

Ka-50 "Black shark": Participation in combat operations



Ка-50 (бортовой №24)



Ка-50 (бортовой №25)



Ка-29ВПНЦУ

KA-50 Black shark attack helicopter on combat duty in Chechnya

At the end of 2000, Russian Newspapers and magazines carried the headlines "Black Sharks in Chechnya". The Central TV channels flashed images of a pair of Ka-50s being sent on a combat mission. It seemed to many at the time that a new time had come in the history of Russian aviation, and the troops would finally receive a new generation of equipment. However, after these messages, there was silence again. The lack of information was immediately taken advantage of by "experts" who were ready to pass off their personal opinion as objective. The legend that the Ka-50 mission in Chechnya ended in failure went through the pages of various publications. What actually happened in December 2000-February 2001? How did the Ka-50 helicopters perform in a real combat situation?

The decision of the Deputy Minister of defense-Chief of armament of the Armed Forces of the Russian Federation on November 29, 1999 to form a Combat strike group (BUG) consisting of two Ka-50 and one Ka-29 for use in local conflict zones was literally saving for the very idea of testing the vehicle in combat.

As part of the 344th CBP and PLC at that time there was only one modified Ka-50 (onboard number 24. released by the Arseniev helicopter plant). The second BUG machine was decided to make the fifth prototype ka-50 helicopter, which at that time had the onboard number 25 (built on the experimental production of the company "Kamov"). This was the same car that at one time became the "main character" of the famous movie "Black Shark", which gave the name to the helicopter itself.

Preparation for participation in combat operations was conducted quickly. A group of technical and methodological support was formed from the staff of the design Bureau and the Flight test complex of JSC "Kamov". On the instructions of the Army aviation, it was decided to finalize the group's vehicles.

Additional reservations and equipment were installed during the development process. The Ka-50 has side armored Windows and additional armor protection for the cabin floor. The equipment included a complex aviation onboard radio-technical indicator and computer system (CABRIS-50), coupled with a satellite navigation system receiver, which was supposed to allow the helicopter pilot to solve navigation tasks without any difficulties when performing flights and when reaching the target. KABRIS allowed the Ka-50 pilot to reach the target with an accuracy of several tens of meters and effectively strike targets. In addition, the helicopters were equipped with a digital video camera and a video recorder to register the pilot's view of the cabin space and terrain through the windshield, as well as the background-target situation displayed on the indicator on the windshield (ILS) with a sighting system.

On the Ka-29, some of the standard equipment was removed and another, similar to the Ka-50 equipment, was installed. The blades were painted black. The center of gravity of the helicopter, overloaded with additional equipment, shifted forward. To compensate, a 45 kg load of ballast was suspended under the tail beam.

From December 1999 to July 2000, more than 150 flights were performed on two Ka-50 and Ka-29VPNTSU helicopters (including 125 flights on Ka-50) on the basis of the 344th CBP and PLC, in conditions of a shortage of fuel and lubricants and ammunition. The operability of the

newly installed equipment was checked in various flight modes, the order of interaction between the KABRIS and Prpnc systems was worked out in order to improve the accuracy of helicopter landing on the target, as well as the method of using the external target designation system with correction from the KABRIS system. Pilots who were planned to participate in the BUG, practiced the use of all types of weapons at the site: 30-mm guns 2A42, unguided missiles S-8, ATGM "Vortex". Unfortunately, the Army aviation strictly limited the consumption of ammunition, which allowed pilots to effectively prepare for hitting targets only in automated mode (with automatic interception).

The result of this work, the command of Army aviation was able to conclude that aircrew BUG prepared to conduct combat actions single day in normal weather conditions, as well as group flight as part of a pair, cross-country flights and flights by day in adverse weather conditions. The method of using external target designation (vtsu) in a group of Ka-29, two Ka-50s and a ground-based automated workplace (arm KSAS) was developed. The crew of the Ka-29 helicopter is prepared to guide helicopter strike groups on ground targets using the VCU, and the pilots of the Ka-50 helicopters are prepared to use weapons of destruction on ground targets with preliminary guidance on the VCU from the Ka - 29.

