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CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D.C. 20505

5667

[Redacted]

3 August 1973

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (USSR): The Employment of Helicopters in Military Operations

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought." This article is a rather elementary statement of the uses of helicopters in military operations. Helicopters are said to have the advantage of evading radar detection by flying low, but it is also pointed out that this increases their vulnerability to heat-seeking missiles and small arms fire. Increased firepower for helicopters is recommended. This article appeared in Issue No. 1 (80) for 1967.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies.

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W. E. Colby
Deputy Director for Operations

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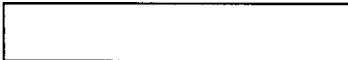
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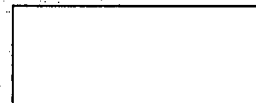


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Intelligence Information Special Report

COUNTRY USSR

DATE OF Early 1967
INFO.

[REDACTED]

DATE 3 August 1973

SUBJECT

MILITARY THOUGHT (USSR): Combat Use of Helicopters

SOURCE Documentary

Summary

The following report is a translation from Russian of an article which appeared in Issue No. 1 (80) for 1967 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought." The author of this article is General-Leytenant of Air Forces I. Gaydayenko. This article is a rather elementary statement of the uses of helicopters in military operations. Helicopters are said to have the advantage of evading radar detection by flying low, but it is also pointed out that this increases their vulnerability to heat-seeking missiles and small arms fire. Increased firepower for helicopters is recommended.

End of Summary

[REDACTED] Comment:

General-Leytenant I. D. Gaydayenko was identified in 1964 as commander of the Far East Military District at Khabarovsk. He has also written several articles on piloting techniques and flight training. Military Thought has been published by the USSR Ministry of Defense in three versions in the past--TOP SECRET, SECRET, and RESTRICTED. There is no information as to whether or not the TOP SECRET version continues to be published. The SECRET version is published three times annually and is distributed down to the level of division commander.

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Combat Use of Helicopters

by General-Leytenant of Air Forces I. Gaydayenko

At the present time our helicopter aviation is designated primarily for air-landing troops, for transporting cargo, and for carrying out a number of auxiliary missions. And it can also be used successfully in support of ground forces.

It is possible to install on helicopters various missile and artillery weapons, including antitank guided missiles, machine guns, rocket launchers, and free rockets. In addition, it is possible to conduct fire from them while in flight, using their own weapons and those of the subunits being transported. Such helicopters should be used for shock attacks from low altitudes. The targets of their attacks can be tactical nuclear/missile means, radar and large radio stations, small groups of combat equipment, and highway and railroad bridges.

Aside from this, in cases when measures to neutralize enemy air defenses are being carried out on a wide scale, helicopters are capable of conducting independent search and destroy missions against targets and of delivering strikes against groups of tanks and motorized infantry that have broken through or are retreating. At the same time, to assure surprise it can be recommended that helicopters attack from ambush, concealing themselves in forest clearings, in marshes, behind knolls, etc. The capabilities of helicopters in such situations are considerably increased by mounting them on wheel/ski landing gear (we have already tested helicopters with this type of undercarriage). This way they can make successful landings in marshy, snow-covered, and other areas inaccessible to wheeled and tracked combat equipment or even for men on foot. The wheel/ski landing gear is also useful in making landings on unknown and unprepared terrain.

Under the most favorable conditions, when enemy actions are contained by high levels of radiation, when his anti-air defenses have been disrupted or are poorly organized, helicopters can provide fire support for our tactical airborne landing forces, destroy troop aviation on enemy field airstrips, put his flight support means out of action, and start fires in enemy POL depots.

The capabilities of helicopter aviation in supporting ground force actions can also be judged by the experience of the war in Vietnam.* During this war the Americans have carried out almost one million helicopter sorties; each month they perform nearly 125,000 helicopter sorties to land forces, to transport cargo, and to fulfil special tasks for the destruction of defensive structures, for the destruction of combat equipment and personnel, and for the support of airborne landings. In the latter case, a group of helicopters armed with missiles and machine guns provides fire support for a group of helicopters which is carrying out the airborne landing.

