

# Modern approaches to the combat use of combined aircraft units in tactical groups

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**Abstract:** This article analyzes the views of foreign military experts on the procedure for using helicopter units in modern armed conflicts and the development of tactics for helicopter aviation operations, both independently and in conjunction with other types of aviation. Special attention is given to the nature of helicopter unit actions in both offensive and defensive operations, as well as the tactics for helicopter aviation operations, whether conducted independently or as part of joint operations within mixed UAV-aircraft-helicopter groups. In such groups, the presence of helicopters and unmanned reconnaissance systems with real-time information transmission has become mandatory.

**Keywords:** Unmanned aerial vehicle, helicopter aviation, joint operations, air strike group, effectiveness, battle formation, combat capabilities of helicopter aviation.

## Introduction: The Experience of Foreign Countries in the Use of Helicopter Aviation in Local Wars and Armed Conflicts

The experience of using helicopter aviation by foreign countries in local wars and armed conflicts allows for the conclusion that, overall, it has demonstrated high mobility and combat effectiveness when planning and executing combat tasks in cooperation with other branches of the Air Force.

However, the actions of helicopter units and formations were mostly limited in scope. Typically, helicopters carried out tasks directly on the front line and in the tactical depth of the battlefield, as well as in hard-to-reach areas within their territory, detecting and eliminating bandit formations, terrorist groups, and other threats. Additionally, helicopter units were responsible for airlifting troops to eliminate small bandit groups and provide fire support with onboard weapons during combat missions. Various special tasks were also performed to ensure the logistical and humanitarian needs of troops and civilians by transporting supplies to regions with unstable

situations.

In the context of limited military operations, the use of helicopter units would be justified. However, in local or large-scale warfare, the use of helicopter units in all types of combat operations, both offensive and defensive, will have specific features depending on the following factors:

- The tasks of the combined arms unit or formation;
- The combat composition, position, and capabilities of enemy forces regarding air defense (AD) and aviation cover;
- Meteorological conditions and the nature of the terrain in the operational area;
- The level of training of the flight crew, and other considerations.

In this context, the clear organization of joint actions between ground forces and helicopter aviation in modern conditions becomes especially significant. According to military experts, helicopter aviation is most effectively employed in difficult-to-access, rugged

terrain. Its high mobility allows it to easily traverse hard-to-reach areas and water obstacles, launching strikes from any direction on targets located in areas inaccessible to other types of forces. It is believed that the speed and flexibility of helicopter aviation actions have a psychological impact on the enemy, reducing the combat effectiveness of their forces.

In offensive operations, helicopter units participate in massed fire strikes and, as they approach the enemy, are integrated into the covering forces to conduct reconnaissance and enhance their anti-tank capabilities. During an offensive, reconnaissance UAVs (Unmanned Aerial Vehicles) and attack helicopters operate across a wide area in front of the line of contact and on the flanks of the main forces, aiming to uncover the enemy's combat composition, weak points in their defense, and ensure the timely and effective employment of attack helicopters within the air echelon.

Reconnaissance can be carried out by zones, areas, and routes, divided into tactical (up to 10-25 km) and, less frequently, into the nearest operational depth (up to 100 km using UAVs). Reconnaissance UAVs detect targets for strikes, adjust artillery fire, and guide attack aircraft and helicopters onto targets. Additionally, if equipped with weapons, they can strike identified targets while carrying out reconnaissance tasks.

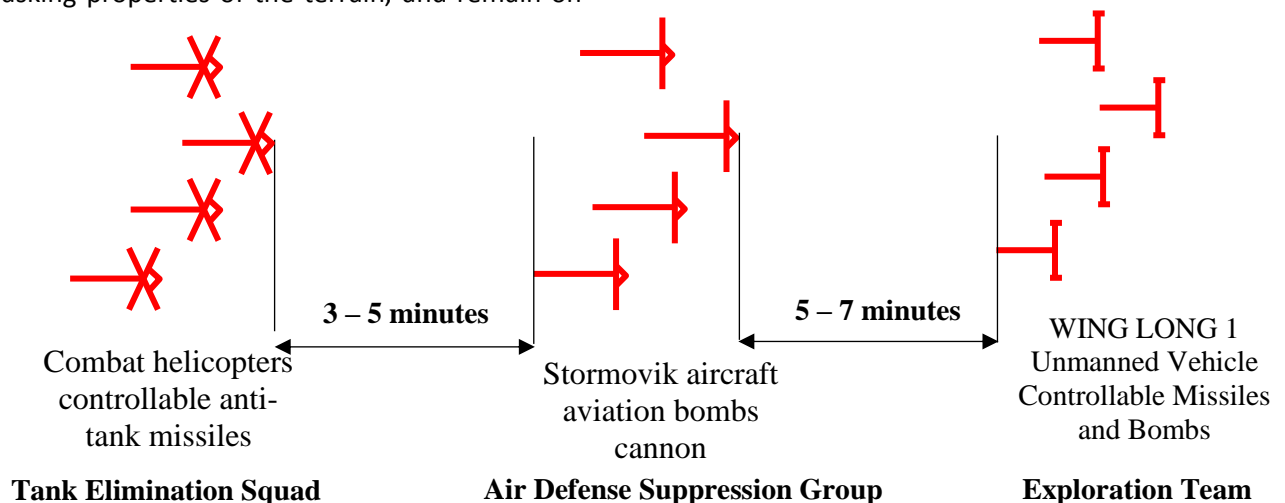
Attack helicopters follow reconnaissance UAVs, using the masking properties of the terrain, and remain on

standby to be deployed into combat.

