

# The BTR-T

## New Use for Old Tank Hulls

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Russia's recent combat experience, particularly in local conflicts such as Chechnya, has dramatically revealed the need for increased protection of mecha-

nized infantry from modern weapon systems. Federal units suffered horrendous armored fighting vehicle losses in the first battle of Grozny (December

1994 to March 1995), although these can be attributed more to leadership and logistics than to materiel shortcomings. While a better carrier will never substi-

tute for good training and tactics, the current Russian armored personnel carriers (BTR-80, BRDM, BMD, BMP-2, and MMT-LB) have long been considered underarmored.

Applique armor for the BMP-2 appeared in the last years of the Afghanistan War, and the survivability upgrades built into the BMP-3 reflect those experiences of the 1980s.

More recently, while implementing a "maximum protection" concept, the Design Bureau of Transport Machine-Building (in cooperation with the Transport Machine-Building Plant, a state-run production association) developed and manufactured a prototype of the BTR-T heavy armored personnel carrier based on the T-55 main battle tank (MBT).

Since the remaining T-55s (an estimated 100,000 were manufactured) were at the end of their life span as effective MBTs, those still in Russia's armed forces inventory have been discarded. Furthermore, a substantial number were delivered to many countries as part of military aid packages. This led the plant to choose the T-55 chassis as the most likely bed for a heavy assault carrier.

According to a 1996 article by Steven Zaloga in *Jane's*, St. Petersburg's Kirov plant had already proposed a heavy infantry tank vehicle based on T-80 tank components. But such a vehicle would be more expensive than something based on an outdated hull.

The BTR-T's most distinguishing feature is its low-silhouette turret, mounting a modern gun-missile weapon system: the 30mm automatic gun (as found on the BMP-2) and Konkurs AT-5 antitank guided missile (ATGM) (NATO Spandrel). This combination can defeat lightly armored ground and air targets as well as heavily armored ground targets.

Reconfiguring the crew compartment created enough room in the hull to accommodate a commander, a driver, and five assault troops. Along with modern nuclear, biological, chemical (NBC) and environmental controls, the vehicle's survivability is dramatically increased due to the installation of an integral smoke screen generating sys-

tem, improved mine protection, and built-in explosive reactive armor (ERA) protection systems.

The modular concept of combat compartments will allow manufacturers to equip the BTR-T with various armament systems (including NATO standard) to meet the customer's requirements. Conceivably, this could also include Tula's KBP (Instrument Industry Design Bureau) one-man Kliver turret, designed for the BTR-60/70/80; a 30mm 2A72 automatic cannon with AT-13 Kornet ATGM. The Kornet can be armed with fuel-air explosive warheads, giving it an artillery-like capability against soft targets. Current factory offerings include the following:

- 30mm 2A42 automatic cannon and Konkurs AT-5 ATGM.
- 30mm 2A42 automatic gun and 30mm AGS-17 automatic grenade launcher.
- 2A38 twin-barrel gun.
- 12.7mm NSV AA HMG and Konkurs AT-5 ATGM.
- 12.7mm NSV AA HMG and 30mm AGS-17 automatic grenade launcher.

The plant claims that, by implementing the engineering concepts already incorporated into the BTR-T, it is possible to build heavy assault vehicles on the chassis of any outdated Russian or foreign-made tank. Operational precedence already exists (with the Israeli

Army) and a potential worldwide market.

Using tanks as assault squad carriers is not a new idea. The British fielded the Mk V, a troop-carrying version of the rhomboid tank they used late in World War I. This was followed by the Canadian Kangaroo concept (a turretless Sherman variant) during World War II.

Most recently, the Israelis have the Centurion-based Nagmashot and T-55-based Achzarit heavy assault carriers in service (and the Merkava MBT can theoretically carry troops as well). The Achzarit—developed after the Israeli Defense Force's experience and dissatisfaction with the U.S. M113 armored personnel carrier's performance in Lebanon—is used in the Golani infantry brigade and two reserve infantry brigades, but more units are getting them.

India's huge fleets of Vicar's Vijayanta and T-55 MBTs are approaching the end of their life span, while their T-72 fleet is being updated (India's current tracked infantry fighting vehicle is the BMP-2).

Furthermore, in a concession to a growing desire by purchasers to include transfer of technology in any arms deal, the Russian plant stated that they can convert obsolete tanks into BTR-T heavy armored personnel carriers using the customer's production facilities with

#### BTR-T BASIC CHARACTERISTICS

<b>WEIGHT</b>	38.5 metric tons
<b>CREW</b>	2
<b>TROOPS</b>	5
<b>ARMAMENT</b>	
Automatic gun:	
Type	30mm 2A42
Ammunition load	200 rounds
<b>ATGM:</b>	
Type	"Konkurs" 135mm
Ammunition load	3 rounds
<b>902 smoke grenade launchers</b>	12
<b>PROTECTION:</b>	
Built-in ERA	600mm equivalent @ 30° T-55 front glacis RHA 90mm @ 60°
<b>MOBILITY</b>	
Max speed	50 km/h
Road endurance	500 km
<b>Negotiated obstacles:</b>	
gradients and slopes	32°
side-slope	30°
vertical obstacles	.8 meters
ditch, meters	2.7 meters
fording depth, w/o preparation	1.4 meters
w/OPV snorkel tube	5 meters

components delivered from Russia.

Where do heavy assault carriers fit into the 21st Century battlefield mix? Are they practical, given all the expense and effort? At first glance, the idea appears sound—fleets of obsolete tanks inexpensively converted into hardened personnel carriers, which also happen to have better mine resistance than current APCs. Furthermore, Russian Kontakt 5 ERA is rumored to offer protection against 105mm sabot rounds, still the prevailing MBT main gun in western tank fleets.

According to Russian literature, the BTR-T is designed to transport mechanized infantry subunits into NBC-contaminated environments under heavy fire and defeat hostile targets. Although the advantages of thicker armor are obvious, it is interesting to note the emphasis that Russian designers continue to place on operating in an NBC environment. One possible tactical configuration for the heavy assault carrier is a close security platoon for MBT companies.

One drawback of this concept is that

the use of obsolete tanks requires units to maintain a stock of parts significantly different from those required for MBTs. Another is that the BTR-T squad would have to dismount “over the top” as with the old Soviet BTR-152s or -50s.

Although the lack of firing ports would seem to be another shortcoming, a squad should be dismounted during urban assaults (not hiding in their APCs, as the Russian troops did during the 1994 New Year’s Eve assault on Grozny). A stabilized turret-mounted weapon system with a fire control system is far more effective than several troops bouncing around, wasting ammunition. (The BTR-T’s limit of 200 rounds of 30mm is another shortcoming, as is the absence of a 7.62mm coaxial machinegun. If the small turret would be overloaded with a general-purpose machinegun, then an auxiliary remote-control turret, like those found on the Marder or even the LeClerc, would be useful.)

Another questionable point is whether a heavy assault carrier based on an outdated tank chassis can maintain

the same cross-country pace as a premium MBT. Beyond the horsepower to weight ratio, the older suspension systems may not give an acceptable ride at higher speeds. One option would be to fit something similar to Continental Teledyne’s hydropneumatic suspension systems in place of the torsion bars, which would increase the price and complexity of this conversion.

Whatever the costs, modifications, and capabilities of such recycled tank chassis, their availability and the degrees of interest in them highlight their potential as improved armored personnel transport. U.S. forces must continue to remain informed and alert to the appearance of such vehicles in the conflicts of the next century.

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