

T90 Bhishma

The T90 Bhishma is an Indian variant of the Russian T90S tank. It is tailored specifically for Indian terrain with assistance from Russia and France. With the exception of a few components, it is similar to the T90 line of main battle tanks

Hence most of the information given about the T90 Bhishma will be of the non-export model.

Brief History of the T90 Bhishma

India purchased about 310 T-90S tanks from Russia. Out of these, 124 of them were delivered in their entirety while the remaining 186 were to be assembled in Indian domestic plants. The objective was to begin domestic production.

The T-90 was selected by the Indian defence establishment because it was a direct successor of the T-72. In fact, the T-72s used in India had most of its parts produced domestically. At least 60% of the T-72 parts had much in common with the T-90. This made service and training of new crews an easy task.

It includes lethal armor-piercing fin-stabilized discarding sabot (APFSDS) and barrel launched Refleks anti-tank guided missiles. On the other hand, the T-90M tanks have a more versatile main armament and can fire several different types of munitions.

These include high-explosive anti-tank (HEAT-FS), and high explosive fragmentation (HE-FRAG), and armor-piercing fin-stabilized discarding sabot (APFSDS) rounds, as well as guided anti-tank missiles.

What's more, India was keen to purchase the T-90s because of delays in the production of the domestically produced Arjun main battle tank as well as a counter to Ukrainian-made T-80 tanks deployed by Pakistan.

By 2021, the Indian Army had sought to upgrade its existing fleet of T-90s with locally designed modular Activation Protection, with soft and hard targeting kill system, thus updating these tanks to fit modern standards

Characteristics of T90 Tanks

The general characteristics of the T90 tanks are given in the table below:

Characteristics of T90 (Non-Export Model)	
Mass	46 tonnes (45 long tons; 51 short tons) (T-90)

	46.5 tonnes (45.8 long tons; 51.3 short tons) (T-90A) 48 tonnes (47 long tons; 53 short tons) (T-90SM)
Length	9.63 m 6.86 (hull)
Width	3.78 m
Height	2.22 m
Crew	3
Armor	Steel-composite-reactive blend APFSDS: 550 mm + 250–280 mm with Kontakt-5 = 800–830 mm HEAT: 650–850 mm + 500–700 mm with Kontakt-5 = 1,150–1,550 mm
Main armament	2A46M 125 mm smoothbore gun with 43 rounds (T-90) 2A46M-2 125 mm smoothbore gun with 42 rounds (T-90A) 2A46M-5 125 mm smoothbore gun with 43 rounds (T-90M)
Secondary armament	12.7mm Kord Heavy machine gun, 7.62mm PKMT
Engine	V-84MS 12-cyl. diesel (T-90) V-92S2 12-cyl. diesel (T-90A) V-92S2F 840 hp (617 kW) for V-84MS 12-cyl. diesel engine 1000 hp (736 kW) for V-92S2 12-cyl. diesel engine 1130 hp (831 kW) for V-92S2F (T-90 and T-90MS)
Power/weight	18.2 hp/tonne (13.3 kW/tonne) (T-90) 21.5hp/tonne (15 kW/tonne) (T-90A)
Suspension	Torsion bar
Operational range	550 km (without fuel drums)
Maximum speed	60 km/h (37 mph) (T-90A and T-90MS)

Variants of the T90 Tanks:

T-90 – The first production version. Object 188 (1989), production 1992.

T-90K – Commander's version of the T-90, with additional communication (R-163-50K station) and navigation equipment (TNA-4-3).

T-90A – Russian army version with welded turret, V-92S2 engine and ESSA thermal viewer. Sometimes called T-90 Vladimir, in honor of its chief designer Vladimir Potkin.

T-90AK – Command version of T-90A.

T-90M – Latest version of the T-90A. The main features include the modernisation of the old turret design, which is equipped with the new advanced fire control system "Kalina" (with integrated combat information and control systems), improved armor on the ammo carousel, and a new upgraded gun 2A46M-5, as well as a remote-controlled anti-aircraft gun "UDP T05BV-1".

T-90S – Export version of the T-90, later adopted by the Russian Armed Forces as the T-90A. These tanks were made by Uralvagonzavod and were updated with 1,000 hp (750 kW) engines made by the Chelyabinsk Tractor Plant.

T-90SK – Commander's version of the T-90S, with additional communication and navigation equipment. It differs in radio and navigation equipment and in the Ainet remote-detonation system for HEF rounds.

T-90S "Bhishma" – Modified T-90S in Indian service. India announced that they will be made in India until 2028

Frequently Asked Questions about T90 Bhishma

How does the T90 Bhishma fare against other tanks?

T-90 Bhishma, originally made in Russia, is among the most powerful tanks in the world. The tank was designed by Kartsev-Venediktov and manufactured by Uralvagonzavod, Heavy Vehicles Factory. The tank is operated by Algeria, Armenia, Azerbaijan, India, Iraq, Russia, and more

What is the cost of a T90 Bhishma tank?

This comes after the cabinet committee on security cleared the license acquisition from Russia over a month ago. The Indian Army will induct additional 464 Russian-origin upgraded T-90 'Bhishma' main battle-tanks at a cost of Rs 13,448 crore.

What are the red eyes on the T-90?

A distinctive feature often associated with the T-90 family tanks are “glowing eyes” on the turret. These “eyes” are the electro-optical interference emitters of the Shtora-1 active protection system, intended to disrupt the guidance systems of anti-tank guided missiles (ATGMs)