



The 3BM44 “Lekalo” Fin-Stabilized Subcaliber Projectile

OE Watch Commentary: The accompanying excerpted article from *Izvestia* discusses the Russian purchase of 2,000 new 3BM44 “Lekalo” [3БМ44 «Лекало»] fin-stabilized subcaliber projectiles. The Lekalo can reportedly penetrate up to 650 mm of Rolled Homogeneous Armor (RHA), and destroy a M1A2 Abrams at a range of 3-5 km. The Lekalo is capable of being fired by all current Russian tanks such as the T-72BM3, T-80BVM, and T-90M, as they all use canons derived from the 2A46/D-81 family of 125 mm smoothbore guns. The Lekalo will replace the 3BM42 “Mango” [3БМ42 «Манго»], Russia’s second generation of fin-stabilized subcaliber projectiles that were fielded to destroy tanks with multilayer composite armor that began to appear in the 1970s-1980s. **End OE Watch Commentary (Bartles)**



T-80BVM tank.

Source: Vitaly Kuzmin, <https://www.vitalykuzmin.net/Military/ARMY-2018-Demonstration-part-1/i-6RhWF22>, CC BY NC-ND-4.0

“They have begun to augment the arsenals of Russian tank crews with “super projectiles.” Beginning this year, the Ministry of Defense is purchasing the latest 3BM44 “Lekalo” subcaliber armor-piercing items. By the end of the year, 2,000 of them will arrive in the troops. With those munitions, our tanks will easily be able to destroy the most state-of-the-art armored vehicle at a distance [ranging] from several meters to 3-5 kilometers...”

Source: Anton Lavrov, Roman Kretsul, and Aleksey Ramm, “Минобороны закупит новейшие боеприпасы «Лекало» пробьет защиту любого современного танка (The Ministry of Defense Will Purchase the Latest Munitions: The ‘Lekalo’ Will Penetrate the Armor of Any Modern Tank),” *Izvestia* Online, 17 January 2020. <https://iz.ru/964201/anton-lavrov-roman-kretcul-aleksei-ramm/snariad-vne-ocheredi-minoborony-zakupit-noveishie-boepripsy>

The Ministry of Defense Will Purchase the Latest Munitions: The ‘Lekalo’ Will Penetrate the Armor of Any Modern Tank

They have begun to augment the arsenals of Russian tank crews with “super projectiles”. Beginning this year, the Ministry of Defense is purchasing the latest 3BM44 “Lekalo” [3БМ44 «Лекало»] subcaliber armor-piercing items. By the end of the year, 2,000 of them will arrive in the troops. With those munitions, our tanks will easily be able to destroy the most state-of-the-art armored vehicle at a distance of from several meters to 3-5 kilometers...

Since the 1990s, the leading Western countries have increased the thickness of the armor on their main battle tanks. Foreign work on the modernization of the vehicles was especially stepped up after their employment in the conflicts in the Middle East. Foreign vehicles received supplemental armor and reactive armor complexes. The efforts were focused on increasing the survivability from guided antitank missiles and other shaped-charge munitions. Increasing the protection from subcaliber armor-piercing projectiles is a more difficult task.

*“The ‘Lekalo’ is suitable for any 125-millimeter gun of all tanks that are in the inventory today. And “Lekalo” is beyond the competition among those universal munitions”, Military Expert Aleksey Khlopotov told *Izvestiya*. “If its predecessor – the ‘Mango’ projectile – penetrates 520 millimeters of solid armor from a distance of two kilometers, then the indicator for the new model totals 650 millimeters. This is adequate to destroy the American M1A2 Abrams of the state-of-the-art modifications...The use of a new high tensile core made of a tungsten alloy permitted the increase of the “Lekalo’s” characteristics as compared to the “Mango”.*

The 3BM44 that is being purchased uses a lengthened, more powerful 4Zh63 powder charge and an improved core, which also give the munition an advantage over its predecessor...

“Uralvagonzavod” Corporation previously reported that an entire family of new munitions, which consists of an even more powerful subcaliber armor-piercing projectile, is being developed to arm the “Armata” tanks. But due to its increased dimensions, it will be impossible to use it in the current generation of tanks. The “Lekalo” is needed for the serious increase of the capabilities of the most mass-produced Russian tanks, which remain the foundation of the country’s tank fleet for the time being...

Besides the T-90 and T-80, the Russian T-72 will be able to employ the new munitions. During their modernization to the T-72B3 level, the tanks obtained an improved gun from the T-90 and a modernized automatic loader. Those changes permit them to use the purchased the lengthened armor-piercing projectiles, while providing a significant advantage as compared to the tank’s earlier version.