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JUSTIFICATION OF ARCHITECTURE AND CREATION OF AUTOTECHNICAL INFORMATION SYSTEM MANAGEMENT

The Military Doctrine of the Republic of Kazakhstan, one of the measures for the integrated development of the Armed Forces and other troops and military formations, is supposed to improve the system of command and control through the introduction of the automated control systems and telecommunication facilities as well as the expansion network of fixed and mobile command and control [1].

Modern Armed Forces of the Republic of Kazakhstan (RF) are equipped with armed military vehicles (AMVs) in all military units and formations. AMVs are an important part of systems and weapons systems of the Kazakh Armed Forces and continue to occupy a special place in the quantitative and qualitative composition. They perform diversity of tasks and meet the conditions of application and use [2, 3, 4]. AMVs have a significant impact on the performance characteristics of weapons systems and combat efficiency. The analysis shows that to ensure the mobility of troops military vehicles maintain an upward trend in their leading role and significance. This is facilitated by a number of factors: the continuous increase in the number of weapons and military equipment to the automotive basic chassis, giving the self-propelled qualities of previously towed models of weapons and technology, the impact of the mobility of troops on the effectiveness of modern warfare. As the experience of fighting in the Chechen Republic of the Russian Federation shows, AMVs are the basis of mobility forces, and also one of the main assets of combat. From 3 to 10 thousand units of motor vehicles participated in different stages of the fighting in the composition of groups of RF Armed Forces. This technique required a considerable number of material, human and financial resources. Readiness of the armed forces of all services, special forces and military units including, services for combat use, their maneuverability in the fighting were directly determined by the willingness of military vehicles [3, 4].

All of this requires autotechnical software (ATS) for AMVs operational accounting, their technical readiness, proper organization of timely repair,

as well as organizing events to permanent combat readiness of military units and to equip them with the necessary automotive equipment and property. Imposed high requirements for command and control, organizational development of ATS departments and the development of automotive technology have changed the combat capabilities of military units and formations, which in turn requires changes and additions to the functioning of the services, taking into account features of the ATS process of information processing [4]:

- constant updating of the database with new information;
- analysis and timely processing in the limited terms of changing the database;
- forecasting and preparing a draft decision in accordance with the conditions arising in military units;
- transferring information to approve the final decision;
- storing the information received.

The existing ATS control system is a complex technical and organizational information system having different levels of troops, a hierarchical structure comprising interconnected subsystems and elements, with only inherent integrative properties and characteristics. All of the above requires automotive service troops, as governing body of the organization and implementation of autotechnical support for the troops, which perform the following main tasks [2, 4]:

- control over compliance with the requirements of orders and directives of the parent body control, instructions, manuals and instructions for Automotive Service;
- organizing and control of the operation, in a timely and quality repairs, evacuation and maintenance of motor vehicles in constant combat readiness, increase the efficiency of repair parts and units;
- timely management of software units and motor vehicles and motor property according to established standards, accounting and redistribution of motor vehicles and motor property, management of technical training of drivers, personnel of the military parts and other automotive service professionals;
- generalization of existing experience of automotive service army division and the development of innovative proposals for its improvement.

Besides it should be noted that the efficiency of the ATS forces significantly influence automotive vehicles operation system, which includes in its organizational structure and has a number of significant problems like:

- continuous aging fleet of motor vehicles;
- not effective operation of the system operation, preventative system maintenance and repair of the AT;
- shortage of highly qualified personnel, lack of technical readiness of the military;

- low quality of conducting technical reporting documentation.

In view of the preliminary analysis of the problems to be solved by such a system, it is visible that they are labor-intensive for online processing of data and the timely adoption of sustainable solutions, as well as the formation of forecast estimates on the basis of having an array of information. In this regard, one possible way to respond to this complex problem is to develop urgently such an information system (IS) management process for ATS troops which would carry out a full cycle of information and technology with the performance prediction of the required parameters in the process and provide the performance and accounting of:

- executive documents (orders and directives of manual and AT routine, technical and accounting records and manuals, technical description of the book on the AT device, tutorials, and other data);
- data on availability, needs and technical condition of motor vehicles parts and automotive equipment;
- data on resource until the next repair on the numbers of cars and maintenance requirements;
- norms rate and payment requirements in cars and motor potential to ensure combat readiness, combat and mobilization readiness of the service life (net of allowances);

In order to solve the existing problems, research is carried out in order to set up scientific substantiation requirements and establishment of an information system (IS), which provides analysis and rational allocation of available ATS resources and their prediction in military units and formations in the context of the conceptual provisions of the military doctrine of the Republic of Kazakhstan.

The design and creation of management of autotechnical information system software will be theoretical and practical advancement in military science, in the field of command and control, automated control systems associated with the transmission, processing, storage and forecasting of information.

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