Research shows that helicopters certainly have enough protection to be used successfully to provide fire support for ground forces. They are capable of flying outside the radar visibility of air target detection stations, possess unlimited freedom in maneuvering, and can operate in almost any kind of weather conditions during day or night. When flying at an altitude of one hundred meters or lower, the probability of detecting helicopters by ground radar does not exceed 0.2. And if the flight is over dense or broken terrain, their detection by radiotechnical means is almost impossible. Also impossible at low altitudes is the instrument guidance of fighter aircraft to intercept even groups of such helicopters as, for example, the MI-4; in this case, the fighters have very limited capabilities for an independent search for air targets. Estimates show that during a period of intensive actions by our aviation, if our warfare against enemy radioelectronic means and anti-air defense is well organized, the probability of helicopters overcoming the opposition of enemy fighters may reach 0.95. Helicopters can have equally reliable protection from enemy air attacks if they take advantage of complex weather conditions, such as low cloud cover and limited visibility.

An analysis of the vulnerability of helicopters to various SAM, particularly the Hawk and the Mauler, allows us to say that

To support forces in combat the U.S. uses Iroquois helicopters which have four 7.62mm machine guns and two 70mm free rocket installations. In addition, some of the helicopters of this type have 40mm rocket launchers and French SS-11 antitank missiles.

their vulnerability is insignificant; and this is explained by two factors. First, helicopters are capable of flying under the lower limit of the SAM kill zone (to say nothing of the fact that it is rather difficult to detect them with radar). Second, they have a considerable range of maneuverability in speed, altitude and direction while, at the same time, the anti-aircraft systems are limited in regard to the radial speed of the target approaching the radar, with illumination determined by the resolution capability of the system.*

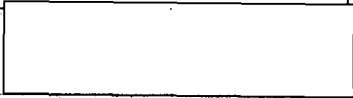
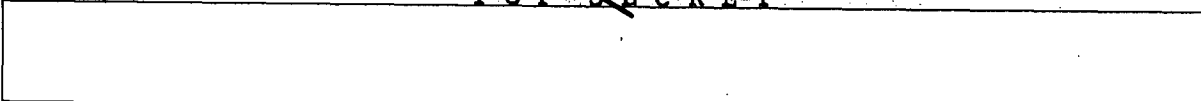
By taking advantage of all the shortcomings of the SAM in its operation against low-flying, high-speed targets, helicopters can overcome their opposition quite successfully. Of considerable danger to helicopters are small arms fire, anti-aircraft machine guns, small caliber anti-aircraft artillery, and light, portable SAM missiles of the Red Eye type, with an infrared guidance system. And the lower the flight altitude of a helicopter, the more effective this weapon is. For example, when used against a helicopter flying at an altitude of 500 meters, the probability of a safe flight for the helicopter is 0.63; while at an altitude of 300 meters, it is 0.53. But it must be kept in mind that in modern warfare the ground forces will constantly try to have their units dispersed. And under these conditions the density of small arms fire against air targets in many cases will be comparatively low.

It follows from the above that under modern conditions helicopters can also be used successfully to provide fire support for ground forces. Therefore, this is a very urgent task for the immediate future when completing the equipping of helicopters. In our opinion, the most suitable types for this at the present time are the V-8 and V-2 helicopters. At the same time, it is also advisable to reequip the MI-1 and MI-4 helicopters now in use.

At the present time an urgent need has arisen to consolidate all the available experience in the use of helicopters in support of ground forces and to bring it out in the press.

For example, for the Hawk SAM this speed must be not less than 108 kilometers per hour, and not less than 180 kilometers per hour for the Mauler SAM.

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Unfortunately, of all the literature on the problems raised in this article, we can name only one book, published in 1965 and written by an author collective of the Air Force Red Banner Academy, called Actions of Helicopter Units in Landing Tactical Airborne Forces and Supporting the Combat Actions of Ground Forces. But many problems were not touched upon in this book because of lack of experience.

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