I must say that at a certain stage, the military leadership almost backed down. It is difficult to say what caused the idea of one of the high-ranking generals to "reward everyone, but not send them to Chechnya". Finally, it happened - in December 2000, in accordance with the Directive of the chief of the General staff of the armed forces of the Russian Federation, the group began relocating to the North Caucasus.

Before the flight to the combat area, the vehicle numbers and identification signs were painted over.

The flight of a group of two Ka-50s and one Ka-29VPNTSU accompanied by Mi-8s from Torzhok to Grozny (Severny) airfield with intermediate landings at Kaluga, Kursk, Millerovo, yegorlyk and Budenovok airfields was performed during the period with the most adverse weather conditions - from 3 to 26 December 2000. Only at the airport "Ryshkovo", where the cars stopped during the flight, non-flying weather delayed the group for two weeks. There, "outlandish" helicopters immediately became the object of attention of local aviators and residents. There, fortunately, there was enough time, the Ka-29 was removed from the b-8B-20 blocks and the suspension frames of 9m114 guided missiles, and the beam holders of the BDZ-57 Krv were dismantled. During the flight, no significant failures of aviation equipment were detected.



Ka-50 and Ka-29 helicopters were placed in the former Parking lot of the technical and operational part, which was located slightly below the level of the main airfield and was closed by a powerful earthen rampart. This excluded the possibility of firing at cars by militants. The weakly covered sector from the West was covered with its "body" by the Mi-24 helicopter, which had not flown for a long time and served as a source of spare parts for other cars. At night, airfield maintenance vehicles, which also played the role of "bodyguards", were displayed around the "Black sharks" and the Ka-29 (nicknamed "suitcase" by local aviators because of its angular shape).

The conditions in which we had to live and work were, frankly, Spartan. Only tourists seem to feel comfortable in tents in the Caucasus in winter. But V. V. Zarytov, who, as a veteran of the Afghan war and a knight of the order of the red Star, was entrusted with the command of Kamov, and A. S. Papay, who was personally forbidden by the commander of the army aviation to fly to combat, was not up to vizborovsky romance. Warmed only a standard army stove. The

same "bourgeoisie", installed in a nearby tent, once almost put an end to the expedition, deciding to overheat at night and start a fire. The flames quickly spread to the temporary home of Kamov residents. If not for Alexander Sergeevich's light sleep, it is unknown what the bug's work would have ended with. Specialists managed to jump out of the tent, but the equipment and personal belongings were burned to the ground.

On December 28...30, the group's pilots performed their first familiarization flights in the combat area. The first reconnaissance flights on Ka-50 helicopters took place on the first day of the new year 2001, and from January 6, BUG pilots began to perform flights with the use of weapons of destruction on ground targets.

The personnel of the group consisted of eight pilots and navigators, twenty-six specialists of the engineering and technical service, two representatives of the Army aviation Department and nine representatives of JSC "Kamov" and the serial plant. Combat work was conducted by pilots of the army aviation. It should be noted that the technicians before this mainly served the Mi-24 and did not have any special training.

The pilots who arrived in the Caucasus were not familiar with the area of upcoming combat use. The two-seat version of the Ka-50 (ka-52 helicopter) was just beginning state tests at that time. Therefore, the flight crew of the group made familiarization flights on the Mi-24. Sorties for combat use were carried out in groups: a pair of Ka-50s and Mi-24s, as well as a pair of Ka-50s with the participation of Ka-29s.

