

VEHICLE DATA SHEETS

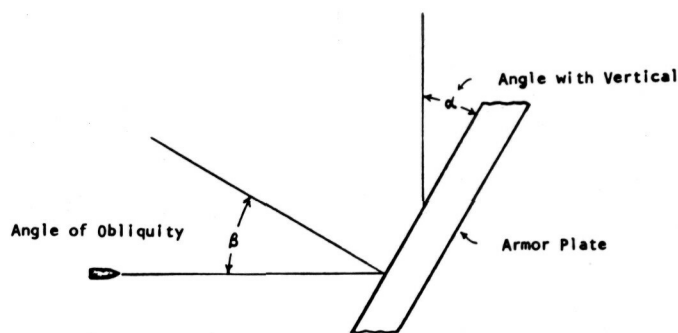
There were many changes in the engineering test procedures used to evaluate the various vehicles during the period covered in this book. Also, the relative importance of certain vehicle characteristics shifted with changes in vehicle design and the mission that was to be accomplished. For example, trench crossing ability was a major consideration for the World War I designed Mark VIII and its ability to bridge a 16-foot gap was almost twice that of the last American heavy tank, the M103A2. Although the Mark VIII weighed over forty tons, its armor protection was equivalent only to the light tanks of the period. By the start of World War II, the concept of a heavy tank had changed to include heavy armor protection and firepower superior to that of the medium tank. Although the test methods varied during the period covered, an effort has been made to provide equivalent data to permit a better comparison of the different vehicles.

If available, original drawings were used to obtain dimensional data. If these could not be located, dimensions were taken from the characteristics sheets or the test reports from Aberdeen Proving Ground or Fort Knox. Some of the drawing dimensions were for reference only and would obviously vary on the actual tanks. For example, the ground clearance and the fire height, the latter defined as the distance from the ground to the center line of the main weapon bore at zero elevation, would change with load on the vehicle and increased spring compression. However, the design reference values are quoted to permit comparison between the vehicles.

A few other terms used in the data sheets might need clarification. The ground contact length at zero penetration is the distance between the centers of the front and rear road wheels. Unless otherwise specified, this is the value used to calculate the ground contact area and then the ground pressure using the combat weight of the vehicle. The tread is the distance between the centerlines of the tracks. When available, gross and net values are quoted for maximum engine horsepower and torque. The gross horsepower and torque refer to the output obtained with

only those accessories essential to engine operation. The effect of such items as generators and air cleaners is neglected. The net values are those obtained with the engine installed in the vehicle using all of its normal accessories.

Armor protection is specified by type, thickness and the angle with the vertical. This angle is measured between a vertical plane and the plate surface as indicated by the angle alpha in the sketch. Also, in this two dimensional drawing, the angle of obliquity is shown by the angle beta. This is defined as the angle between a line perpendicular to the armor plate and the path of a projectile impacting the armor. This angle is used to specify armor penetration performance.



When available, weights are listed for the vehicles unstowed and combat loaded. The combat weight included the crew and a full load of fuel and ammunition. Actual weights often varied widely due to variations in casting thicknesses, vehicle stowage, etc. For single experimental vehicles, the exact weight is quoted if possible. However, for some of these tanks only approximate or estimated weights could be obtained. Average values for production vehicles are usually rounded off to the nearest 1000 pounds. Since the stowage frequently varied during the life of the vehicle, the data are quoted for the items that were standard during its period of greatest use.

HEAVY TANK Mark VIII

GENERAL DATA

Crew: 8 to 11 men
 Length: 410.5 inches
 Width: Over sponsons 144.0 inches
 Width: Sponsons and guns retracted 108.0 inches
 Height: Over commander's cupola 123.0 inches
 Tread: 69.5 inches
 Ground Clearance: 20.8 inches
 Weight, Combat Loaded: 86,900 pounds
 Weight, Unstowed: 81,000 pounds
 Power to Weight Ratio: Gross 7.8 hp/ton
 Ground Pressure: Zero penetration 16.1 psi
 1 inch penetration 150 psi
 2 inch penetration 8.6 psi
 5 inch penetration 5.9 psi

ARMOR

Type: Rolled face-hardened steel plate; Riveted assembly
 Thickness: Actual Angle/Vertical
 Hull, Upper Front 0.47 inches (12mm) 28 degrees
 Hull Sides 0.47 inches (12mm) 0 degrees
 * Hull Rear 0.63 inches (16mm) 0 degrees
 Main Turret Sides 0.63 inches (16mm) 0 degrees
 Cupola Sides 0.63 inches (16mm) 0 degrees
 Sponson Sides 0.47 inches (12mm) 0 degrees
 Top 0.24 inches (6mm) 80 to 90 degrees
 * Top Rear 0.39 inches (10mm) 80 degrees
 Floor 0.31-0.24 inches 60 to 90 degrees
 (8-6mm)

