

While other countries are veering away from heavy armor in favor of special-operations forces, the Russians are developing and purchasing new heavy-weapons systems: an estimated 5,000 by 2020. This article discusses the development and possible fielding of a new type of armored vehicle, a tank combat-support vehicle, to counter personnel with anti-tank weapons in both urban and field environments.

A New System Preserves Armor Dominance of the Future Battlefield: BMPT ‘Terminator-2’

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The Russians do not view future war solely as counterinsurgency, counterterrorism and area control. The Russians view high-intensity maneuver warfare as an equally likely form of future war. Despite economic difficulties since the collapse of the Soviet Union, the Russians have developed three new tanks and are fielding two. During this same period, the United States has fielded none. The Russians consider tanks essential to warfighting, but for tanks to dominate the future battlefield, the tanks must survive.

Russia’s recent announcement that the Armata heavy track chassis would be entering field trials as part of the T-14 main battle tank, and that the T-14 would be displayed in the annual May 9 Victory Day military parade, has fueled some speculation about what other weapons systems might be mounted on the Armata chassis. One idea is that the *boevaya mashina podderzhki tankov* (BMPT) “Terminator” could be reborn, but this time on an Armata chassis.¹ Despite the closeness of the acronyms, Russia does not classify the BMPT as an infantry fighting vehicle (*bojeva mashina pekhoty*, or BMP) but instead as a tank combat-support vehicle – sometimes referred to as a combat fire-support vehicle (*bojevaya mashina ognevoy podderzhki*, or BMOP).² The concept of a tank combat-support vehicle is not a new one in the Soviet/Russian experience.

Conventional and unconventional need for tank combat-support vehicle

In theory, mechanized infantry, self-propelled artillery and armored forces are mutually supporting. Artillery rains destruction to the front and flanks as infantry personnel carriers and dismounted infantry protect tanks from enemy anti-tank systems and enemy infantry. Simultaneously, tanks protect the personnel carriers and dismounted infantry from enemy tanks and strongpoints. In practice, personnel carriers have problems keeping up with fast-moving tanks; their armor protection is too thin to survive at the point of the attack; and battle drills between tanks and mechanized infantry frequently break down due to the lack of sufficient team training prior to combat. Artillery fire may be on or off target, or too early or too late. The bottom line is that there is often too great a gap between the tanks and the mechanized infantry at the crucial point, and artillery may not bridge that gap.³

In 1959, the Soviets decided to develop two types of infantry personnel carriers: tracked infantry fighting vehicles that would serve in tank divisions and cheaper wheeled armored infantry personnel carriers that would serve in the more numerous motorized rifle divisions. The BMP’s tracked chassis offered better mobility and a better chance to keep up with the tanks. However, the tracked vehicles were more expensive to produce, operate and maintain.⁴ The BMP was designed to serve as more than a mere battle taxi. Its armor protected the crew and infantry from bullets and radiation, and its armaments and firing ports allowed the vehicle to engage the enemy effectively without dismounting the infantry squad.⁵ The BMP allowed the tanks and mechanized infantry to function as a mutually supporting team.

There were three main types of Soviet BMPs produced between 1966 and 1991. The basic BMP-1 is armed with a 73mm low-pressure cannon, an AT-3 Sagger anti-tank guided-missile launch rail and a 7.62mm coaxial machinegun. It has a one-man turret, and all weapons can be reloaded from inside the vehicle.⁶ The BMP-2 entered service in 1980. The basic model has a two-man turret and is armed with a 30mm automatic cannon, a 7.62-mm coaxial machinegun and a launch rail for either the AT-4 Spigot or AT-5 Spandrel antitank missiles.⁷ The BMP-3 entered service in 1987 and has a 30mm automatic cannon, a 100mm cannon, a 7.62mm coaxial machinegun and two 7.62mm bow-mounted machineguns.⁸ The BMP-2 and BMP-3 have a significant anti-aircraft capability against helicopters and low-flying, fixed-wing aircraft.

