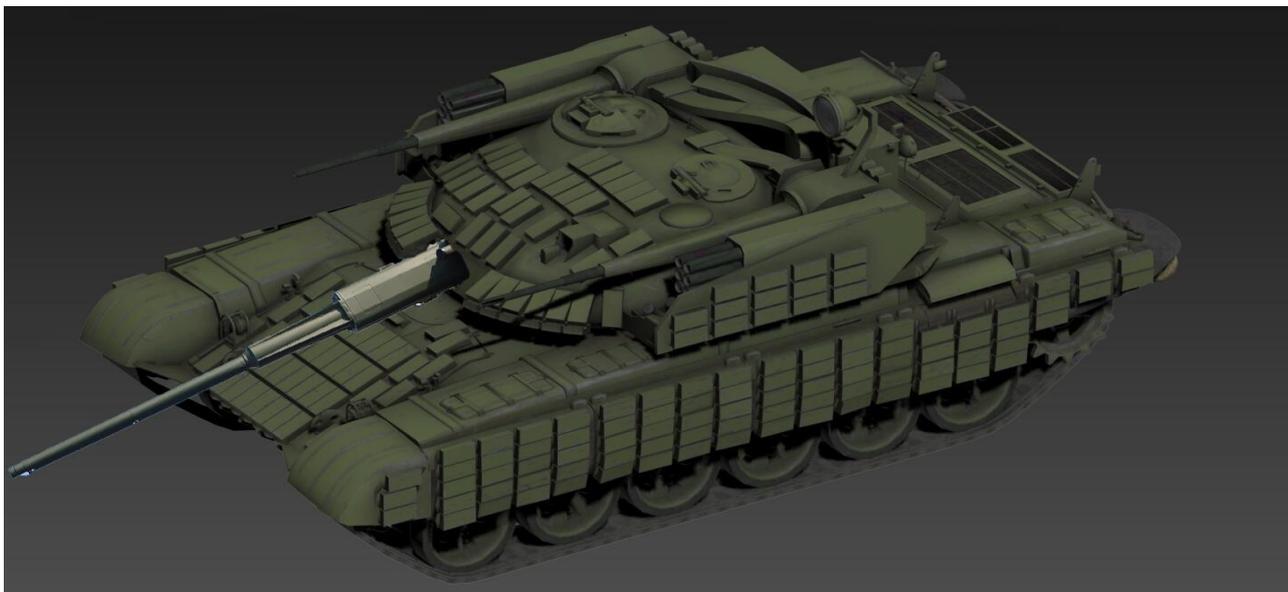


## MODERNIZATION OF T-72 (T-55, T-62, T-64, T-80)

### (BMPT "SNAKE")

We propose to upgrade some of the T-72 tanks (T-55, T-62, T-64, T-80) available to the Customer into a well-protected tank support combat vehicle (BMPT " SNAKE ") with the installation of the AU-220 M complex as combat module.

The new BMPT is built on the basis of the serial T-72 (T-55, T-62, T-64, T-80) tank by removing some units and installing others. As a result, in terms of its dimensions and weight, the "Snake" hardly differed from the base T-72A (T-55, T-62, T-64, T-80). The length of the armored vehicle along the hull does not exceed 6.7 m, width - 3.5 m, height - no more than 2.2 m. Combat weight - no more than 42-48 tons. Mobility indicators remain at the level of serial T-72 (T-55, T-62, T-64, T-80) vehicles.



