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CENTRAL INTELLIGENCE AGENCY

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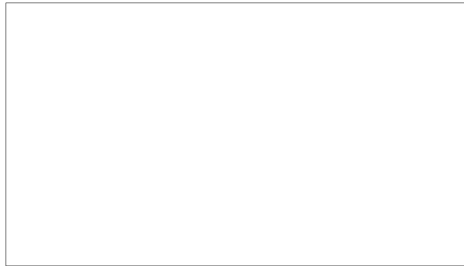
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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

1. [redacted] report on various technical aspects of the T-54 tank and the PT-76 amphibious tank [redacted] 25X1
2. [redacted]
3. [redacted] the PT-76 amphibious tank [redacted] propulsion in water was accomplished by means of water jets, rather than screws.



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ARMY review completed.

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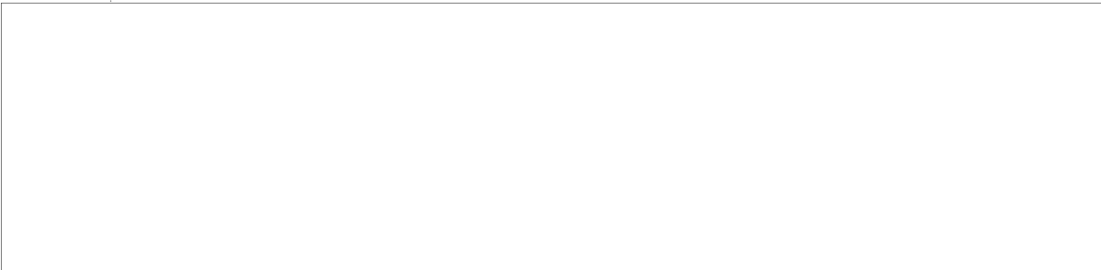
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THE SOVIET T-54 AND AMPHIBIOUS PT-76¹ TANKS

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Introduction



A. THE T-54 TANK

1. (Item 6) Ordnance Interrogation Guide - Hungary

a.

T-54 tank crews [redacted] consisted of four men: a tank commander, a gunner, a loader, and a mechanic driver. The 67th Tank Tng Bn [redacted] trained students to fill each of these four positions in the T-54 tank.

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b.

[redacted] the following driver's controls:

- (1) Two steering levers, slightly forward of the driver's seat and located to the left and right of the driver.
- (2) A clutch pedal which was operated by the left foot.
- (3) A foot accelerator pedal which was operated by the right foot.
- (4) A brake pedal which activated [redacted] a hill brake ("gornyy tormoz") and which was located between the clutch and foot accelerator pedals. The brake pedal was operated by the right foot. It was possible to lock the brake [redacted]
- (5) A gear shift lever which was located to the right rear of the right steering lever and was approximately 36 cm from it.
- (6) A hand throttle of the cogged segment type. This throttle was located to the driver's right and was mounted in the floor. The top of the throttle extended approximately 15 cm above the floor. Engine RPM could be adjusted to an unknown specific rate, and the throttle could be locked in position. It was released by pressing a button on the top of the throttle handle.
- (7) A main switch, called "massa" [redacted] located to the driver's overhead right rear.
- (8) A starter button which was located on the left hull wall.

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c.

The only sighting device in the driver's compartment was a periscope type instrument

there was a rubber-padded forehead rest above the vision eyepiece.

d.

the driver's duties as follows:

- (1) Starting and driving the tank.

The driver would start the tank by turning on the main switch and would then pump the accelerator pedal several times. He would then press the starter button with his left hand. If the batteries were dead the engine might be started by using a compressed air system

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- (2) Operating the bow machine gun.

The bow machine gun had a fixed mount and was located to the right of the mechanic driver.

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- (3) Maintenance duties.

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- (4) Activating the fire extinguisher system.

See paragraph mn below.

e.

The driver's hatch was of the swivel type. With his left hand the driver would open it by means of a handle just above his left shoulder. As the handle was turned, the cover would rise approximately eight centimeters as if spring loaded. The driver would turn it forward and to the left. With the driver's seat adjusted to its highest position, a driver of average height would clear the hatch opening at approximately chest level. When the driver's hatch was in the open position, the turret could not be traversed electrically, but Source could not describe the means of disconnection.

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f.

The tank commander occupied the seat located to the left rear of the main armament.

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g.

h.

The commander's cupola could be locked in any position of its 360° traverse by means of a locking pin.

i.

