

CENTRE FOR JOINT WARFARE STUDIES



CENJOWS

CHINESE LIGHT TANK – ZTQ15/ VT5

1. **ZTQ-15 / VT-5 /Type 15 30-Ton-Class Light Tank.** Photos of an unidentified lightweight tank began to emerge in early 2014 on the Chinese Internet and social media. A lightweight MBT designated VT-5 was unveiled during the 2016 China International Aviation and Aerospace Exhibition (Zhuhai Air Show) and subsequently at the 2017 NORINCO Armour Day.
2. Two scaled models for the Type 15 were displayed at the National Museum of China 23 November 2018 as part of a grand exhibition to mark the 40th anniversary of the country's reform and opening-up in Beijing. China's Ministry of National Defence (MND) announced on 27 December 2018 that the Type 15 lightweight tank had officially entered service with the People's Liberation Army Ground Force (PLAGF).
3. A grand military parade was held in Beijing on 01 October 2019 to mark the People's Republic of China's 70th founding anniversary. Although the Type 15 was spotted several times by Chinese citizens in the past, this was the first time that China officially introduced its latest light tank.
4. With a combat weight of 33 t, the VT-5 is designed to operate in areas unsuitable for heavy MBTs, such as highlands, hilly areas, water networks, paddy fields, etc. Its lightweight also makes the tank suitable for rapid deployment to the theatre by airlift or railway. The tank is armed with an indigenous 105 mm rifled gun with autoloader, and advanced digital fire control comparable to that of the ZTZ-99A and MBT-3000/VT-4.
5. **Design.** The VT-5 has a conventional layout, with the driving compartment located at the front, the turret and crew compartment in the middle, and the engine compartment in the rear. The tank is operated by a three-man crew.

6. **Protection.** The hull and turret are protected by *composite armour plating*. The frontal arc of the turret is fitted with arrow-shaped spaced armour modules. The rear half of the turret is surrounded by storage racks, which not only offer extra places for the crew to store their equipment but also provide additional protections against HEAT projectiles. Wheels and tracks are protected by rubber hull skirts. Additional protection is provided by the FY series ERA modules, which is said to be capable of defeating the new-generation tandem-warhead anti-tank guided missiles.

7. The crew compartment is fitted with a collective over-pressure NBC protection system and automatic fire-suppressing system. A laser warning receiver (LWR) is mounted on the roof of the turret. There is a 6-barrelled smoke grenade launcher on either side of the turret, under the storage racks near the rear of the turret.

8. **Armament.** The main armament is a dual-way stabilised Chinese indigenous 105 mm rifled gun, which has been developed from the British Royal Ordnance L7 technology. The gun is fitted with a fume extractor and thermal sleeve, and is fed by an autoloader. Ammunitions include armour piercing fin stabilised discarding sabot (APFSDS), high explosive anti-tank (HEAT), and high explosive fragmentation (HE-FRAG), with 38 rounds carried (18 inside the autoloader and 20 inside the crew compartment). The 105-mm gun is also capable of firing the Chinese gun-launched, laser beam-riding anti-tank guided missile (ATGM), which was derived from the Russian 9K116 Bastion (NATO codename: AT-10 'Stabber'). The missile has a maximum range of 5,200 m and an armour penetration capability of 700 mm. As well as ground targets, the missile is said to be also capable of engaging slow-flying helicopters.

9. Auxiliary weapons include one 7.62-mm coaxial machine gun, and a 12.7-mm/50-calibre anti-aircraft machine gun (AAMG) mounted on the commander's hatch cupola. The tank has the option to be fitted with a remotely-operated AAMG and a 35-mm automatic grenade launcher for urban operations.

10. **Fire-Control and Observation.** The fire-control system of the VT-5 is said to be comparable to that of the heavier ZTZ-99A and MBT-3000/VT-4. Fire accuracy is attained by the dual-way stabilisation and ballistic computer with laser rangefinder and night vision inputs.

11. The driver is equipped with three observation periscopes, and the central periscope can be replaced by an image intensifying periscope for night vision. The gunner has a roof-mounted, dual-axis stabilised viewer incorporating a day channel, a thermal imaging system (TIS) night vision, and a laser rangefinder. The night vision employs the cooled detector thermal imaging system (TIS).

12. The commander's station is equipped with six periscopes to provide all round 360° view. A commander panoramic viewer is mounted on the turret roof in front of the commander's hatch copula, providing an independent, dual-axis stabilised, day/night vision with a 360° view, incorporated with a laser rangefinder. This arrangement allows

the commander to search and engage targets directly, enabling the 'hunter-killer' capability.

13. **Propulsion.** The VT-5 is equipped with an indigenous 150 series liquid-cooled, turbo-charged, 8-cylinder diesel engine, producing a maximum output of 883 hp (650 KW). To improve its mobility performance, the tank is also fitted with a hydro pneumatic active suspension, which can be adjusted while travelling to deal with uneven terrain in mountainous regions. The tank can attain a maximum speed of 70 km/h on road.

14. **Specifications:-**

- (a) **PLA designation:** Unknown
- (b) **Export designations:** VT-5
- (c) **Designer:** NORINCO North Vehicle Research Institute (201 Institute)
- (d) **Manufacturer:** NORINCO Inner Mongolia First Machinery Factory (617 Factory)
- (e) **Year of introduction:** 2014
- (f) **Operators:** PLA Ground Force
- (g) **Crew:** 3
- (h) **Combat weight (t):** 33 (without ERA add-ons); 35 to 36 (with ERA add-ons)
- (j) **Engine:** NORINCO 150 series diesel, liquid-cooled, turbo-charged, 8-cylinder, producing 883 hp (650 kW)
- (k) **Power-weight ratio (hp/t):** 26.76
- (l) **Transmission:** Hydro-mechanic with automatic planetary gear box
- (m) **Track:** Metallic, with removable rubber pads and rubber-tyred road wheels
- (n) **Suspension:** Hydropneumatic active suspension
- (o) **Maximum road speed (km/h):** 70 (road)
- (p) **Main Armament:** 105-mm rifled gun with autoloader, thermal sleeve, and fume extractor

- (q) **Auxiliary Weapon:** Coaxial 7.62-mm machine gun; 12.7-mm anti-aircraft machine gun; 35-mm automatic grenade launcher (optional); 2x 6-barrel smoke grenade launcher
- (r) **Fire-control:** Dual-way stabilised with laser rangefinder, onboard computer, and wind sensor input
- (s) **Night vision:** Cooled-detector thermal imaging system
- (t) **Radio:** Receive/transmit, telephone
- (u) **NBC protection:** Collective, over-pressure
- (v) **Fire suppression:** Automatic
- (w) **Air conditioning:** Yes



<https://www.globalsecurity.org/military/world/china/type-15.htm>

<http://sinodefence.com/vt-5/>