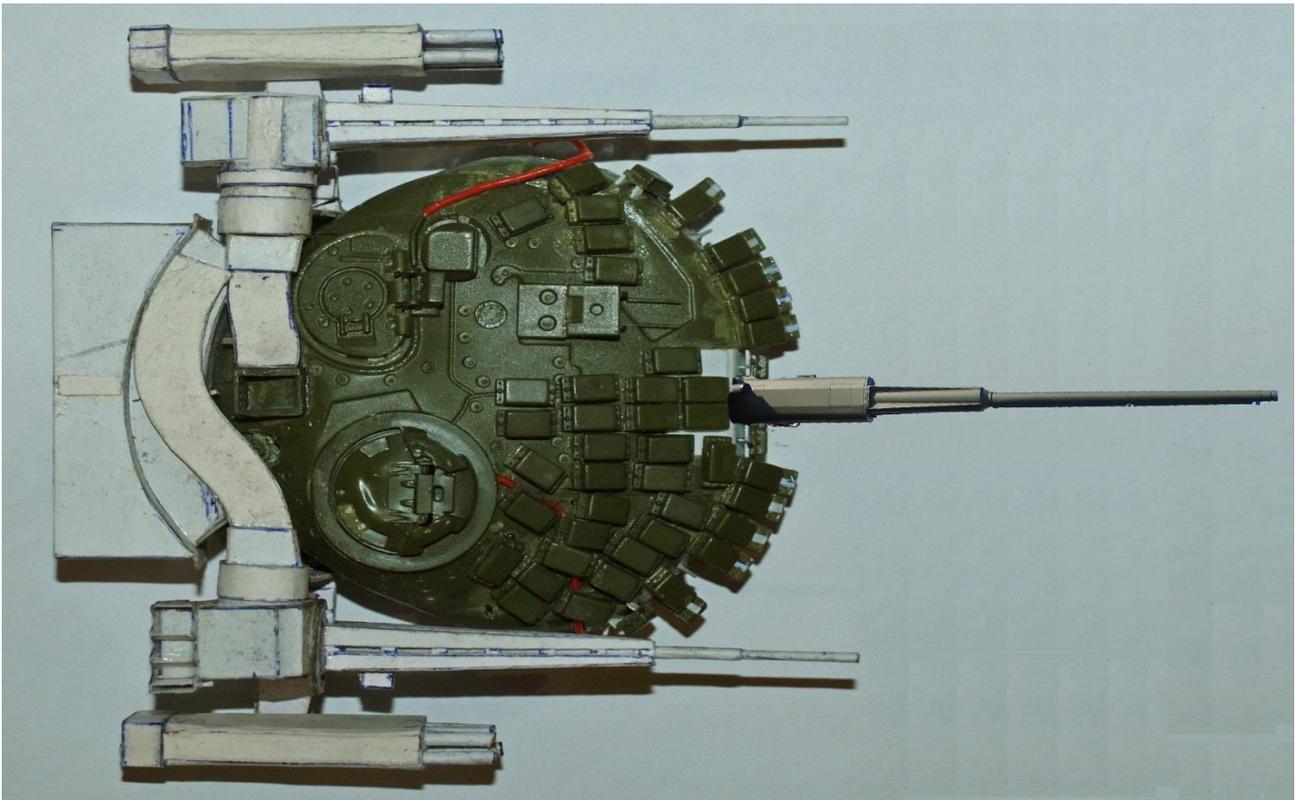
The fighting compartment underwent the most serious changes in the "Snake" project. From it, in fact, only the armored dome of the tower, the turret basket and horizontal guidance drives remained. The main 125-mm gun is removed and the AU-220 M combat module with a 57 mm rapid-fire cannon, with a firing range of up to 14.5 km and 80 rounds of ammunition, is placed in its place. Such a firing range significantly exceeds the firing range of any known tanks, allowing BMPTs to hit targets at this distance, and enemy tanks cannot damage BMPTs. Large protruding box-shaped casings appeared on the sides of the hull, inside which new weapons were placed. These units are made of armored steel and are additionally covered with dynamic protection units. A large armored box is installed at the stern of the tower, which serves as an ammunition rack for guns. With the help of a simple guide system, which includes a pair of rigid tunnels, the belt with shells is fed to the side units with weapons.

All "Snake" weapons are assembled on two onboard units and mounted on installations of a similar design. The right-hand and left-hand side units are a mirror image of each other and have the same set of units. An automatic cannon and a coaxial machine gun are attached to a common support device, which is based on a cylindrical unit. A package of guides for unguided rockets is hinged next to them. The cannon and

machine gun, equipped with protective devices, are placed closer to the turret dome. A package of guides is fixed outside.

Horizontal aiming of all weapons is carried out by turning the turret. For vertical guidance, the appropriate drives are used, simultaneously raising or lowering all onboard weapons. Synchronous movement of cannon and machine gun systems is carried out using a transverse shaft passing over the aft part of the tower.

An additional barrel weapon "Snake" is two automatic cannon 2A72. 30-mm tape-fed guns can fire at a rate of up to 300-350 rounds per minute each, hitting targets at ranges of up to 4 km. To attack manpower, unprotected equipment, etc. it is proposed to use two 7.62-mm PKT machine guns, directed along with the cannons.



For a significant increase in firepower at medium ranges, the "Snake" is equipped with its own launchers for unguided missiles. On each side of the tower is placed one block with six tubular launch guides (three horizontal rows of two). The rear parts of the guides are fixed inside the rectangular casing. The guide blocks have drives for vertical guidance, synchronized with the devices of the barrel systems.

