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TECHNICAL INFORMATION
REPORT, 3-1-3P1

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OFFICE, CHIEF OF ORDNANCE
Apr 1954

(15) DA-36-234-AMC-3735(X)

(1) DEVELOPMENT

OF

155-MM GUN TANK, T58

15253-03
24 p.
FEB 5 1969

Although the Army Equipment Development Guide of December 1950 called for the development of a heavy gun tank mounting a gun of 120-mm caliber "or one of greater effectiveness," it remained for the Tripartite Conference on Armor and Bridging of October 1951 to recommend a specific requirement for a 155-mm gun tank. The Conference proposed development of a 155-mm gun tank capable of firing HEAT and HEP rounds of high armor-defeating capabilities. Army Field Forces previously had suggested a study of the feasibility of mounting the T80 155-mm gun, normally used on the T97 self-propelled carriage, on the chassis of a T43 120-mm gun tank. Working with both proposals, Ordnance decided that, because chemical energy rounds do not require high velocities, the low-velocity T7 155-mm gun of World War II could advantageously be modified for installation in the new tank. A project for that purpose was opened, and the modified gun desired was designated T180.

The project for development of the T58 155-mm gun tank was formally opened in July 1952, but the work is still in the engineering design stage. Two pilot models are being built, one for engineering tests, the other for service tests. The engineering tests are to be completed by December 1954.

The T58 tank, like the T57 120-mm gun tank, is to have an oscillating turret and power ammunition handling equipment mounted on a T43E1 120-mm tank chassis (for a description of which, see TIR 3-1-3M1). The T180 gun is much shorter in length than the T179 120-mm gun of the T57 tank, and therefore, although of larger caliber, weighs some 1,200 pounds less. Even so, the over-all weight of the T58 will probably be about 66 tons, as compared with the 59 tons of the T57 and the 60 tons of the T43E1.

The T180 low-velocity gun will fire separate-loading ammunition, two rounds of which are now under development. They are as follows:

- 155-mm HEAT shell, T267
- 155-mm HEP shell, T152

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(18) AMC (19) TIR-3-1-3P1

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155-MM GUN TANK, T58

The former is expected to perforate 16 inches of homogeneous armor at 0° obliquity and 8 inches at 60°, while the latter will probably perforate 7 inches at all obliquities.

The fire control equipment for the T58 155-mm gun tank has not yet been finally determined, and no information is available as to when the tank itself will be released for service use.

TENTATIVE PRINCIPAL CHARACTERISTICS

155-mm Tank Gun, T180

Caliber	155 mm
Length, over-all	no information
Length of bore	40 cal
Travel of projectile in bore	218 in
Rifling	no information
Weight of complete gun	5,100 lb
Chamber capacity	800 cu in
Density of loading	0.65
Rated maximum chamber pressure	32,000 psi
Breechblock, type	vertical sliding
Breech mechanism	semiautomatic
Firing mechanism	no information
Ammunition, type	separated
Muzzle velocity	2,300 fps
Maximum effective range	2,000 yd
Perforation of homogeneous armor	
HEAT shell @ 0°	16 in
Rate of fire	to be determined

For Army Staff

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CONFIDENTIAL TIR 3-1-3P1

155-MM GUN TANK, T58

Combination Gun Mount, T170

Weight	no information
Recoil mechanism, type	hydrospring
Number of recoil cylinders	4
Recoil length	
Normal	12 in
Maximum	14 in
Equilibrator, type	no information
Elevating mechanism, type	electrical and manual
Maximum elevation	15°
Maximum depression	-8°
Traversing mechanism, type	electrical and manual
Maximum traverse, right or left	360°

Fire Control Equipment

Commander's range finder	T50
Commander's range drive	model not determined
Gunner's periscope	M20 or M16 type
Gunner's telescope	elbow type

Ammunition Stowage

155-mm rounds	32
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155-mm Gun Tank, T58

Length	
With gun forward	426 in
With gun to rear	no information
Width	144 in
Height	125 in
Weight, over-all	132,179 lb
Ground clearance	16.125 in
Tread, from center to center of tracks	155 in
Length of ground contact	173.437 in
Ground pressure	12.4 psi
Suspension, type	torsion bar
Wheels	26 in
Tires	26x6 in
Tracks	
Type	steel and rubber
Width	28 in
Number of shoes (both tracks)	164
Armor	same as 120-mm gun tank, T43E1, See TIR 3-1-3M1
Armament	
Main	155-mm tank gun, T180
Secondary	
Cal .30 machine gun, coaxial	to be determined
Cal .50 machine gun, on turret	to be determined

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Army Materiel Command
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Communications	
Radio	as selected by Signal Corps
Interphones	5
Engine	
Type	air-cooled gasoline
	Continental AV-1790-7
Cylinders	
Number	12
Bore	5.75 in
Piston stroke	5.75 in
Piston displacement	1,791.75 cu in
Arrangement	V-type
Drive from crankshaft	direct
Induction system	natural aspiration
Ignition timing	automatic advance
Horsepower	
Gross	810 @ 2,800 rpm
Net	690 @ 2,800 rpm
Torque	
Gross	1,600 ft/lb @ 2,300 rpm
Net	1,330 ft/lb @ 2,100 rpm
Electrical system	
Number of batteries	4
Transmission	
Type	CD cross-drive
Range selector control box	
Type	mechanical
Linkage to transmission	mechanical
Torque converter	single-stage polyphase
Gear shift and steering mechanism	
Internal	hydraulic
External	mechanical
Oil system	
Capacity	72 qt
Pumps	
Type	gear
Number	5
Drive	2 input, 3 output shafts
Filter, type	air maze, double
Coolant	air
Fuel capacity	280 gal
Brakes	
Service brake, type	wet, multiple disk
Parking brake, type	lock on service brake
Crew	5
Performance	
Maximum speed on level	22 mph
Maximum grade climbing ability	60%
Maximum trench crossing ability	90 in
Height of obstacles that can be crossed	27 in
Fording depth	48 in
Turning radius	pivot to infinity
Cruising range	80 mi

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