After the Soviet tank divisions were equipped with the BMP, the Soviets examined the composition of their motorized rifle divisions. The wheeled *bronetransportyor* (BTR) infantry personnel carriers were lightly armored and only carried a 14.5mm heavy machinegun. Clearly, they were not the optimum vehicles to fight in coordination with tanks, and each motorized rifle division had a regiment of tanks. To upgrade the capability of the motorized rifle division, each division was re-equipped so that one of the three motorized rifle regiments had BMPs in lieu of BTRs. The tanks and BMPs always fought together on the main attack. Self-propelled artillery and self-propelled anti-aircraft weapons, such as the ZSU 23-4, accompanied the tanks and BMPs to provide a lethal, integrated combat team where each system provided mutual support. But technology is only part of the equation.⁹

The Soviet armored attack was a highly orchestrated lethal ballet. It was a ballet built around an artillery schedule where massed artillery was fired in phases, and the armor and mechanized artillery advanced behind a wall of sizzling shrapnel precisely in accordance with those phases. Battalion-and-below tactics were a series of simple battle drills that were repeated endlessly so that soldiers could perform them automatically and flawlessly when they were frightened, tired or had just been called out of the reserves after 10 years as a civilian. Tactics were rigid and provided predictability – a strong suit for an army that valued operational flexibility.¹⁰ Artillery was key (and close). Self-propelled howitzers accompanied the attack and provided direct fire on resisting enemy strongpoints. Multiple rocket launchers were even used in direct fire against a particularly stubborn enemy. Helicopter gunships and fixed-wing fighter bombers served as a very mobile artillery in support of the advance throughout the depths. The enemy was the North Atlantic Treaty Organization or China – modern, industrial armies defending in-depth in predictable patterns.

Despite the impressive technology and tactics, tanks still tended to separate from BMPs and artillery during the advance. The 1973 Arab-Israeli War proved the value of the rocket-propelled grenade (RPG) and anti-tank guided missile to the defender. Tanks had to fight as a combined-arms team to survive but could not afford to slow down and lose the momentum of the attack. The answer appeared to be better combined-arms training. In the late 1980s, the Soviets began forming combined-arms battalions (CABs), which had organic tanks, BMPs and artillery. The CAB allowed units to train for mutual support continuously instead of only during scheduled exercises. However, the CAB required seasoned commanders who could deal with the training, supply and maintenance demands of this complex unit. Soviet junior officers were usually younger and less experienced than their Western counterparts when they commanded at various levels — although they tended to command longer during a career. The CAB experiment initially failed due to its complexity, internal turmoil in the army and leadership challenges, but it is now a well-established institution in the Russian armed forces, being the most common formation type battling in Eastern Ukraine.

The proliferation of RPG-7 anti-tank grenade launchers and anti-tank missiles has complicated the task of tanks and mechanized infantry working together. An example of this is when the Russians entered the Chechen city of Grozny Dec. 31, 1994. The first unit to penetrate the city center was 131st “Maikop” Brigade. Russian forces initially met no resistance when they entered the city at noon. They drove their vehicles straight to the city center, dismounted and moved into the train station. Other elements of the brigade remained parked along a side street as a reserve force.

Then the Chechens attacked with RPGs. They first destroyed the Russian lead and rear vehicles on the side streets, trapping the unit. The tanks could not lower their gun tubes far enough to shoot into basements or high enough to reach the tops of buildings. Infantry fighting vehicles and personnel carriers were unable to support their tanks. Chechens systematically destroyed the column from above and below with RPGs and grenades. Other Chechens surrounded the force in the train station.

The commander of the Russian unit waited until Jan. 2 for reinforcements, but they never arrived. Part of his decimated unit broke out. By Jan. 3, 1995, the brigade had lost nearly 800 men, 20 of its 26 tanks and 102 of its 120 armored vehicles.¹¹

The Soviet-Afghan War and the Chechen Wars emphasized the tactical gap for the Soviets and the Russians. The enemy was not modern, mechanized, nor arrayed in a defense in-depth. Their RPG gunners knew where the soft spots were on the various Soviet/Russian vehicles.¹² The terrain worsened the problem of the tactical gap and, in the areas where the tanks could go, tanks and BMPs were often separated and unable to support each other. In the mountains of Afghanistan, the tanks were often left behind, and the BMPs and BTRs had to accomplish an independent mission they were not designed for.