The flights were not conducted in the field conditions-there was a real enemy down in the mountains. Of course, this was not the first Chechen war - in the course of the "anti-terrorist operation in the North Caucasus", the militants no longer had an organized air defense. However, the risk of running into machine gun fire or a MANPADS missile remained. Nor was the weather conducive to complacency. January in the Caucasus is not the best time to pilot at extremely low altitudes. Frequent fogs significantly complicated flights. Passes were sometimes closed, and flights had to be conducted through gorges, which was not an obstacle to the performance of combat missions.



In these conditions, the scheme of the helicopter with coaxial propellers has shown its high efficiency. After the first flight, one of the pilots, leaving the cabin, said admiringly: "In the mountains, you only need to fly this car." Indeed, the absence of a tail rotor significantly facilitated piloting in gusts of crosswind, which is extremely dangerous in narrow places. The sunlit part of the slope of the gorge is actively heated, which leads to disturbances in the

atmosphere. Caught in turbulence or a sharp gust of crosswind, the Mi-8 and Mi-24 sometimes lost control, which often led to flight accidents.

In the mountains, such advantages of the Ka-50 as high maneuverability and rate of climb were shown. Once, when dodging a vertical obstacle (rock), the helicopter pilot (tail number 24) exceeded all the calculated characteristics of the vertical speed. The recorded rate of climb reached 30 m/s.

However, BUG problems were not avoided. In one of the flights on January 6, 2001 The ka-50 (No. 25) struck the target identified by the Ka-29 helicopter with unguided missiles from an extremely low altitude. After completing the task, the pilot felt a vibration and decided to land at the Khankala airfield. After planting during the inspection it was discovered the shrapnel damage on the tip of the blade. The damaged section was carefully cut off by the engineering staff, and the helicopter flew to the home airfield. After that, bort 25 waited three weeks for a spare set of blades from Torzhok. As a result, until January 29, 2001 BUG performed tasks in a reduced composition-the ka-29VPNTSU target designator helicopter and Ka-50 No. 24. The group of the combat control Center of the joint group of troops in the North Caucasus planned and allocated targets with pre-known coordinates identified by intelligence means, which, as a rule, were places of Parking, camps and places of concentration of militants, ammunition depots, dugouts, shelters, trenches, etc. Most of the targets were located in inaccessible mountainous terrain, on slopes, in gorges and on the tops of mountains with an elevation of up to 1,500 m above sea level. At the final stage of the trip, a pair of Ka-50 helicopters performed tasks in a free-hunting manner.

After completing the repair of Ka-50 No. 25, the group continued to perform its tasks in full. Until February 14, 2001, BUG helicopters and their accompanying Mi-24s made 121 sorties. The share of BUG helicopters accounted for 76 sorties (flight time-more than 63 hours). The Ka-50 No. 24 had the most chances to fly in Chechnya - it completed 36 flights, the Ka-50 No. 25 - 13 flights, and The ka-29VPNTSU-27 flights. The flight of each of the BUG pilots on the Ka-50 was from 6 to 10 hours; in addition, from 1 to 15 hours each of them flew on the Mi-24 helicopter. Flights were made in difficult weather conditions, in which, as a rule, no one flew during training in Torzhok.

Unguided s-8 missiles were most often used during combat operations. Firing unguided missiles was carried out both with the Ka-50 and Ka-29. In total, more than 100 NAR firings were conducted from two Ka-50s (the Ka-29 has 29 firings on its account). The 30-mm 2A42 cannon was also used in the battle. 43 the Ka-50 No. 24 and the 19 - Ka-50 No. 25 were fired from the gun. The command has also been generous with guided weapons. However, ATGM was used singly and only three times (twice from the "Board 24" and once from the "Board 25"): there were few targets worthy of a powerful cumulative warhead of the "Vortex " missile in the BUG's area of responsibility. All three missiles hit the target, while the ATGM launch from Ka-50 No. 25 was performed without measuring the range. Despite the difficult conditions, the Prpnc ensured that the missile hit the target accurately, and the object of attack was destroyed.

