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K2 BLACK PANTHER MBT

Main Battle Tank - South Korea

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Description

The K2 Black Panther is a new generation of Main Battle Tank (MBT) designed, developed and manufactured in South Korea by the South Korean Company Hyundai Rotem. The K2 was unveiled for the first time to the public during the Defense Exhibition ADEX at the Seoul Airport in October 2009. This new tank will replace the old M48 Patton main battle tank currently in service with the South Korea army. South Korean company Hyundai Rotem signed on 29 December 2015, a contract to supply an unspecified number of K2 (Black Panther) main battle tanks (MBTs) to the Republic of Korea Army (RoKA). The South

Korean government and Hyundai Rotem signed a $820 million contract for 100 K2 MBTs in 2014. The ROKA currently operates 100 K2tanks fitted with a license-built German MTU 883 diesel engine and Renk transmission system. Overall, the ROKA has a requirement for over 600 K2 tanks (some sources say 400) complementing its K1 MBT force and replacing its aging fleet of M48 Patton MBTs as they are being slowly phased out. The Turkish-made main battle tank Altay uses the technology systems developed for the South Korean K2 MBT by Hyundai Rotem. Altay will have the stronger chassis characteristics of the K2 Black Panther MBT. It will have a re-designed Turkish turret and heavier armor than the K2. In late September 2013, South Korea entered the K2 Black Panther in the Peruvian Army's future tank competition. On January 18, 2020, a South Korean newspaper has announced that South Korea could sell 800 K2 main battle tanks to Poland. On December 22, 2020, Hyundai Rotem has announced an order to produce a third batch of K2 MBTs.

K2 Black Panther MBT Variants:

- K2 PIP: an improved version of the initial production model of the K2 that will be released within the next few years. Improvements will include:
* Upgrading the Semi-Active In-arm Suspension Unit to an Active In-arm Suspension Unit
* Integration of a high-resolution terrain-scanning system to the vehicle's suspension system. This is purported to allow the vehicle to "plan ahead" by scanning nearby terrain up to 50 meters away in all directions and calculate the optimal position of the bogies in order to improve vehicle handling over uneven terrain.
* Integration of a hard-kill anti-missile system.
* Addition of Non-Explosive Reactive Armor (NERA).
* Potentially replacing the 120 mm / L55 gun with an electrothermal-chemical gun, which will significantly increase the vehicle's firepower and potential payload.

Technical Data

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Armament

The main armament of the K2 Black Panther consists of a German-made Rheinmetall 120-mm/ L55 smoothbore gun produced under license in South Korea. The gun is fitted with an automatic loader which ensures the loading of projectiles on the move even when the vehicle moves on uneven surfaces. The 120mm gun can fire about 10 rounds per minute. With a total supply of 40 various rounds, the Black Panther can rain hellfire on an enemy position for nearly three minutes before needing resupply. A total of 16 rounds are stored in the autoloader and 24 rounds are stored inside the hull. The K2 can fire a wide range of munitions using its main gun including, but not limited to, an indigenously developed and improved tungsten APFSDS kinetic energy penetrators, which offer significantly better penetration than the previous generation tungsten rounds, and multi-purpose HEAT chemical energy rounds similar to the American M830A1 HEAT MP-T that can be used against personnel, unarmored and lightly armored vehicles on the ground as well as low-flying helicopters. A 7.62 mm coaxial machine gun is mounted to the left side of the main armament. A 12.7 mm K-6 heavy machine gun is mounted on the top right of the turret. Visual and Infrared Screening Smoke (VIRSS) grenade launchers mounted on each side at the front of the turret also complement the defensive layer of the Black Panther.

Design and protection

The layout of the K2 MBT is conventional, with the driver's compartment at the front, fighting compartment in the center and engine and transmission at the rear. The armor on the Black Panther consists of an unknown type of composite armor and an Active Defense System utilizing Explosive Reactive Armor blocks. The K2 has a crew of three with a driver at the front center of the hull and commander and gunner in the turret. Systems protection of the K2 includes a millimeter band radar system mounted on the turret which is used as a Missile Approach Warning System (MAWS). The tank's computer in turn can triangulate incoming projectiles, immediately warn the vehicle crew and fire off Visual and Infrared Screening Smoke (VIRSS) grenades, which can effectively block optical, infrared, and radar signatures. Once the hard-kill AMS is installed, the radar system will also be responsible for tracking and targeting the incoming missiles for the AMS. The K2 also has a Radar Warning Receiver (RWR) and radar jammer. Four all-bearing Laser warning receivers (LWR) are also present to alert the crew should the vehicle become "painted", and the computer can also fire off VIRSS grenades in the direction that the beam is coming from.

Mobility

The K2 Black Panther was previously motorized with an MT 833 diesel engine from Tognum, but the latest version of the tank is now fitted with a license-built German MTU 883 diesel engine and Renk transmission system. The engine generates 1,500 hp. and provides a power to weight ratio of 27.3hp/t. The fully automatic transmission of the K2 includes five forward and three reverse gears. The K2 can run at a maximum speed 70 km/h on surface roads while being able to maintain speeds up to 48 km/h on off-road conditions. It can accelerate from 0 to 32 km/h within 7 seconds. It can also climb 60-degree slopes and vertical obstacles 1.3 meters in height. The suspension of the K2 Black Panther consists on each side of six dual rubber-tired roadwheels, track-return rollers with the drive sprocket at the rear, and idler at the front. The upper part of the suspension is covered by an armored skirt. The K2 Black Panther fields an advanced suspension system, called the In-arm Suspension Unit (ISU), which allows for individual control of every bogie on the tracks. This allows the tank to kneel so that the main armament can be depressed to -10°.

