

THE LECLERC TANK (GIAT Industrie) 1993

The « Leclerc » system materially differs from the tanks of the preceding generation. Able to resist the most severe aggressions of high intensity combat and to deal with the most plated targets, it can face any missions of the armored forces units whatever the atmosphere (Nuclear, Bacteriologic or Chemical), whatever the type or form of engagement. Its specifications are high performances in the three domains of mobility, fire power and of the protection.

First and foremost, this weapon implements a hydro-pneumatic suspension, which saves a lot of mass and volume in comparison with the classical torsion bars and avoids the use of a very elaborate stabilizing device for armoring.

The mechanization is provided by an extremely innovative engine, hence it is extremely temperamental and hard to tune: the 1,500 HP turbocharged – eight cylinder V-type engine 1500 hyperbaric. This combination allows acceleration that is particularly amazing for a tank, for it can accelerate from 0 to 32 km/h in five seconds, for a maximum speed of 80 km/h and an average off-road speed of 50 km/h.

The transmission of the hydro-mechanic is an automatic type with five front and two rear gear ratio. The braking is also state of the art, with a decelerator at the main gears, two disc brakes on the sprocket wheels, and an additional mechanical parking brake.

The reservoirs each has a 1,300 liter capacity and are used as elements of the tank's protection. A high pressure feeding device allows for their filling up in two minutes. Two extra 200 liters, that can be dropped in case of emergency, are mounted on the rear part of the body-work . They cannot be used in combat due to the limit the turret's clearance.

The driver is located at the front left of the bodywork. Thanks to the use of a self loader, the turret is remarkably small. At the rear part the belted self loader, carrying twenty two shells, reloading by a little hatch at the rear of the roof and one inside, behind the shooter (a very long and tiresome operation for the crew). The tank's chief sits at the right side of the gun and the shooter on the left side (seen from the face), they dispose of the same electrical control column, allowing them to aim and shoot the weapons, to modify the mode and the zooming of the sight and of the laser telemeter. The latter can operate under a specific mode called tacheometry, enabling it to foresee the target's upcoming position in function of its speed. The shooter's sight owns a day-canal (from 3.3 up to 10 fold in zooming) and a night canal with intensification of light or with infrared (enlargement x3, x6, x 10 and x 20). The chief of tank in addition has use of an independent periscope with two canals also (day x 2.5 and x 10 ; night x 2.5) and eight episcopes arranged around his hatchway, enabling him to spot the objectives. The carried gun is a CN 120-6 manufactured by GIAT, it is of a 120 mm calibre with a sleek web with a 52 caliber length, its chamber allows for NATO standard ammo. The gun's total mass, with a sleek web and with a self loader is 1,980 kg. The regular anti-tank ammo are : the LKE1 arrow-shell shot at the speed of 1,790 m/s and the hollow charge shell with an initial 1,100 m/s speed.

As regards to protection, the plating consists of removable modular bodies that allow for the swift replacement of damaged elements after a battle. Moreover, such design will allow the evolution of the plating in the future, when required and upon the improvement of the new plating systems. Above all, it is of an active type, i.e. composed in « layers », in order to guide and then to block the projectiles between to armored plates with a view to avoiding a brutal shock to the crew and to the material. Charges of explosives are also included between the layers in order to allow a projectile to detonate without damage to the deep layers of the

plating. The Leclerc tank is able to resist in front a 120 mm arrow shell or a tandem hollow charge. It stands up to 70 % degradation process.

Specifications :

Dimensions : length 9.87 m, width 3.7 m, height 2.9 m, ground clearance 0.50 m

Speed : 80 km/h maximum

Weight : 56 TON.

Armament : 1 *off* 120 mm gun, 1 *off* 12.7 mm co-axial machine-gun and 1 *off* 7.62 mm anti-aircraft one on the turret , 19 launch-grenades tubes.

Range : 650 km

Plating : active-type modular in « layers » mechano-welded with several layers of metals, metal alloys and composites (Chobham) from 75 mm up to 400 mm.

Equipments: Nuclear-Bacteriologic-Chemical protection system, shooting computer and laser telemeter, air conditioning and night sight device.

Crew : 3 men.