The tank was equipped with a "TPU" intercom set. Each crew member was outfitted with ear-phones and a throatpiece.

j.

information on the coaxial machine gun, see paragraph r. below.

the AA machine gun as a "DKSh" this gun could be mounted either on the commander's or loader's cupola. there were no differences between the two cupolas and since the AA gun could be mounted on the commander's cupola, it could therefore also be mounted on the loader's cupola. NFI.

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k.

The tank commander had an "MK" periscope.

l.

the radio set in the T-54 tank as "RT-10" and "10-RT"

The radio was located on the commander's left and was operated by the tank commander.

m.

The commander's seat was round and wooden, and it was mounted to the floor of the turret.

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manament

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[Redacted]

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n.

[Redacted]

The turret could be traversed electrically or manually. It could be elevated or depressed manually only. By means of crank handles, the gunner traversed the gun with his left hand and elevated it with his right hand. [Redacted] estimated the electrical traversing time to be between one and two seconds for a complete rotation (sic). [Redacted] when the turret was rotated electrically the traversing handle was disengaged [Redacted]

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o.

[Redacted]

[Redacted] the gunner's sight was a TSh-12 or a TSh-22. [Redacted]

[Redacted] described this sight as being an articulated sight, with the objective portion affixed to the tube.

p.

[Redacted]

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q.

r.

The T-54 coaxial machine gun was located to the right of the main gun and was fired electrically by the gunner.

s.

t.

The loader had an "MK" periscope identical to the commander's periscope. [Redacted] this was the loader's only vision device.

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u. Are gun safety devices provided for the loader? Where are they located?

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The only safety device for the loader [redacted] was the recoil guard which [redacted] was about 40 cm long and about 12 cm wide. A man could move between the guard and rear turret wall [redacted]

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v.

[redacted] between 15 and 25 rounds could be stored in the rack to the right of the main gun; these rounds were stored horizontally in four or five layers.

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Rounds were also stored vertically along the right wall (facing toward the front of the tank). [redacted] perhaps 20 rounds could be stored in these floor-mounted ready racks, consisting of floor-mounted cups and wall center clips. [redacted]

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w.

[redacted] three types of rounds having been fired by the T-54 tank- AP, tracer tanks firing 100-mm rounds, but usually they fired sub-caliber rounds of 45 mm, 75 mm, and either 25 or 35 mm.

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x.

The turret was of the basket type. The gunner's and commander's seats were mounted directly to the floor, which rotated with the turret. [redacted] loader's seat was mounted to the floor or to the turret wall. [redacted]

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The main armament ammunition ready racks (see v. above), located along the right wall of the fighting compartment, rotated with the turret, but the forward main ammunition storage rack did not rotate. The fighting compartment wall extended from approximately 2 o'clock to 10 o'clock.

There were two small doors in the rear fighting compartment wall which opened inward and gave access to the fuel tank selector switch. The main gun had to be in the forward position to give access to the selector switch through these small doors.

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y.

The escape hatch was located in the hull floor directly to the rear of the driver's seat. It was locked by approximately six handled-bolts which attached it to the floor. When opened, the hinged cover leaned against the hull wall and provided an opening approximately 50 to 60 cm in diameter.

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s.

aa.

bb.

the fluid used in the recoil cylinders was green in color and had the consistency of vegetable oil. It was called "astel" it took approximately one and one-half liters or it to make a quarter of a liter glass of alcohol as a beverage.

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The two round recoil cylinders were about one meter in length and about 20 cm in diameter and were located forward of the breech block, beneath, and parallel to the tube.

The recoil scale was located on the right side of the breech block, so that it was visible to the loader.

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[redacted] a 12 cylinder, "V"-type diesel which was the same as the T-34 engine. The engine cover was hinged on its forward edge, near the turret.

[redacted] the engine was mounted transversely.

[redacted] type of transmission was used in the T-54 tank. [redacted] it was necessary to double-clutch for both up and down shifting. [redacted] the transmission to be larger than that of the T-34.

[redacted] the clutch was basically the same as that of the T-34.

[redacted] estimated them to be approximately 70 cm in diameter and approximately three millimeters thick. [redacted] there were approximately 25 clutch disks. A shaft approximately 15 cm long and eight centimeters in diameter led from the engine to an unknown gear box, located to the right rear of the engine. [redacted] This "guitar", which measured, [redacted] approximately 20 cm x 20 cm x 10 cm in depth, merely transferred the power from a transverse to a longitudinal direction.

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The tank had five forward speeds and one reverse speed. The gear shift positions were indicated on the gear shift lever handle.

[redacted] first and reverse were indicated as being in the middle, and the other four positions were indicated two on the left and two on the right side of the gear shift lever.

