



Upgrading Arctic Armor

OE Watch Commentary: The 125mm T-80 was designed and entered production during the last years of the Soviet Union. While Russia continues to design and field new tanks, its older tanks are rebuilt and upgraded for the contemporary battlefield. As this article states, the T-80BMV will become the primary Arctic tank and has the standard three-man crew and an automatic loader. The Refleks laser-beam riding tank-fired guided missile (tandem hollow charge warhead) extends the range of the T-80 gun from three to five kilometers.

End OE Watch Commentary (Grau)

“The T-80BVM tanks were selected to equip the arctic brigades due to their gas-turbine engines... which are easier to start in severe cold.”

Source: Bogdan Stepovoy, Aleksey Ramm, and Nikolay Surkov, “Полярных стрелков усилят «реактивными» танками (They Will Reinforce the Polar Riflemen with ‘Jet-Propelled’ Tanks),” *Izvestia*, 5 June 2018. <https://iz.ru/744163/bogdan-stepovoi-aleksei-ramm-nikolai-surkov/poliarnykh-strelkov-usiliat-reaktivnymi-tankami>

T-80BVM tanks, which have been nicknamed “jet-propelled” due to the speed and characteristic sound of the engine, have begun to arrive in the arctic units. The reequipping should be completed by the end of this year...A Ministry of Defense spokesman stated that equipping 80th Separate Motorized Rifle Brigade (OMSBr), which is based in the Village of Pechenga, Murmansk Oblast, with T-80BVM tanks will be totally completed by the end of 2018. The 200th Separate Motorized Rifle Brigade will also obtain these armored vehicles in the future.

The T-80BVM tanks were selected to equip the arctic brigades due to their gas-turbine engines... which are easier to start in severe cold. At an air temperature below 40 degrees, these vehicles achieve operational readiness in a matter of minutes...Heating a frozen diesel engine can require 30-40 or more minutes. Furthermore, the gas-turbine engine provides the T-80 with unique speed and maneuvering characteristics.

The T-80BVM’s gas-turbine engine design is similar to helicopter engines. The compressed atmospheric air from the compressor enters the combustion chamber together with the fuel. While igniting, they form a gas under high pressure. The energy of the gas is transformed into mechanical energy in the turbines through the rotation of the blades. In the Army, these tanks have obtained the nickname “jet-propelled” for the characteristic “aircraft” sound, which the gas-turbine engine emits during start-up. But in motion, in contrast to diesel tanks, the T-80 with the gas turbine engine becomes practically silent...

Besides the upgrade of the generator and starter, the modernized armored vehicles will get the “Sosna-U” state-of-the-art fire control system...It has a state-of-the-art thermal imaging device, laser rangefinder, and automatic target tracker. The fire control system will increase the tank’s weapon capabilities and the effectiveness and range of target destruction using conventional munitions. The T-80BVM will also get “Refleks” tank guided weapon system...There are supersonic missiles, which are launched from the gun tube, and are guided to the target using a laser beam.

Approximately 3,000 T-80 tanks that have not undergone modernization are located at Ministry of Defense storage facilities...A total of over 10,000 of these armored vehicles were manufactured.

Railroad Improvements in the Arctic

OE Watch Commentary: As the Russian energy giant Gazprom announced, they are upgrading their locomotives on their northernmost rail line, servicing the oil and gas rich Yamal Peninsula. Yamal produces the liquefied natural gas (LNG) that the locomotives will run on and is involved in promotion of LNG sales to the Atlantic and Pacific basins. This is big business for Russia and a major feature of the Russian development of Arctic resources. **End OE Watch Commentary (Grau)**

“According to Gazprom, the deal, which was signed during the St. Petersburg Economic Forum, the Sinara Group will provide the serial production of locomotives running on liquefied natural gas (LNG)”

Source: Atle Staalesen, “Gazprom orders 24 LNG locomotives for Arctic railway,” *The Independent Barents Observer*, 28 May 2018. <https://thebarentsobserver.com/en/industry-and-energy/2018/05/gazprom-orders-24-lng-locomotives-yamal-railway>

Sinara Transport Machines, a Russian company based in Yekaterinburg, will build and deliver the new locomotives. They will be used on Gazprom’s railway line in the Yamal Peninsula.

According to Gazprom, the deal, which was signed during the St. Petersburg Economic Forum, the Sinara Group will provide the serial production of locomotives running on liquefied natural gas (LNG). A total of ten 1,200 horse power and fourteen 2,000 horsepower locomotives will be delivered by 2024.

...Gazprom subsidiary GazpromTrans operates the 572 kilometer-long Yamal railway between the stations of Obskaya and Karskaya. In the future, this line could be extended to nearby Kharasavey, as well as Sabetta on the northeastern tip of the Yamal Peninsula.

It is the world’s northernmost railway. It opened in 2011 in connection with Gazprom’s development of the grand gas field Bovanenkovo. Today it constitutes a key part of the company’s logistics in the area. The line ends in the station of Karskaya, a point located at 70° north. It includes five stations and 12 double track sections. There are 70 bridges with a total length of 12 kilometers.