

ON THE ISSUE OF THE USE OF UNMANNED AERIAL VEHICLES FOR MILITARY PURPOSES

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Abstract

The actual questions of capacity improvement, modernization of operating capability, resources of the intelligence service by introducing remotely piloted aircrafts are considered in this article. The examples of tactic-technical specifications of the models of remotely piloted aircrafts, their advantages as well as the estimation of increased possibilities of the enemy's facilities detection are provided.

Keywords: Reconnaissance, UAV, Military Equipment, Enemy Object.

Introduction

The military-political situation in the world is characterized by high dynamism and unpredictability of development, increased confrontation between world and regional powers for their spheres of influence in the world, and an increasing role of military force in resolving interstate and intrastate contradictions.¹ A huge influence on the nature of wars and armed conflicts of the traditional (regular) type, is exerted by a complex of applied weapon systems. Military and special techniques experts, today, speak of kinetic and non-kinetic weapons, including informational, psychotropic, consistent, geophysical, climatic, and other weapons of revolutionary importance. As a result, the regular armed forces of the State, in the future, may have nothing – at all – to do with their modern appearance. Accordingly, the forms and methods of using groups of troops (forces) and the very nature of military conflict of the future, may simply not correspond to our current ideas.

One of the most promising military robotic complexes, today, is unmanned aerial vehicles (UAVs). At present, the armed forces of foreign countries operate about 200 UAV models. UAVs are unmanned-controlled aircrafts designed for flying in the Earth's atmosphere and in outer space. These aerial vehicles can be both remotely piloted and flown according to a predetermined program embedded in the onboard control system.² To date, the most tangible results in the development and combat use of UAVs have been achieved in the US armed forces, where both tactical and strategic

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complexes of unmanned aerial vehicles for reconnaissance and attack purposes are already in service.³

UAVs are becoming more common in the US Air Force. The increased attention of the US Air Force towards increasing numbers and planning of large-scale use of UAVs, is due to a number of factors, the main of which are the ability to replace manned aircraft when solving a number of combats and supporting tasks while preventing losses among aircrews, also a significant reduction in the cost and complexity of manufacturing and operating UAVs as compared to the manned aircrafts. According to the leadership of the Air Force, these advantages will allow the US to maintain its leading position in the development and use of new types of aircraft, increase the combat capabilities of aviation units and continue to maintain US air force superiority in the air. At the same time, it is absolutely wrong to reduce all activities of equipping the armed forces with robotic complexes exclusively to drones. As world experience testifies, this is only the first and not the most difficult step. The US military is currently developing concepts for the use of autonomous robotic military systems aimed at creating partnerships between humans and robots, allowing them to work within synergistic teams. As part of these concepts, options are being developed for the formation of combat units, which will presumably consist of 150 soldiers and officers and about 2,000 robots.

Currently, there are more than 4,200 UAVs of more than 20 types in the US Armed Forces.⁴ According to an analysis by foreign experts of the use of forces and equipment in recent military conflicts, after the end of the active phase of the operation the greatest threat to troops, as a rule, is the actions of non-state military formations and terrorist groups. In this regard, to identify the facts of movement of manpower, movement of weapons, organization of ambushes, and laying of explosive devices on the routes of movement of transport convoys or other enemy activity, an organization of continuous aerial surveillance in a given area is considered one of the most effective methods. The ability to conduct aerial reconnaissance for a long time and covertly allows unmanned systems to perform similar tasks at a qualitatively higher level compared to manned aircraft with a significantly lower expenditure of forces and means. Information about the objects of attack obtained by the UAV reconnaissance equipment, is used in the course of preflight preparation of crews of combat aircraft or helicopters, as well as directly during the performance of their missions, which makes it possible to increase the effectiveness of reaching the target, identifying, and defeating them in difficult situations.

The practice of conducting combat operations by the US Army in areas of local conflict has shown that the high technical level of equipping the armed forces with modern types of robotic complexes is more important than their quantitative indicators. In particular, in the conduct of hostilities in the Persian Gulf zone, the use of remotely controlled unmanned aerial vehicles, robotic military equipment with the possibility of its use for the rapid breakthrough of mine-explosive obstacles, created the conditions for major military-technical superiority. In addition, they ensured a

high rate of offensive by NATO troops on the main axes and a reduction in casualties and combat equipment. Therefore, today, in all industrialized countries, a large-scale work on the creation of robotic complexes is in progress. The undisputed leader in the development and implementation of military robotic systems is the US.

The experience of recent armed conflicts (an analysis of the fighting in Syria) clearly demonstrates that UAVs have already led to significant changes in the tactics of warfare. It is expected that, in the near future, their importance will increase even more. Progress in the development of UAVs is probably the most important achievement in modern aviation of the last decades. UAVs are used not only by the military today; they are actively used in other industries. They are used for aerial photography, patrolling, surveying, and monitoring of various objects. However, the tone in the development of new UAVs is set by the military.

Analysis of the achieved-level of development of UAVs as well as the experience of their combat-use, made it possible to identify the strengths of the UAVs, compactness and lightness, which allows transferring the complexes with the UAVs directly by members of the reconnaissance group as a combat duffel bag. It has low-cost as compared to manned aircraft while having the opportunity to collect information for a long time and transmitting it on a time-scale close to real. The "unmanned" factor of a UAV excludes not only casualties, but also reduces the weight of the aircraft and its size, and increases the proportion of payload. The analysis of the experience of using unmanned systems of various classes by the armed forces of different countries confirms the high effectiveness of this type of weapon in the context of modern military operations of any intensity. According to the military experts, the number of UAVs in the troops as well as the range of tasks they perform, will steadily increase in the future.

The use of unmanned systems in reconnaissance will significantly increase the effectiveness of reconnaissance units and seek extensive intelligence information. After analyzing the recent local wars, we can conclude that the UAVs are, now, confidently inducted in many advanced armies.⁵ These unmanned vehicles have become the basis of intelligence gathering and monitoring the situation. UAVs are excellent for conducting network-centric warfare, which the US Armed Forces have been practicing for quite a while. As for the network-centric war, this is a topic for another conversation. But to imagine such a way to control the troops and monitoring on the battlefield without a UAV is almost impossible. It is for these reasons as well as the above-mentioned advantages, drones are the most promising means for conducting combat operations.

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