



## THE IMPROVEMENT OF THE PROMISING CAMPANILE OF ARMORED WHEELED EQUIPMENT

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**Annotation.** This article will discuss the indicators of the improvement of the komponovka of armored wheeled equipment, as well as compliance with the requirements.

**Keywords:** armor, komponovka, engine, speed, size, destruction, homogeneity, malfunctions, carrying characteristics.

**Аннотация.** В данной статье рассмотрены современные направления изменения компоновки колесных бронированных машин, их изменения в зависимости от развития силовых установок, средств поражения и внедрения новых систем в комплексе управления вооружения.

**Ключевые слова:** броня, компановка, двигатель, скорость, габарит, средств поражения, защищенность, подвижность, транспортальность.

From history, it is known to everyone that illegal armed actions, conflict conflicts, local and world wars have occurred several times. By analyzing the achievements and shortcomings in combat actions, it is shown that not only new tactical actions, but also caused unprecedented improvements in weapons and combat techniques.

By the 21st century, economic, political, national, ethnic, religious and other conflicts between some states or within the framework of the territory of the state began to arise between the internal armaments of the opposing parties. Illegal armed formations, formed in violation of international and national legislation, pursuing terrorist, extremist, criminal or other goals, began to come to the vjud.

In addition, the need for special light armored techniques that move quickly and maniacally on the streets of the city in order to ensure a reliable way to suppress conflicts taking place in the Centers of settlements and the security of the civilian population, as well as to ensure the effective elimination of mass unrest, which has become one of the pressing issues of, it was felt that there was a great need for light armored techniques to carry out combat patrols and other combat tasks.

The provision of power structures of our national army with modern weapons and military equipment is one of the primary tasks. A study of the combat and special-duty unit formations of our national army shows that these measures were of course increased personal composition and protection of cargo from the impact of enemy mortar shells and their fugas on the road banks. It must be said that the use of such methods has become very common.

Armored wheeled techniques are designed to transport personnel, protect them from ammunition and explosives on the battlefield, perform special tasks in dangerous areas, provide support to mobile groups and blockhouses, protect troops and motor vehicle columns, carry out combat patrols and other combat tasks. In order to delve deeper, let's take a look at the history of the emergence of light armored cars and their

improvement.

The history of the creation of armored wheeled techniques.

Initially, a truck was taken as the basis of armored cars, later a special car was created, equipped with armor and weapons.

The history of the creation of armored wheeled techniques dates back to the XIX centuries. Looking back on history, it was then that the first kareta began to appear. One of them belonged to the Russian Emperor Alexander II, who began to use this machine after he was bitten.

In order to ensure safety, the base of the VIP carriage was covered with metal. On March 1, 1881, in the next liquid, which was arranged for him, an explosive was thrown into the base of the kareta, whose life was saved by the fact that the Kareta tag was covered with metal.

The idea of armor protection began with the creation of gasoline engines, since in the battles of that time cars and the soldiers in it, loads and weapons began to see great spoilage.

In 1885, James had proposed his own five-wheeled armoured car at a steam engine tractor base.

Its armored shell consisted of 50 firing holes for the riflemen and was shaped like a Hemisphere. To avoid enemy approach and panic, four circular saw-shaped chinks were fitted to the ost of the machine. Her armament consisted of 8 small caliber cannons. According to the results of the experiment, its speed was 8 km/h. This armoured car was not accepted for armament due to its difficult handling and poor strength.

The Russian Empire clearly saw the need for combat experience, which was ordered as a result of the Russian-Japanese strike, machines that would allow infantry to provide reinforcements by opening fire from machine guns and protect against enemy fire.

M.A.Nakashidze formulated the requirements for these combat vehicles and developed a project that could interest the Russian military Ministry for the 1905 Battle against Japan.

Twelve armoured cars were produced by the Sharon firm in 1905. Twelve cars were shipped by the firm to the customer. 2 of these were captured by Germany for study purposes. These machines had full armor, a turret armed with a rotary machine gun. The cars were highly regarded by the Russian military.

