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USE OF SUBMARINE AMMUNITION AND WEAPON SYSTEMS IN MODERN MILITARY CONFLICTS OF THE FUTURE

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Abstract:

The paper cites the views of the authors on the possibilities and conditions of using aviation ammunition in modern and future military conflicts. It shows the typically tactical and military-technical aspects of its combat employment and methods of improving the accuracy and reliability of homing on a designated target.

Keywords:

Aviation barrage ammunition, onboard expert systems, combat and exploitation properties, military conflicts, differential adjustments, satellite navigation systems, guidance precision, hitting effectiveness.

Introduction

“In the current world, various threats and dangers are increasing throughout the globe, including in our region, near our immediate borders. The analysis of armed conflicts of a hybrid nature that is happening in the world requires us to increase the ability of our Armed Forces to fight against forces that use weapons that have not been practically used in the course of hostilities”[1].

In the military conflicts of the second half of the 20th century and the twenty years of the 21st century, the necessity and expediency of the experience of the combat use of aviation confirmed as destroying the usual targets of the enemy with a small number of high-precision and unique aviation means of destruction; secrecy in preparation and attack on enemy military facilities at any time of the day and year, under any conditions and in the most convenient directions; ensuring the termination of complex objects by selectively destroying several individual elements of them.

Currently, unmanned aerial vehicles (UAVs) for various purposes occupy an irreplaceable place in the military-technical support groups of the Armed Forces of the developed countries.

The results of the analysis and evaluation of the experience of several military conflicts of the last decades show that the complex of aviation weapons of conventional aviation equipment is a shred of reliable evidence that the role of aviation equipment in armed conflicts is seriously increasing.

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Such weapon systems are designed to destroy well-protected targets of various types, moving individually and in groups, on land (on land), and in specified areas (within defined boundaries) in all weather conditions, day and night.

Diving anti-aircraft munitions (SAM) have a long history of development in the weapon system of strike aviation, they can destroy complex and important underground targets and objects at any time of the day and year, in any weather conditions, without entering the area of destruction of the enemy's air defense system capable of doing. At the same time, they can perform a long flight in the air duty zone and can be used for aerial reconnaissance until receiving the order to destroy the given targets. They have the ability to collect information about backup targets in addition to carrying out a combat mission with the help of the operator until they receive the order to attack.

The main advantages of diving aviation ammunition are the following:

- very high reaction rate;
- insensitivity;
- constantly being in the area of hostilities;
- low price.

Submarine aviation munitions destroy the following enemy targets, namely control points, communication systems, mobile missile systems, radar stations in air defense systems, ammunition and fuel depots, light armored military equipment, and enemy aircraft on the ground and in the air. gives the opportunity.

In modern wars and armed conflicts, the tasks of destroying medium- and long-range anti-missile systems and (ZRM, ZRS) systems are of great importance, and diving aviation ammunition plays a major role in solving them. This condition places additional demands on their combat stability and effectiveness. In practice, the implementation of this requirement, as a rule, can be done by creating and using sufficiently fast and maneuverable anti-aircraft ammunition.

In the context of military conflicts, the need for the selective use of anti-aircraft ammunition increases when it is necessary to directly destroy objects and civilian (civilian) objects characterized by their proximity, which requires visual (radio collection) communication with the listed targets. Therefore, the following operational-tactical and structural-technical requirements are imposed on diving aviation ammunition:

- ensuring long-term duty in the air;
- the ability to ensure close tactical and fire communication with groups of airborne controlled aviation systems and units and divisions of ground forces and air defense troops (forces);
- equipping with relatively cheap anti-radio and anti-electronic-optical thermal vanes that irradiate the enemy's radio and optical-electronic means;
- the possibility of integrating a group of troops (forces) into a single automated system of intelligence and intelligence and information supply in the theater of military operations (in the strategic direction);

- reliable control of the ability to control a diving aviation ammunition group when carrying out a coordinated attack on several targets.

In modern military conflicts, submarine aviation munitions land (air, ship) control points act on the call, deliver single and group strikes on targets with known coordinates, and conduct an independent battle in designated areas (designated borders). Submersible aviation ammunition with weapon complexes can act according to the plan as follows:

• air support of troops carrying out combat tasks on the destruction of small and mobile objects at the tactical and rapid operational level;

• joint strategic commands of the Air Forces and Air Defense Forces to fire at the enemy, attack aviation and air defense groups, communications equipment and vehicles, and naval and airborne assault forces.

Based on the intended purpose and accomplishment of the task anti-aircraft ammunition should be multi-purpose. The large-scale use of diving aviation ammunition, capable of performing various combat tasks, allows the formation of a quick information-active dome over the enemy's territory to effectively solve tactical and operational tasks in real-time. At the same time, the main problem in the usage of diving aviation ammunition is to achieve the accuracy and reliability of targeting such ammunition. Increasing the accuracy of anti-aircraft munitions targeting targets is the most economical way to increase the efficiency of using such weapons. By doubling the power of a simple type of charge, it is possible to increase the damage capacity of anti-aircraft ammunition by 30%. By increasing the targeting accuracy of anti-aircraft munitions, it is possible to further increase the destruction capability of anti-aircraft munitions by 200%.

In general, modern weapon systems of dive aviation ammunition used as part of the armament systems of the Armed Forces aviation should have the following generalized combat and operational characteristics:

• ability to use weapons in all directions and multi-channel to destroy the enemy;

• increase the effectiveness of solving combat tasks in the conditions of conducting radio-electronic warfare;

• entry into the process in a short time compared to newly identified targets due to the short time of flight retraining, due to the simplicity of location and maintenance;

• the ability to carry out combat operations together with aviation military technical support and reconnaissance-strike units of the temporary strike group, as well as units of artillery and missile units, as well as aircraft and helicopters;

• targeting and autonomous control capabilities for high-precision destruction of ground and water targets;

• Sufficiently high efficiency in defeating the enemy's air defense by using modern radio-electronic warfare equipment.

Despite the good potential combat capability of diving aviation ammunition, the effectiveness of their use largely depends on the choice of targets and the conditions during the strike. Given the limited number and type of anti-aircraft warheads in production and prospective

anti-submarine warfare ammunition, they are capable of inflicting "Light" damage on the above-mentioned objects.

In addition, the main unfavorable factors of the combat situation affecting the effectiveness of the use of submarine aviation ammunition in modern and future military conflicts include:

1. strong resistance of the enemy's territorial and object air defense systems;
2. the fact that the enemy objects that need to be destroyed, especially small ones, are masked by forests, relief irregularities, and settlements does not allow them to be easily found and destroyed;
3. mobility of targets and objects;
4. the presence of clouds, strong winds, and low temperatures in the area of hostilities.

In future military conflicts, anti-aircraft munitions will be used more effectively as reconnaissance and information support. Taking into account the need to achieve a high accuracy of hitting the target of diving aviation ammunition, it imposes strict requirements on the selection of objects and the conditions of their combat use.

The experience of the combat operations of the strike aviation shows that in cases where the enemy uses 85% camouflage, diving aviation ammunition with a set of weapons requires extensive use of proven targeting methods to identify and recognize targets. Anti-aircraft munitions must in most cases move far enough from enemy territory, stay on a specific target and destroy moving targets using a powerful small-sized warhead.

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