The Russians decided that the tactical gap between tanks and mechanized infantry is almost inevitable. The battle in Grozny on New Year's Eve 1994 provided the impetus to develop a heavily armored close-combat system. The Russians discovered that the thinly armored ZSU 23-4 self-propelled anti-aircraft gun was the optimum system for tank support in city fighting, but its vulnerability offset the efficiency of its four 23mm automatic cannons.¹³ To ensure the survivability of tanks, they needed a new system that was built like a tank but provided mutual close-combat support. The new system should provide protection against enemy anti-tank weapons, infantry, strongpoints, helicopters and fixed-wing aviation. The new system needed to be an integral part of the armored unit, but it could not be a modern T-35 with five turrets and multiple weapons.

The Russian answer was the BMPT tank-support vehicle.¹⁴ It was not a BMP, and the Russians were not discounting the value of mechanized infantry in the combined-arms team. They were recognizing that mechanized infantry may not be at the critical point at the critical time to support tank operations in traditional and urban combat roles.

BMPT's initial specifications

Russia's first BMPT was nicknamed the "Terminator" due to the anti-personnel capabilities of the system and was built upon a T-72 or a T-90S tank chassis.¹⁵ The BMPT has the armored protection, maneuverability and ruggedness to maneuver directly with the tank platoon; has laminated and reactive armor; weighs 47 tons; and carries a five-man crew with a low-profile turret, housing a 30mm automatic cannon with a coaxial AG-17D grenade launcher, an AT-14 Koronet anti-tank guided missile and a 7.62mm machinegun.¹⁶

Terminator-2

The most recent version of the BMPT has been renamed as a BMOP and nicknamed the "Terminator-2." Despite the name change, the Terminator-2 fulfills the same role as originally intended and was also built upon the T-72 or T-90S chassis. However, Russian Deputy Prime Minister Dmitry Rogozin, who oversees the Russian defense industries, suggests that the Terminator-2 could also be built upon Russia's newest heavy chassis platform, the Armata.¹⁷

The Terminator-2 is primarily intended to destroy personnel, anti-tank grenade launchers and anti-tank missiles, but it also has capabilities to destroy lightly armored vehicles, tanks, BMPs, fortified structures and low-flying aircraft. The system is equipped with:

- Dual 2A42 30mm automatic cannons with 1,700 rounds of ammunition capable of destroying lightly armored vehicles and low-speed air targets (2,500 meters) and anti-tank guided-missile systems, personnel and other unarmored objects (4,000 meters);
- A PKTM 7.62mm coaxially mounted machinegun with remote loader and 2,100 rounds of ammunition capable of destroying personnel and unarmored targets (1,600 meters);¹⁸ and
- Two AG-17D automatic grenade launchers with 600 rounds of ammunition capable of destroying lightly armed targets (1,400 meters).

The BMPT's anti-tank capability comes from four Ataka-T guided missiles with general purpose (9M120-1F) and anti-tank (9M120-1) warheads (5,000 meters).¹⁹ These weapons can reportedly clear the enemy from a city block at a distance of three kilometers.²⁰ The Terminator-2 has a five-man crew consisting of a vehicle commander, gunner, driver-mechanic and two grenadier operators. The vehicle is designed to let the crew fight from the safety of the vehicle and does not require any exiting for any weapons operation or routine reloading. All weapons systems are remote-controlled, and there is an optical system to assist the weaponeers with target acquisition. The

vehicle has an aerosol capability (presumably smoke) to obscure its location from target-acquisition systems and, when lased, the commander's panoramic site will acquire the offending laser to readily direct fires. The vehicle's chassis will also permit the vehicle to be mounted with mine or obstacle plows to facilitate maneuver.



