation to a car, components are aggregates and mechanisms, and in relation to aggregates and mechanisms, parts. A car, a unit, a mechanism, a part can be united by a common concept - an object or a product.

The reliability of automobiles can be ensured, on the one hand, by increasing the reliability of their components at the design and production stages by manufacturing parts from new materials with higher performance properties, using high-performance and technological processes (electrospark alloying, laser processing, etc.), developing and substantiation of progressive design and technological solutions, etc., and on the other hand, by improving the methods and methods of maintenance, repair (the method of an additional repair part, the method of repair dimensions, etc.) and providing more favourable operating conditions (by way of justified determination of operating modes, which are determined by the conditions of lubrication, temperature and force loading, etc.).

Requirements for the reliability of machines are increasing due to the increase in the speed and intensity of use, engine power, load capacity and capacity of vehicles.

The annually increasing age and number of vehicles in use, morally and physically obsolete repair and technological equipment of domestic enterprises, not always satisfactory quality of repair and maintenance, and insufficient professional level of repair workers and other reasons exacerbate the current situation and predetermine a decrease in the efficiency of using cars. Thus, there is a need to develop such organizational, technical, technological, economic and social measures that would ensure the solution of the tasks set for the technical operation of vehicles.

The main task of the discipline "Technical operation of vehicles" is to train competitive engineers for the technical operation of vehicles based on the disclosure of patterns of changes in the technical condition of vehicles during operation, the study of methods and means aimed at maintaining them in good condition while economically spending all types of resources and ensuring industrial, road and environmental safety. The technical operation of vehicles, performing its tasks, contributes to an increase in the efficiency of enterprises, affects the amount of work performed, profits, labour productivity of personnel and the safety of production and related processes. This influence is provided by the technical operation of vehicles as a whole and its subsystems, which are called goal-realizing. These include the subsystem of the need for cars and the number of technical impacts; repair system; production and technical base of enterprises; system of logistics and quality of operational materials; brand and age composition of parks; terms of Use.

CONCLUSIONS

However, at present there are the following tasks of a practical and scientific nature:

- a clear technical policy of the industry in the field of technical operation of vehicles has not yet been formulated, which was previously determined by the Ministry for all enterprises, regardless of their departmental affiliation;
- the development and provision of enterprises with modern authoritative regulatory and technological documentation has practically ceased;
- without the practice of long-term acceptance operational tests of new equipment and materials and replacing them with short-term bench and laboratory tests, the industry was deprived of its own information base on real indicators of the quality and reliability of vehicles in operation, which

previously allowed the state body, which represented the interests of numerous owners, to make reasonable demands on the performance of the fleet countries.

The ongoing changes significantly increase the requirements for personnel and technical operation. Changing forms of ownership and diversification of enterprises expand the independence and range of activities of specialists and, most importantly, increase the requirements for the validity of their decisions, the assessment of their economic, technical, social and environmental consequences.

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