

Resume

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ABOUT ROLE AND PLACE OF GENERAL DESIGNER IN VITAL FUNCTIONS OF DEFENSIVE-INDUSTRIAL COMPLEX

The present administrative mechanisms concerning the realization of the process of creation and mastering of the production of the modern weapons and military equipment have been critically analyzed, the content of the activity of the Chief Designer and his role and place in the defense-industrial sector of the Ukrainian economy and possible ways of the increase of the work effectiveness have been shown.

Key words: military-technical and defense-industrial policy; the equipment for security and defense needs of the state; the Chief Designer; the Council of Chief Designers.

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SUBSTANTIATION OF THE WAYS OF THE ARMED FORCES PROVISIONING WITH WEAPONS AND MILITARY EQUIPMENT TAKING INTO ACCOUNT CAPACITIES OF THE MILITARY-INDUSTRIAL COMPLEX (Part 2)

The expert method is chosen in order to assess the possible options of supplying the Armed Forces with weapons and military equipment taking into account the capacities of the military-industrial complex of Ukraine. The hierarchical construction of expert evaluation is developed using the hierarchy analysis technique resulting in defining the criteria for selecting the most suitable among all described in the first part of the article options of supplying the Armed Forces with weapons and military equipment. The list of major types of weapons and military equipment is formed for which the practical task of expert evaluation of global priorities of equipping the Armed Forces is resolved. It is noted that the actual calculations during the scientific substantiation of tasks and measures of medium-term programs of development of weapons and military equipment envisages that this list should comply with the entire nomenclature of weapons, military equipment and components to be supplied to Ukraine's Armed Forces in accordance with the type of weapons system defined by the General Staff. An expert survey is conducted and its results are presented in tabular and graphical form for selected major types of weapons and military equipment.

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WEAPONS AND MILITARY EQUIPMENT PROJECT MANAGEMENT IN THE CONDITIONS OF UNCERTAINTY AND RISK

The authors offer fundamental organizational and methodical provisions concerning project management realization of weapons and military equipment as complex systems in the conditions of uncertainty and risk

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ASSESSMENT OF EFFICIENCY OF PROTECTION SYSTEM ELEMENTS FROM INFLUENCE OF UPPER SEMI SPHERE FRAGMENTING MUNITION

Needed values of efficiency of protection system elements of armored vehicle upper semi sphere from influence of fragmenting munitions are forecasted with the help of analytical Markov model.

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VALUE OF COEFFICIENT OF INTERNAL FRICTION OF MATERIAL OF A TRUNK OF A TANK GUN

The technique of search of value of coefficient of internal friction of material of a trunk of a tank gun including use of the special experimental stand with the subsequent analysis of settlement and experimental results is considered.

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MATHEMATICAL MODEL FOR ASSESSMENT OF COMBAT EMPLOYMENT EFFICIENCY OF RECONNAISSANCE UAVS

Article is devoted to solving scientific and applied problem evaluating the effectiveness of combat employment of reconnaissance unmanned aircraft systems, by mathematical modeling that takes into account the complete cycle of combat employment of UAVs a detailed list of tactical and technical characteristics of its target equipment.

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HYDROACOUSTIC INTERFERENCES AND THEIR INFLUENCE ON THE CONSTRUCTION STRUCTURE OF THE SYSTEM «HYDROACOUSTIC STATION – SURFACE VESSEL» (Part I)

Coming from the task of the systematized research of descriptions of hydroacoustic armament in the real terms, the features of construction of the systems «hydroacoustic station - surface vessel» with taking into account influence on their structure of hydroacoustic hindrances are considered.

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METHODICAL BASES OF THE DEVELOPMENT OF WEAPONS AND MILITARY EQUIPMENT MAINTAINABILITY PROGRAM

The article considers approach to the problem of weapons and military equipment maintainability enhancement as one of the ways of the efficiency improvement of weapons and military equipment in the context of troop training. Modern approach to the problem of maintainability of weapons and military equipment was defined and tasks to solve it in the Armed Forces of Ukraine on the base of problem decision analysis in US and major NATO member nations were specified.

The main directions of the development of maintainability plan and program of weapons and military equipment during their development and production were specified.

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CONCERNING EFFICIENCY IMPROVEMENT OF THE WEAPONS AND MILITARY EQUIPMENT MAINTENANCE AND REPAIR SYSTEM

The failure analysis of military equipment and views how to improve existing maintenance and repair system of military equipment by adapting it to the current demands is examined in the article

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SCIENTIFIC AND TECHNICAL ASPECTS OF THE DEVELOPMENT OF METHODOLOGY OF MONITORING OF CYCLIC DAMAGED OF BASIC DETAILS OF TFES

The article is devoted to the decision of important scientific and technical task of development and ground the scientific principles of increase the resource indexes of basic details of TFES with a forcing combustion on the basis of methodology of monitoring of their cyclic damaged chamber on results of the real flight cycles.

In the process, the tasks of researches are consistently decided and examined the methodology which allows to conduct monitoring of cyclic damaged of basic details of TFES with a forcing combustion chamber on results of the real flight cycles on the basis of two conceptions of exploitation of engines is worked out: to appearance a defect and from safe development of defect. On the basis of the second conception methodology of calculation of speed of height of fatigue crack is worked out, the critical size of crack is certain on the basis results of calculation of the thermal and tensely-deformed state. The monitoring mathematical models of dynamics of the thermal and tensely-deformed state of basic details of TFES are offered with a forcing combustion chamber. Verification of the offered methodologies confirmed the value of error of the thermal state $<50C$, errors of tensely-deformed state $<1\%$.