Figure 1a. View of the BMPT, front. (Photo copyright Vitaly Kuzmin, <http://vitalykuzmin.net>. Licensed under a Creative Commons Attribution-ShareAlike 3.0 Unported License)



Figure 1b. View of the BMPT, side. (Photo copyright Vitaly Kuzmin, <http://vitalykuzmin.net>. Licensed under a Creative Commons Attribution-ShareAlike 3.0 Unported License)



Figure 1c. View of the BMPT, rear. (Photo copyright Vitaly Kuzmin, <http://vitalykuzmin.net>. Licensed under a Creative Commons Attribution-ShareAlike 3.0 Unported License)



Figure 2. The BMPT uses the Ataka missile to defeat heavily armored vehicles. (Photo copyright Vitaly Kuzmin, <http://vitalykuzmin.net>. Licensed under a Creative Commons Attribution-ShareAlike 3.0 Unported License)



Figure 3. The commander's panoramic sight (located on the roof) gives the BMPT hunter-killer capabilities by continuously scanning targets for the gunner. (Photo copyright Vitaly Kuzmin, <http://vitalykuzmin.net>. Licensed under a Creative Commons Attribution-ShareAlike 3.0 Unported License)

Fielding BMPT

In 2007, the Russian Federation seemed well on its way to adopting the BMPT in some form. Nikolay Malykh, the general director of Uralvagonzavod, the company producing the BMPT, announced that the Russian Ministry of Defense (MoD) had agreed to purchase a company of BMPTs (nine or 10 vehicles).²¹ This announcement would appear to bode well for the BMPT, as the acquisition and field-testing of a small number of vehicles is standard practice for the MoD before a large contract for a new vehicle is finalized. Although not specified, the BMPT would likely be placed on a T-90 chassis, as a tender for a large quantity of T-90S tanks was under consideration at the time.

Hopes for the fielding of the BMPT were dashed in 2010 when the Russian MoD announced that funding for BMPT had been cancelled. Initially, it was reported that cause of the cancellation stemmed from the Russian defense minister's (at the time, Anatoly Serdyukov) desire to build a more "Western" military. As the editor-in-chief of the magazine *Natsionalnaya Oborona (National Defense)*, Igor Korotchenko, stated, "This is part of the military's trend toward buying Western models of equipment and technologies."²²

In short order, the BMPT, BTR-90 and further T-90S tank acquisitions were all cancelled. In 2011, the T-95 Black Eagle program was cancelled, but the cancellation was attributed to the development of a new universal chassis, the Armata, which was intended to incorporate many of the T-95's features.²³ The real reason for the cancellation of the BMPT is anyone's guess – either due to the machinations of an unpopular defense minister or concerns that fielding a new vehicle on an older chassis would be unwise when a new chassis type was expected in the near future – but regardless of the reason, the BMPT program was dead in its tracks.

Despite this setback, Uralvagonzavod did not give up on the BMPT and began to look for customers in the export market. In 2012, Kazakhstan, a country with a post-Soviet Army that somewhat resembles the Russian military in force structure and tactics, signed an agreement to purchase nine BMPTs on T-72 chassis, with deliveries starting in 2013.²⁴ Apparently, the BMPT was perceived as a great success, and in April 2014, Kazakhstan signed another contract with Uralvagonzavod to produce the BMPT in Kazakhstan under a licensing agreement.²⁵

Rogozin suggested that the Terminator-2 could be built upon Russia's newest heavy chassis platform, the Armata, in 2013.²⁶ This statement could be seen as evidence that the BMPT program was not cancelled by Russian MoD but instead put on indefinite hold until a new universal chassis was put into production.

Doctrinal employment

If tank combat-support vehicles are integrated into the Russian order of battle, Russian force structure, tactics and doctrine will likely change for both tank and motorized rifle units. Conventional wisdom requires that tanks be supported by dismounted infantry while in urban settings to protect the tanks from anti-tank guided missiles. Unfortunately for the dismounted infantry troops, they are exposed to small-arms fire and explosives while providing this support. The BMPT could eliminate or reduce this need for dismounted infantry.