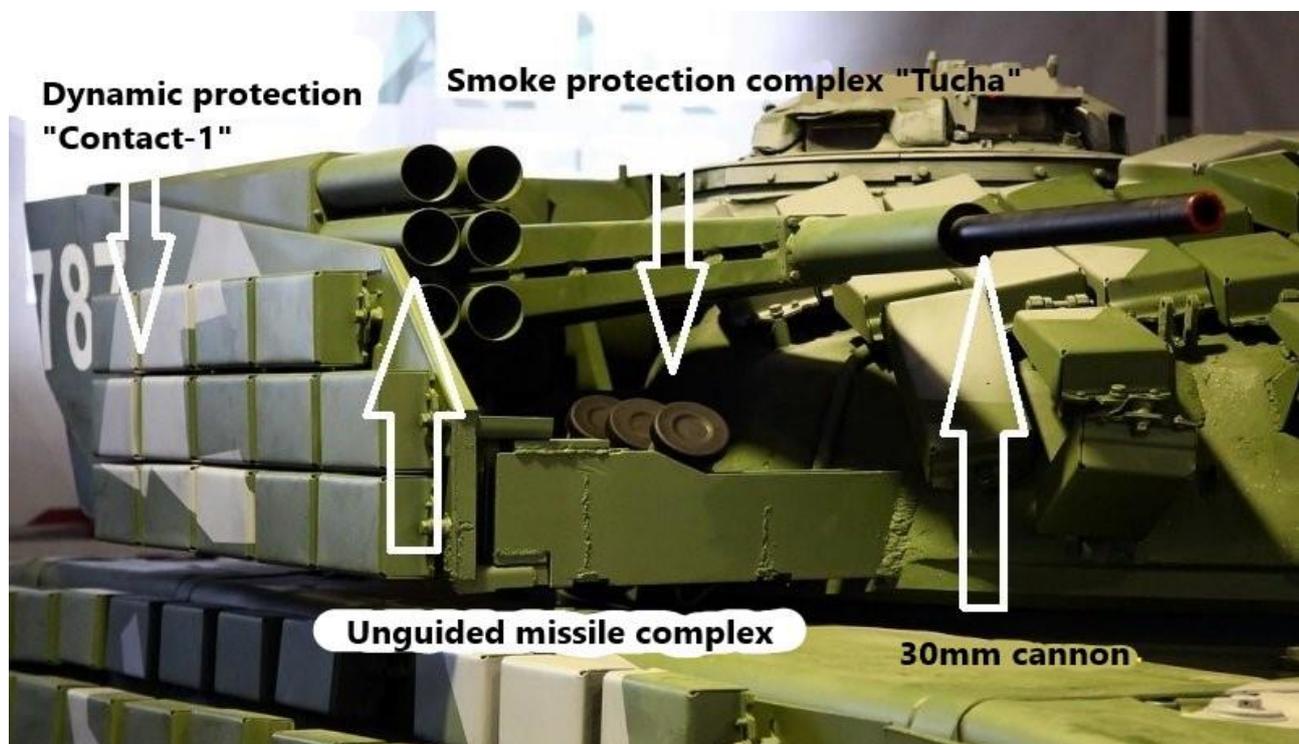
Launch guides have a caliber of 80 mm and are used with S-8 missiles. Thus, using the Zmeya missile system, it can attack targets at ranges of up to 2 km and hit them with warheads of different types: high-explosive fragmentation, cumulative, concrete-piercing, etc.

In an emergency, a tank support vehicle can use smoke grenade launchers. Two blocks of such weapons, four products each, are installed in the front of the turret onboard units. Smoke grenades are fired up and forward relative to the axis of the tower.

To control the new weapons, the "Snake" received a complex of optoelectronic systems, partially based on the devices of serial tanks, but adapted for use with other weapons. In the front part of the tower, the characteristic protruding box of the gunner's optical instruments has been preserved. In addition to the guidance means, the tower retained the observation devices located on the commander's cupola.

The crew of the promising model consists of only three people: the driver, gunner and commander. The driver is placed in a regular place inside the body and has his own hatch with a viewing device. The commander's and gunner's seats are located in the turret, at the starboard and port sides, respectively. Above them, their own roof hatches remained. Both control posts in the fighting compartment made it possible to observe and attack targets using the available weapons.

The hull is reinforced with Kontakt-1 dynamic protection units (which reduces the cumulative jet by 500-600 mm), and the Tucha smoke protection complex is also added (in urban combat, it perfectly protects the vehicle itself from a second shot).



#### **Main characteristics of BMPT "Snake":**

- **weight** – 42-48 tons (in full ammunition)
- **weapons** – 57 mm rapid-fire cannon, firing range 14.5 km and two 30 mm automatic cannons (Shipunov designs) - firing range up to 4 km
- **additional weapons** – one 7.62 mm machine gun, one 12.7 mm machine gun, twelve unguided S-8 missiles, with a firing range of 1.5-2 km (similar ones are used in helicopter armament)
- **engine** – V-12 cylinder diesel, (the engine does not change)
- **armor protection** - projectile in a compartment with reactive armor
- **crew** – 3 persons