Results

One of the main results of the "business trip to war" was the confirmation of the validity of the concept of using automated targeting and navigation systems of helicopters, which relieved the pilot of a significant load. The experience of fighting BUG in the sky of Chechnya showed that the pilots, despite a relatively small RAID on the Ka-50, quickly adapted to the behavior of the machine coaxial scheme. CcPDP "Rubicon" allows you to apply the entire range of airborne weapons in one run with retargeting. It should be noted that the targets identified by the reconnaissance were located in hard-to-reach places, which required the use of all the helicopter's maneuverability capabilities.

Based on the weather conditions and difficult terrain, the shooting was carried out from a range of up to 3 km in both automated mode (aiming weapons using a tele-automatic) and in operational mode. Operational modes were used in conditions of limited visibility and at short distances. The shooting was corrected for shell bursts. According to the pilots, the accuracy of hitting unguided missiles in manual mode was not much worse than the results of shooting using Prpnk. According to the indications of objective control systems (video cameras in the Ka-50 cabins) and ground intelligence data, all the intended targets were destroyed.

Another important result of the BUG was the confirmation of the reliability of the new technology with its regular and intensive use. It should be noted that during the trip, the Kamov group provided only methodological assistance to combat flight personnel, refuting the claim that any specific and long-term training of technicians to work with the Ka-50 is necessary. There was almost no downtime due to equipment failures.

The joint deployment of the Ka-50 with army aviation helicopters in combat conditions confirmed that equipping the Army aviation with new equipment will not lead to increased problems in helicopter maintenance. The Ka-50 was based in conjunction with the Mi-24 and Mi-8 and used the same standard airfield facilities. Demonstration of the possibility of Autonomous basing of helicopters without regular airfield facilities was not implemented due to limited funding for the preparation of BUGS.

In the conditions of combat use, the KABRIS-50 system has proved to be very positive. On the digital map of the area, the pilot saw the mark from his helicopter, the position of other vehicles, and the intended targets. The pilots noted that with a minor modification of the Ka-50, a medium-qualified combat pilot will be able to land in difficult weather conditions out of sight of the ground, according to Cabris. Later, Torzhok took the initiative to make KABRIS the main navigation system. But this idea came into conflict with the current regulations - the Provision on the creation of military aviation equipment and air force OTT. The point is that KABRIS-50 is a device that depends on external data. Without a GPS signal, it was just a fun toy. At the same time, relying on a stable satellite signal reception is hardly justified. KABRIS-50, unfortunately, has not received much distribution. In addition to the 05 and 01-04 helicopters, the device was installed on three "Sharks" built in the "zero" years, as well as on the Ka-29VPTSU, which served as a designator in Chechnya. Later, it became a CABRIS-31 for the Ka-31 radar patrol helicopter produced for the Chinese and Indian navies. It was also used to create a variant of the KABRIS-27 for one of the modifications of the search and rescue Ka-27PST. But

widespread implementation was prevented by the imported element base. The air force in those years categorically demanded import substitution.

Despite the fact that the limited time of operation and weather conditions did not allow testing all possible and theoretically justified modes of combat use of the ka-50 (including the famous "funnel"), the pilots were very satisfied with the firing and maneuverability characteristics of the "Black Shark" in real combat conditions. The Ka-50's powerful booking had a positive impact on the morale of pilots who flew out for combat use. The pilots, according to their assessment, felt much more confident than in the cabins of other helicopters. The sense of security was enhanced by the awareness of the possibility of escaping by catapult in an emergency. Fortunately, there was no need to use the means of rescue.

Naturally, there were also some comments that needed to be addressed during the revision of the serial helicopters. According to the estimates of pilots who had to make a number of changes in placement in the cockpit of the Ka-50 indicators and display information on them can be a helicopter thermal imaging surveillance and targeting systems that would allow you to fly at night, and also change the algorithm of application of thermal traps and retrofit helicopter full airborne defense. Looking ahead, most of these military requirements were met by the group's helicopters after their return.