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ll.

mm.

there were three fuel tanks.

The fuel tank selector lever, located at the rear of the fighting compartment (see paragraph x. above) had three positions, this was further proof of the fact there were three fuel tanks.

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nn.

a possible fixed fire extinguisher system was that on the wall, approximately 22 cm above the bow machine gun and to the right of the mechanic driver, there were 3 buttons in a small case with a face of red transparent glass. Above the buttons was a small label reading, "Fire Extinguisher". Under the buttons were labels reading "Combat Compartment", "Engine Compartment", and "Mechanic Driver". Under the buttons was a sign reading, "Use only in emergency".

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oo.

the number of batteries or their location, the total battery weight was 54 kg and that the combined voltage was 24 volts.

pp.

There was a wall between the fighting compartment and the engine, The fuel tank selector switch referred to in paragraph x. above was located in this wall.

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ss.

tt.

uu.

vv.

ww.

xx.

yy.

ss.

2. Additional T-54 Tank Information

a. Turret Operation

When the driver's hatch was open, the turret could not be rotated electrically (see paragraph 1, e. above), and the main armament could not be fired. [redacted] tank commanders give the command to close the hatch, and when it was still impossible to fire the main gun or rotate the turret electrically, they commanded "fully close the hatch". The hatch had to be closed fully [redacted] to enable the turret to be rotated electrically and the main armament to be fired. [redacted]

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The leader's hatch, as well as the driver's hatch, could be rotated 360° and locked [redacted] in any position.

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The motor and controls for rotating the turret were located to the left of the gunner. [redacted]

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b. Miscellaneous Information

(1) [redacted] the distance at the escape hatch between the floor of the combat compartment and the hull of the tank to be approximately 25 cm. 25X1

(2) [redacted] the T-54 tank there were cloth mats scattered on the floor of the fighting compartment and that the crew members walked on them. 25X1

(3) The two small doors (see paragraph 1,x above), located in the rear fighting compartment wall were of unknown width and approximately 50 cm high. They opened inward. These doors opened onto the fuel tank selector switch and pump which [redacted] served to bleed air from the fuel lines. 25X1

(4) [redacted] when the two engine covers of a T-54 tank were open, that there was a radiator attached to each of the covers. Each radiator was of unknown thickness and measured approximately 40 x 28 inches. [redacted] whether or not these radiators were connected to each other. 25X1

(5) [redacted] a T-54 tank engine fan. It was approximately 40 inches in diameter and was mounted around the clutch. 25X1

(6) [redacted] rubber tracks for a tank or self-propelled gun. 25X1

(7) [redacted] an unidentified plug which had been inserted in the bow machine gun opening of the glacis plate and around the machine gun barrel. It obviously had been inserted from the inside of the tank. 25X1

(8) The 67th Tank Tng Bn received approximately 10 T-54 tanks in April 1955 when the Battalion was stationed at JASBERENY. [redacted] 25X1

the tanks were of two types: with rounded turrets and with turrets undercut in the rear. [redacted] no other differences in the tanks other than the turrets, 25X1

[redacted] the presence in [redacted] Battalion of tanks with turrets undercut in the rear [redacted] the following incident

[redacted] One of the Battalion's T-54 tanks halted in a deep ditch which it was crossing. Another tank, following too closely behind the first tank, lodged its gun muzzle under the overhang of the first tank turret and pried the turret of the first tank from its race. [redacted] 25X1

[redacted] this would not have been possible if the first tank had had a rounded turret, which [redacted] was the newer of the two types. 25X1

B. THE AMPHIBIOUS TANK

1. General Description

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[redacted] the amphibious tank (PT-76) [redacted] when approximately three of them arrived, [redacted] in [redacted] the 67th Tank Tng Bn at JASBERENY, Hungary. 25X1

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[redacted]

[redacted] propulsion was accomplished by means of water taken in through the two water intakes and discharged through the two ports at the rear of the vehicle. The intakes were located near the rear of the hull and beneath the fenders and measured approximately 15 cm x 25 cm. They were opened by means of a multi-levered arrangement on which the baffles opened to the rear and outward. [redacted] change in direction was effected by controlling the rate of water discharge through each of the ports in the rear of the hull.

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[redacted] there were four steering levers for the driver, two of which were used for land steering and two for water steering. [redacted] the exact position of the water steering levers [redacted] they were located conveniently for the driver, either to the inside or outside of the land steering levers.

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1. [redacted] Comment: The nomenclature for this vehicle was provided by the 81st Ordnance Intelligence Detachment.

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2. [redacted]

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