To inflict the maximum possible losses on the enemy in the shortest time, simultaneous strikes by two to three tactical groups of attack helicopters can be conducted. If sustained pressure on the enemy is required over a long period, sequential strikes are carried out according to the "one-third rule" (one-third attacking, one-third en route to strike, and one-third at the forward supply point for ammunition and fuel). The helicopters can re-engage the target after 45-60 minutes, depending on the number of helicopters involved, to allow for replenishment and combat readiness.

Today, with various types of aircraft in service, it is possible to employ a brigade of attack helicopters against an enemy tank brigade or a squadron against an enemy tank battalion. For strikes on tank concentrations, mixed aircraft-helicopter-UAV groups can be used, for example, a pair of attack aircraft, a pair of attack helicopters, and a pair of UAVs such as the WING LONG 1 (see illustration). In this configuration, UAVs conduct target search and target designation with laser rangefinders and target designators, while the attack aircraft suppress enemy air defense systems, and attack helicopters locate and automatically track targets up to

10 km away, allowing for strikes on the move.



**Fig. Combat order of mixed aircraft-helicopter and UAV groups**

The use of long-range guided weapons ensures high strike accuracy and aircraft survivability, as it does not enter the enemy's air defense zone. Additionally, the helicopter itself can strike targets or air defense systems, as well as jam radio communications. It is believed that the deployment of such groups will increase the effectiveness of attack aircraft and helicopter aviation in combating tanks by 2-3 times,

while simultaneously reducing their own losses by 50%.

In modern conditions, during the offensive of the units of the general forces, the reconnaissance (UAV) of aviation will conduct reconnaissance to suppress the firefighting and the vital force of the enemy, concentrating the main efforts on destroying tanks and other armoured targets, air defense and control system elements, while carefully coordinating their actions and

interacting with artillery units.

**In defensive operations, helicopter and reconnaissance (BPL) aviation is expected to be involved** in the initial period to conduct reconnaissance in the supply zone and block possible ways of advancing enemy troops.

**At the same time, the main efforts of reconnaissance and helicopter aviation are focused on:**

disclosure of exit routes of enemy attack helicopters;  
artillery fire correction and others.

Attacking helicopter units are located in the security zone directly in front of the contact lines or in the main base area, as well as in the possible areas of their combat use. Attacking helicopters are launched after receiving intelligence and determining the direction of the main attack on the most threatened areas in order to destroy tanks and other objects of the enemy.

**Using helicopter aviation in defense, the following tasks must be solved:**

prevent (decelerate) advancement and deployment of enemy units, especially tank units;  
to dismember, isolate and defeat advancing troops;  
to prohibit the entry into battle of his second eshelons (reserves).

Military conflicts and local fighters of recent years have convincingly demonstrated the increasing role of not only helicopter aviation in modern combat, but also the joint actions of various types of aviation in solving combat tasks.

According to American specialists, it is advisable to use shock helicopters in the desert in groups of up to 10 units together with assault aircraft and independent groups of up to 30-35 units (up to two battalions) accompanied by reconnaissance UAVs. The joint use of the AN-64A with the ON-58 helicopters allows for an increase in the launch range of the PTUR to 8 km. The AN-64A Apache helicopters were used not only against armoured objects, but also to destroy small protected objects.

During the operation in Yugoslavia in 1999, the AN-64A Apache attack helicopters conducted reconnaissance missions to study the area and flight routes, checked the connection with the advanced reconnaissance points located directly near the border. The crews trained the tactics of attack helicopters from several jump sites, prepared in the immediate vicinity of the Albanian-Yugoslav border.

The possibility of interaction between AN-64A helicopters and "Hunter" unmanned aerial vehicles (UAVs) has been tested in practice. During the joint operations, intelligence was transferred from the

"Hunter" UAV to the ship

AN-64A through the ground control stations of the UAV in a time scale close to reality. This enabled helicopter crews to receive timely information about changes in tactical conditions, locations

and the direction of potential targets, as well as choosing the most optimal flight routes to the targets, returning to the base and quickly receiving information about the results of combat application of helicopter aviation helicopters.

**Analyzing the procedure for using helicopter units in conjunction with other types of aviation in modern combat conditions allows us to draw the following conclusions:**

the tactics of helicopter aviation were developed both independently and jointly as part of mixed aircraft-helicopter and reconnaissance (UAV) groups;

the presence of attack helicopters in such groups became mandatory and unmanned reconnaissance vehicles with real-time information transmission;

rational allocation of available forces and means (application of tactics of actions of aviation groups according to the rule of "one third");

jet helicopters were used to break through the enemy's air defense system in a narrow area of combat to ensure further aviation actions and reduce its losses;

unmanned aerial vehicles (UAVs) were used to conduct reconnaissance of the area and provide reconnaissance information in real time, in order to timely inform about changes in the tactical situation and the results of combat use of combined aircraft and helicopter groups;

due to its high mobility, speed, and flexibility, helicopter aviation is best used in inaccessible areas.

In mountainous and desert areas, it is advisable to use shock helicopters in groups of up to 8 units together with attack aircraft and unmanned aerial vehicles (UAV), as well as independent groups of up to 30-35 units accompanied by reconnaissance (UAV).

## **CONCLUSION**

The conducted research made it possible to assess the combat capabilities and effectiveness of the actions of not only helicopter aviation units in various situations, but also to determine the prospective directions for the development of tactics in joint combat operations with ground troops and reconnaissance aircraft, as well as possible ways to organize joint actions in modern conditions by creating a mixed aircraft-helicopter and reconnaissance (UAV) groups.

In addition, it is necessary to emphasize that the provision of intelligence information from the UAV in

real time ensures the timely and competent decision-making of the command on the effective distribution of forces and resources.

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