Although there have been claims that the BMPT has about the same combat power as six BMPs and 40 soldiers, the BMPT has not been free of controversy within Russian military circles. Pundits have been quick to point out that such a vehicle is inadequately armed to survive in high-intensity combat situations.²⁷ Although the improvements made to the Terminator-2 may alleviate some concerns, there is still some speculation about the value of the BMPT in general.

If the BMPT does find its way into the Russian arsenal, it will almost certainly be based upon the Armata chassis. Although tactical deployment of BMPTs with tanks are currently only in the theoretical stages for the Russian ground forces, some commentaries have suggested that a 2:1 ratio in urban environments and a 1:2 ratio in more conventional environments would be likely employments.²⁸

Much has changed in the Russian ground forces since the idea of the BMPT was initially conceived; Russia has abandoned most regimental/division structures in favor of brigades.²⁹ Despite large-scale reforms of military units of brigade-size-level and above, there have been relatively few changes at lower echelons – especially at the battalion level and below, where little has changed since Soviet times. Since BMPTs are intended to support tanks directly and will be built on the same chassis as the tanks they support, they will almost certainly be organic to tank battalions to facilitate training and maintenance. Due to the ratio of tanks to BMPTs varying by environment, BMPTs will probably not be organic to the tank platoon itself (Option 3 in Figure 4) and will likely be found in a dedicated platoon in a tank company (Option 2 in Figure 4), or possibly company in the tank battalion (Option 1 in Figure 4), and will be attached to tank platoons on an as-needed basis. What is less certain is if Russia will simply add BMPTs to the current tank battalion's modified table of organization and equipment (about 32 tanks), or if the number of added BMPTs will offset by a reduction of an equivalent number of tanks.³⁰