More claims were made to the Ka-29VPNTSU. The Cabris indicator in his cockpit was installed in front of the Navigator, and the pilot had to "look at" it, which distracted him from piloting. In addition, the car was heavier and, consequently, less maneuverable and faster than the Ka-50, which in a certain sense constrained the actions of the group. At the same time, the Ka - 29 performed its main task - reconnaissance and targeting-quite successfully, providing, in addition, support for attack helicopters with fire from unguided missiles.

There were also problems with equipment. In flight, the pilots left in light body armor, armed with a machine gun "Chestnut". "Chestnut" very much liked the flight crew because of the ease of use and accuracy of shooting. However, the cabin of the Ka-50 did not provide a regular place for mounting non-standard personal weapons, such as the Chestnut. The bulletproof vest, which did not allow air to pass through, reduced the comfort of piloting, and the flight crew, fortunately, did not feel the need for it.

In General, the results of the use of BUG in two Ka-50 and one Ka-29 in a real combat situation were considered positive. After the necessary improvements on the identified comments, such groups could significantly improve the effectiveness of troops ' actions in local conflict zones.

After the business trip

The return of the Combat strike group from Chechnya was almost a triumph. All personnel of the group - both military and representatives of JSC "Kamov" - received various awards.

The results of applying the BUG with command of the air force and Army aviation of Russia approved the list of measures on elimination of identified findings, and methodological Council of Management of the Army aviation of the Land forces, recommendations were made to increase the size of the BUG up to three Ka-50 and one Ka-29, elimination of non-compliances, as well as the completion of another Ka-50 under the requirements of the BUG. According to the

same model, it was recommended to modify the most "fresh" Ka-50 No. 26, which was planned to be delivered from the plant in Arsenyev in 2001. The Ka-29, which was recommended to be equipped with a 24-hour observation and sighting system "Boxwood" and cabin lighting equipment adapted for the use of night vision glasses by the crew, was also subject to modifications.

The main requirement of the military, who actually tested the Ka-50 in combat, was to improve the algorithms for controlling the machine, creating simulators for practicing piloting and using onboard weapons. The urgent need, according to the aircrew, was to accelerate work on the Ka-52 helicopter as a combat group control vehicle (instead of the less suitable Ka-29VPNTSU) and develop ground-based targeting tools. Some of these requirements were met during the development of the serial Ka-50. The Ka-50 trainer was manufactured. However, the full implementation of the wishes of the Army aviation was still, alas, impossible. The Ministry of defense was not able to provide funding for the BUG in either 2001 or 2002. After factory tests of the Ka-50 simulator, the Deputy commander-in-Chief of the air force for weapons suspended funding and closed the topic.

The leadership of the air force under the influence of various factors clearly lost interest in the "Black Shark". The very existence of the BUG became a factor that hindered the implementation of the idea of a "single attack helicopter of a new generation", which was promised to create the MVZ named after M. L. Mil and the Rostvertol plant. The result was natural: an order was received ordering the BUG to disband, and funding for work on this topic to stop.

How justified was this decision? Without attempting to judge, just give an excerpt from the report on the actions of the BUG in the North Caucasus: It said that all the combat tasks assigned to the BUG were carried out without disruptions and in a timely manner. The equipment of the Ka-50 and Ka-29 helicopters made it possible to use helicopter weapons with sufficient accuracy and efficiency to solve combat tasks related to the search and destruction of specified targets with known coordinates. The maneuverability characteristics of the Ka-50 and Ka-29 helicopters made it possible to effectively perform combat tasks in conditions of limited air space (difficult terrain of high mountains, narrow gorges, riverbeds). High power capacity, as a feature of the coaxial scheme of helicopters, made it possible to psychologically significantly relieve the pilot when piloting, and the technique of piloting a helicopter during the day in the PMU was much easier than on single-rotor helicopters.