

The Construction of the Army Equipment System Support

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Abstract—Building a systemic assurance model for the Army's equipment is a major and urgent contemporary issue with strong support for the transformation of the Army's equipment support. This paper analyzes the actual needs of the Army's equipment system support, and builds the basic system of the Army's equipment system support from six aspects: information support, support force, support equipment, support equipment, talent team and system mechanism. The implementation of the Army's equipment system support is proposed.

Index Terms—Army; equipment support; system construction

I. INTRODUCTION

The Army's equipment system support is an important part of the future Army's operations, which is the basis for improving the combat capability of the military system. Building the the Army's equipment system support will strengthen the army's equipment support transformation with comprehensive guidance and standardization of the Army's equipment support. Which will systematically clarify the thoughts of Army's equipment support and completely solve the Army's equipment system construction and integration. The issue of safeguards offers opportunities. The construction and research of the Army's equipment system support is not only an objective demand for the development of the Army's equipment, but also an important measure to adapt to the operational needs of the future army, and it is of great theoretical and practical significance.

II. ANALYSIS OF THE REQUIREMENTS OF THE ARMY'S EQUIPMENT SYSTEM SUPPORT

The Army Equipment System Support Demand refers to some of the attribute characteristics that exist in the Army's equipment system support problem and need to be recognized. Compared with other military requirements, the Army's equipment system support requirements should have the following features:

First, the system guarantees the demand to meet the operational needs of the future system as the basic goal. System warfare is the basic basis and foundation for the construction of system guarantee. The attribute characteristics described by the system support requirements must meet the basic operational objectives of the system. The demand analyst must use all available information about the system's operations during the

demand acquisition phase, analyze the essential features of the system's operations, obtain initial requirements, and respond to changes in the system's operational needs in time.[1]

Second, the system security requirements have comparative uncertainty. System warfare is a future operation pattern . Its characteristics are still in the research stage, with certain uncertainties, and system security will also be affected by technological development. The description of this system must be able to respond to changes in requirements under complex conditions which can abstract, summarize, and refine the complex content into simple standardized documents that can be understood by the readers.

Third, take capacity needs as a core. Capability is a senior user requirement In military requirement, which is achieved when performing tasks under specific circumstances. Capability worked as a bridge that connect the system's operational needs and system's support building. Therefore, the capability demand is the core of the system support requirements.

Fourth, the system support requirement has a clear hierarchical structure. The structure gives a mission to the combat system through the "top-down" approach. And decomposes it into every system nodes by using the capability. Develop the system requirements according to the standard so as to meet target requirements. [2]

III. THE PRINCIPLES FOR BUILDING THE ARMY'S EQUIPMENT SYSTEM SUPPORT

In order to implement the army equipment support system in the system operation mode, there are three major rules as followed:

First, simplify the hierarchy and optimize the support principle. In order to establish a equipment support system with reasonable structure, high efficiency, integration of various arms of services, and integration of military and land, the first step is to simplify the command level, and establish a networked and flat security command system. To straighten out military relations and establish an integrated security system for all military and military branches; Highlight the key points and establish the emergency support system. All these measures will optimize support force and implement it in a fast, reliable and accurate way.

Second, the principle of military-civilian combination and universal security. The future information warfare system, under the condition of high technology, high

damage, high consumption, puts forward higher demand on equipment support. In the meantime, the peacetime boundaries and the front and rear become blurred. Military equipment support the organizational system of the power has been unable to meet the operational requirements. Therefore, we must make full use of the forces and resources from the equipment support system of country, city and even the private enterprise. The principle of the military-civilian combination and comprehensive security. We will integrate the equipment and personnel of the national, local governments and enterprises into the equipment support system in an organized and planned way. Establish a joint operational equipment support system for the military-civilian combination and for the nation security through unified formation, command and use.

Third, the principle of adapting the changing requirements with flexible support. To meet the requirements is the basis of scientific establishment of equipment support system. The characteristics, command system and modern war form of the military's weapon equipment determine that the equipment support security system, combined peacetime and wartime system, ground - based and mobile complementary system. All these system support modes can meet the flexible and changeable features of equipment support about future combat operation mode.

IV. THE THOUGHT OF BUILDING ARMY EQUIPMENT SYSTEM SUPPORT

To establish the concept of integrated comprehensive support is the most fundamental of improving the capability of the army's equipment system support. In accordance with the guideline of "four-in-one", we will continue to deepen the construction of "two-in-two forces" and accelerate the transformation of equipment support. Efforts should be made to build six major systems for supporting the army's equipment system.

A. Information support system

The construction of core equipment support capability must take the network information support system as the basic focus. Provide strong support to the core equipment support through the global connection of information network, the comprehensive integration of information system and the development and utilization of information resources.

B. Support force system

Core equipment support capacity building is a fundamental part of the support force. We should focus on the maintenance of military and repair factory and take national defense and military enterprises as the support to build the multiple support force system with the social science and technology.[3] The modular support force system building, through the adjustment of the organizational structure of the support force, will split and integrate and adjust the task. We should ensure the structure of the support force can meet the mission requirements.

C. The equipment support system

The essence of core equipment support capability is the network-aggregation. Digital support equipment is one of the fundamental conditions for implementing network-based aggregation and forming network-aggregation support. The construction of core equipment support must take the digital supporting equipment system building as an important content. To promote the overall improvement of core equipment support through the digitization, and make it more informational intelligent and automatic.