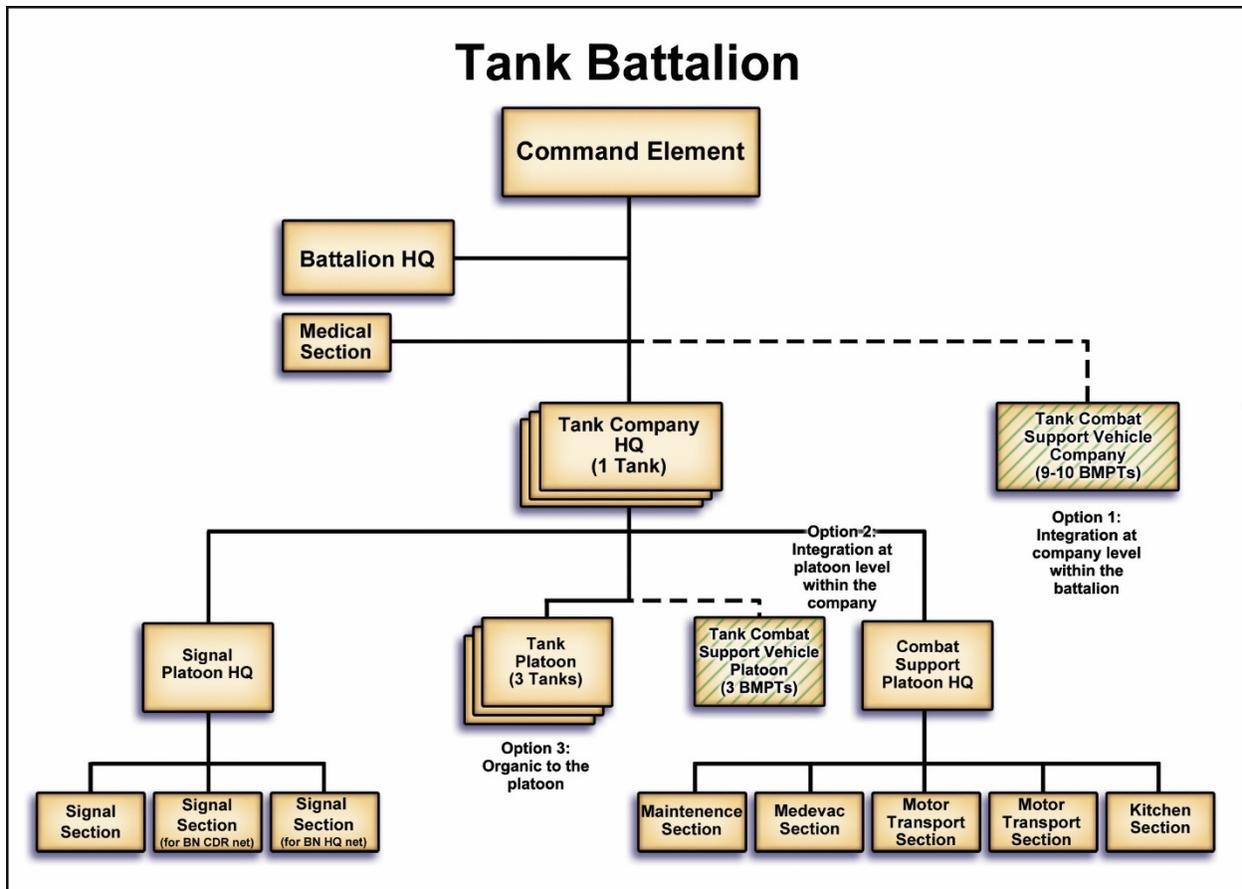


Figure 4. Possible tank-battalion organization. (Graphic based on one created by the authors from information at <http://www.soldat.ru/forum/viewtopic.php?f=12&t=15555&st=0&sk=t&sd=a&start=80#p83866>)

Conclusion

Just about a one year before Russia annexed the Crimea, GEN Valeri Gerasimov, chief of the Russian General Staff, outlined his vision of the future of warfare in a Feb. 26, 2013, article. In this article, General Gerasimov sees the future of warfare as a blending of the instruments of national power to create favorable outcomes.

“In the 21st Century, a tendency toward the elimination of the differences between the states of war and peace is becoming discernible,” he wrote. “Wars are now not even declared, but having begun, are not going according to a pattern we are accustomed to.”³¹

This theory and Russia’s actions in the Crimea and Eastern Ukraine have been dubbed in the West as “hybrid warfare.” Interestingly, despite this new theory of warfare, Russia has chosen not to turn its back on conventional military capabilities in favor of special-operations forces, as many Western countries have done. Russia has even recently announced its intent to purchase 5,000 new armored vehicles before 2020.³²

Russia’s differing attitude toward conventional heavy weaponry can best be summed up by Ruslan Pukhov, director of the Center for Analysis of Strategies and Technologies: “Experience of military conflicts of late has graphically demonstrated that tanks retain their position as the backbone of any significant army and play a largely decisive role on the battlefield. Moreover, in connection with the development of ‘mine warfare’ and the improvement in anti-tank weapons, a kind of ‘renaissance of armor’ is to be observed now. ... Today it is possible to speak of the start of a new stage in the development of heavy armored hardware connected with the paramount importance being attached to the requirements of protection achieved by the development both of

constructive protection and of passive and active protection systems. Here a significant place is occupied by the adaptation of the design of tanks to operate in urbanized zones, with the result that demands have arisen to ensure all-round defense, the specific development of observation and fire-control systems, equipping with auxiliary armament, and so forth.”³³

From a Russian perspective, tanks and heavy armor do have a role in urban and “hybrid” warfare, and the BMPT is intended to further this end.

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Notes

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Acronym Quick-Scan

- BMP** – *boyeva mashina pekhoty* (infantry fighting vehicle)
- BMOP** – *boyevaya mashina ognevoy podderzhki* (combat fire-support vehicle)
- BMPT** – *boevaya mashina podderzhki tankov* (tank combat-support vehicle)
- BTR** – *bronetransportyor*; literally, "armored transporter"
- CAB** – combined-arms battalion
- MoD** – Ministry of Defense
- RPG** – rocket-propelled grenade