Accessories

The K2 Black Panther is equipped with an advanced fire-control system (FCS) linked to a millimeter band radar system deployed on the frontal arc of the turret, along with a traditional laser range-finder and crosswind sensor. The system is capable of a "lock-on" mode, which can acquire and track specific targets up to a range of 9.8 km using thermal optics. This allows the crew to fire accurately while moving as well as effectively engage low-flying aircraft. The gunner sight includes Gunner's Primary Sight (KGPS) and the commander is equipped with Korean Commander's Panoramic Sight (KCPS). The commander has the ability to override the command to take control of the turret and gun from the gunner. The K2 Black Panther is fitted with a collective nuclear, biological, and chemical (NBC) protection system. The ammunition compartment is equipped with a blow-off panel for protecting the crew against the explosion of ammunition. An automatic fire suppression system is programmed to detect and put out any internal fires that may occur, and atmospheric sensors alert the crew if the tank enters a hazardous environment. The K2 can cross rivers as deep as 5 meters using a snorkel system, which also serves as a conning tower for the tank commander. The system takes approximately 30 minutes to prepare. The turret becomes watertight while fording, but the chassis can take in 500 gallons of water to prevent excessive buoyancy from air inside the vehicle and keep the tracks planted firmly on the ground. Furthermore, the tank can enter combat-ready status as soon as it resurfaces.

Specifications

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Armament One 120mm gun, one 7.62mm coaxial machine gun and one 12.7mm heavy machine gun	**Armor** Composite armour protection and ERA Explosive Reactive Armor blocks.
Country users South Korea	**Weight** 55,000 kg
Designer Country South Korea	**Speed** 70 km/h
Accessories Advanced fire-control system, active protection system, NBC protection system, day/Night vision, thermal vision, automatic fire suppression system, snorkel	**Range** 450 km
Crew 3	**Dimensions** Length: 10.7 m; Width: 3.6 m; Height: 2.4 m

Details View

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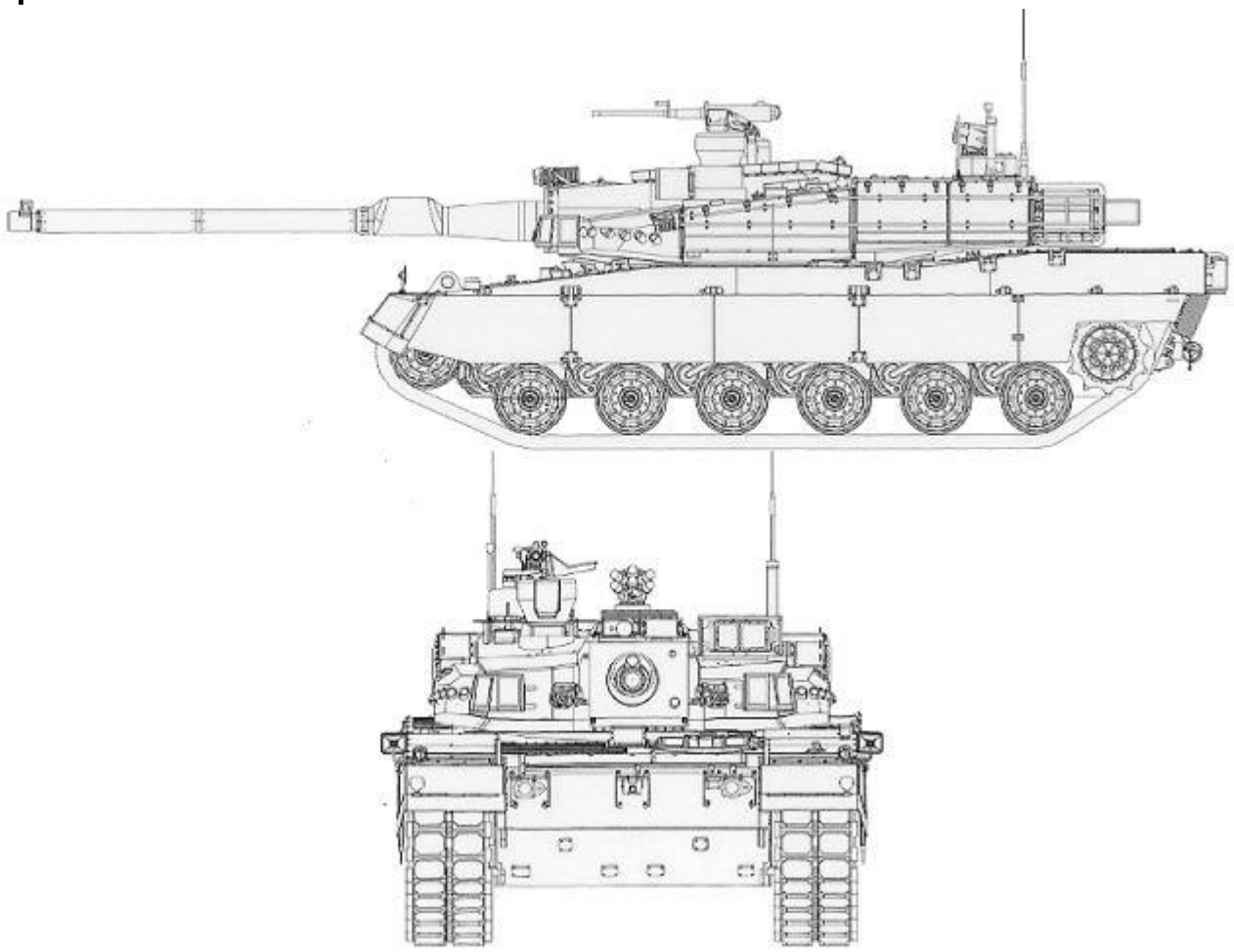

Pictures - Video

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