D. Support equipment system

Facility is an underpinning for implementing equipment support and it is also one of the prerequisites for completing the tasks of equipment support. In order to build the core equipment support capacity, the equipment support facilities should be fully respected with unified planning and utilization. Improve the use of the armed forces and local equipment support facilities. In the meantime, to ensure the science management an integration of support facilities, we should give full play to the professional technology and advantages of the institute and upgrading of new Facilities. [4]

E. Talent team system

Talent is the fighting strength and safeguard strength. To realize the core construction of equipment support capacity, it is necessary to take the construction of a diversified talent team as an urgent matter, to realize diversification in training mode, professional field, educational level and evaluation mode, and to provide talent guarantee and intellectual support for the generation and development of core equipment support capacity.

F. Institutional system

Core equipment support construction is a complicated system engineering, which needs scientific and effective mechanism. Building a standardization mechanism is the most important task. To ensure that the core equipment support will grow in a fast, continuous, orderly and healthy way through norm design of different major, element and system and standard configuration of human, financial and material resource.

V. APPROACHES TO IMPLEMENT ARMY EQUIPMENT SYSTEM SUPPORT

First, learning the basic combat tasks. According to the mission and tactics of the army in all strategic directions, the author analyzes the army's target, the possible styles and operations as well as the requirements of system and support. On this basis, considering the problem of opponent's operational force, equipment performance, operational characteristics and environment, we should forecast all equipment and ammunition wastage in the future combat. This provide a solid foundation for developing military equipment "maintenance, storage and supply" system and prepare for military combat equipment support.

The second is to reasonably distinguish between equipment support tasks. In order to optimize the structure of army equipment support system, a coordination mechanism for equipment support task was established, and a equipment support task system with clear responsibilities and reasonable division of labor was formed. For the armed forces and local security organs, according to the requirements of the in-depth development of military and civilian integration, the respective equipment maintenance support scope and task focus of the two sides shall be established accordingly. We should reasonably adjust the division of tasks at all levels of strategic, operational and tactical support organizations in accordance with the idea of "building up the intensity and ensuring the downward focus". In accordance with the requirements of integrated comprehensive security, the armed forces at all levels shall redefine their functions of equipment support and responsibilities of various posts. [5]

Third, optimizing the equipment support. We should meet the requirements of integrated joint combat equipment support, push the boundaries of armed forces, and build a cohesive and integrated equipment support force system. Each direction integrates the existing support force and repair factory of the war zone's existing campaign construction equipment at the base level, To establish the comprehensive equipment support base, with the task of maintaining and supporting. At the same time, reserve support brigades are set up based on some repair factories to make up for the shortage of equipment support. At the troop level, according to the equipment composition and technical attributes, we should optimize the job position and integrate the unit formation and modular. Establish inspection and maintenance row (class) in the combat unit and improve the ability of independent comprehensive support.

Fourth, we will improve equipment support conditions. According to the division of labor and capacity positioning of equipment support tasks at all levels, the equipment support resource system with complete functions and appropriate scale is constructed through comprehensive integration and intensive construction. Equipment support facilities, which are divided into two modes of new construction and upgrading and transformation, shall be built by intensive unified construction, with emphasis on the construction of equipment support base equipment joint test and test environment for components. Equipment support equipment is divided into three types: general, combined and special, integrating existing technical support equipment, revising the standard of equipment allocation, distributing and upgrading new inspection and maintenance equipment. Equipment technical data shall be distinguished from management, repair, training, supply and destruction, etc., and the technical data types and equipment standards of the armed forces shall be updated.

Fifth, we will improve the mechanism for ensuring life cycle of the equipment. We should focus on "quality student" and "quality education" of equipment, follow the

law of equipment life assurance, and promote the integration of equipment support system and scientific research and production system. In the equipment demonstration stage, the general quality characteristics of equipment are taken as an important component of equipment quality. According to the equipment use scheme and the initial guarantee scheme, the "six characteristics" requirements are proposed, and the assessment conditions and methods are clarified. In the stage of equipment development, strict inspection of design documents, interface inspection and design review, development of technical support equipment and maintenance equipment, preparation of maintenance procedures equipment catalogue and other technical data; At the stage of equipment finalization, a system of operational test appraisal and military service appraisal shall be established to strengthen equipment performance assessment under complex battlefield, electromagnetic, geographical and meteorological conditions, fully expose equipment quality problems and carry out timely rectification. At the stage of equipment use, the service mechanism and information feedback mechanism of new equipment technology should be improved, the personnel training and patrol inspection and repair work should be done well, the transfer channels of old equipment should be clarified, and the equipment quality information should be fed back to the equipment development department in time, so as to promote the formation of combat support capability of the army. [6]

VI. CONCLUSION

The transformation of equipment support is a process of improving the mutual matching, integration and adaptability between military equipment system and combat system. and it is also a system engineering involving the coordinated development of military and society, combat and equipment. According the principles of building army equipment system support, this paper has analyzed the practical requirement of army equipment system support and proposed the thought of building army equipment system support, According to the condition of the army, we endeavor to develop the approach of the army equipment system support. The implementation of the digital troops building has a theoretical guidance meaning and practical application value.

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