This car was studied by German specialists, and a similar car was demonstrated by the German firm "Erhard" of 1908, but the Kaiser's army did not chase the project. The 1916 Easter Rising in Ireland saw the use of cargo cars fitted by the British Army with fire-opening ambrazuras, with improvised armoured shells made from flue boxes. At the same time, to distract enemy snipers, additional false ambrazus with black paint were drawn on the boards.

Armored wheeled equipment has a number of amenities, including a relatively high speed. By the beginning of the 30s, the speed of cars had already exceeded 60-70 km/h.

Low cost. To create armored wheeled techniques, it is enough to cover the top of the machines produced with steel materials of the required thickness.

Frugality. The relatively high weight of the car did not require the installation of powerful engines. In addition, wheeled actuators have lost little mechanical force during movement. From this, fuel consumption was also low. Repair of these cars was no different from repair of regular cars, which made it easier to use.

Disadvantages of armored wheeled techniques.

Poor passability. While the ride portion of the cars was no different from that of the regular cars, their narrow wheelbase and low treadmills caused the cars' uniform throughput capabilities to fall off.

The subsequent creation of the wheel Formula (4x4, 8x8), wheel reducers, differentials, and centralized tire air pressure adjustment systems caused these problems to be solved, increased throughput.

Protection and weapons. As the chassis of the machine was less robust, the possibilities of mounting thick armor on it were limited. Mounting more powerful cannons on them due to the weight of the machines and the lightness of the Armor reduced the mobility of the machines and weakened it even more.

Modernization is a complex of works aimed at the purpose of repeatedly raising the structure (construction), materials or production technology indicators of obsolete, weapons and techniques that do not meet the requirements of the period and increasing the effectiveness (updating) of the application of weapons [1].

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**BTR- 80A**



**BTR- 80**

80

The komponovka of armored combat vehicles is divided into two types: General kompanovka (structure); partial komponovka (structure).

The general component of armored tank guns includes: the absence of emptiness of the interior of the car, the absorption of the force ahead of the engine into the short-track section; the rational ratio of dimensions and the optimal shape of the Coupe; reduction in the number of crew members; the selection of compact and short-sized weapons, force protection, aggregates, tools and apparatus; dense placement of

Currently, the increased coverage of the use of unmanned aerial vehicles and their extremely accurate movement in combat actions remain helpless against air defense, taking into account the fact that the weapons of armored vehicles are carrying casualties from a distance that cannot be aimed at.

We can also observe this in combat actions between the Russian Federation and the Ukrainian state, which are taking place in the last two years.

Requirements for modern armored wheeled equipment

At least 13.5 kg at the base of its armored wheels and under 6.5 kg can withstand the explosion of an explosive, and on the side, it can withstand the explosion of a 155-mm projectile;

the body of the car protects the crew from a 7.62-caliber rifle fired from at least 30 m;

such projectiles (shock capsules and saws replaced with detonators) were frequently used in Iraq to make fugas projectiles.

Armored wheeled equipment should protect the crew from toxic gases, or other biological and Radiological Weapons:

having holes (amrazuras) for the release of firearms in the machine gun body so that the crew composition can shoot the enemy;

provision of remote control of the firing module;

the machine should have high maintenance and be built based on the modular principle, which should be able to make it possible to replace damaged parts;

each of the jobs should be coordinated with high-performance seat belts. It is recommended that the seat belt model used in UH-60 (Blackhawk, Seahawk, and hako) vertebrates be used. Seats should be energy-absorbing and be able to effectively apply a multiposition weapon;

the machine must be able to withstand 3600 capsizes, equipped with a condenser and heater, without any serious damage to the power transmission and on-board instruments;

it is necessary to have complete control of the environment, to analyze the information collected, collected information and to be summarized with surveillance cameras and computers to send it to the higher headquarters;

the structure should be able to strengthen the protection by installing additional armor;

based on modern actions, the fact that drones (unmanned aerial vehicles) have means of protection against the cell;

the crew cabin and other sections of the machine must have a fire extinguishing system.

Based on the above, the following conclusions can be drawn: in the era of today's complex geopolitical situation and demanding new actions in the field of security strengthening, it should be noted once again that armored wheeled techniques are of high importance in providing units of our National Army power

structures with technical means that can protect units from the effects of enemy

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