ARMAMENT

(2) Hotchkiss 2.244 inch (57mm) 6 pounder Mark II Guns in side sponsons

** (5) .30 caliber Browning tank machine guns in ball mounts

AMMUNITION

208 rounds 6 pounder
 15,100 rounds .30 caliber

SIGHTING AND VISION DEVICES

Driver: Flap in turret front, Vision slots (3), Hand held periscope (1)
 Commander: Hatch, Cupola vision slots (4), Hand held periscope (1)
 Gunner, 6 pounder, left: Vision slots (4), Pistol ports (4), Telescopic sight (1)
 Gunner, 6 pounder, right: Vision slots (3), Pistol ports (3), Telescopic sight (1)
 Machine Gunner, turret front: Vision slots (3), Peepholes in MG ball mounts (2)
 Machine Gunner, turret rear: Vision slots (3), Peephole in MG ball mount (1)
 Machine Gunner, hull left: Peephole in MG ball mount (1), Pistol port (1)
 Machine Gunner, hull right: Peephole in MG ball mount (1), Pistol port (1)

Total Vision Slots: (20), Pilot tank (22)

Total Pistol Ports: (9), Pilot tank (12)

* Thicker armor protects fuel tanks in rear of hull

** Pilot tank armed with (7) Hotchkiss .303 machine guns

ENGINE

Make and Model: Liberty 12
 Type: 12 cylinder, 4 cycle, 45 degree vee
 Cooling System: Liquid Ignition: Delco
 Displacement: 1649.34 cubic inches
 Bore and Stroke: 5 x 7 inches
 Compression Ratio: 4.9:1
 Gross Horsepower: 338 hp at 1400 rpm
 Weight: 850 pounds, dry
 Fuel: Gasoline 240 gallons

POWER TRAIN

Clutch: Compound, friction cone and splined coupling
 Bevel Gear Ratio: 14:46
 Transmission: Epicyclic, 2 speeds forward, 2 reverse
 Gear Ratios: low 5:1 high 1.285:1 Both forward and reverse
 Steering: Epicyclic
 Brakes: Mechanical, external contracting
 Final Drive: Chain and sprocket
 Ratio, rear chain sprocket to roller pinion: 12:23
 Ratio, roller pinion to road track driving wheel (sprocket): 9:35
 Road Track Driving Wheel (Sprocket): At rear of vehicle with 35 teeth
 Diameter: 39.237 inches

RUNNING GEAR

Suspension: Rigid
 28 lower track rollers w/spacers and spring plates (14/track)
 30 lower track rollers w/o spacers and spring plates (15/track)
 2 top track return rollers (1/track)
 Adjustable idler at front of each track
 Idler Size: 40.187 inches in diameter
 Tracks: Continuous linked
 Type: 0.31 inch (8mm) thick dished armor plate, 26.5 inch width,
 with integral grouser
 Pitch: 11.154 inches
 Shoes per Vehicle: 156 (78/track)
 Ground Contact Length: 102 inches, zero penetration
 109 inches, 1 inch penetration
 190 inches, 2 inch penetration
 277 inches, 5 inch penetration

ELECTRICAL SYSTEM

Nominal Voltage: 6 and 12 volts DC (pilot tank 6 volts)
 Generators: (1) 12 volt ignition generator, (2) 6 volt generators for lights,
 batteries, and spark
 Battery: (2) 12 volts, (1) 6 volts (pilot tank (1) 6 volts)

COMMUNICATIONS

Semaphore signaling device on hull roof
 Interphone connecting the tank commander with the driver, both 6
 pounder gunners, and the engine room mechanic

FIRE PROTECTION

(8) Pyrene fire extinguishers (3 on each side door, 2 in engine com-
 partment)

PERFORMANCE

Maximum Speed: High gear 5.5 miles/hour
 Low gear 1.4 miles/hour
 Maximum Drawbar Pull: 48,000 pounds
 Maximum Grade: 84 per cent
 Maximum Trench: 16 feet
 Maximum Vertical Wall: 54 inches
 Maximum Forging Depth: 34 inches
 Minimum Turning Circle: (diameter) 40.5 feet
 Cruising Range: Roads approx. 40 miles

HEAVY TANK T1E1

GENERAL DATA

Crew:	6 men
Length: Gun forward, w/stowage boxes	332.0 inches
Length: Gun to rear, w/stowage boxes	297.0 inches
Length: Without gun, w/stowage boxes	297.0 inches
Gun Overhang: Gun forward	35.0 inches
Width: Over track armor	123.0 inches
Height: To turret roof	118.0 inches
Tread:	93.9 inches
Ground clearance:	20.5 inches
Fire Height:	approx. 97 inches
Turret Ring Diameter: (inside)	69.0 inches
Weight, Combat Loaded:	127,000 pounds
Weight, Unstowed:	approx. 120,500 pounds
Power to Weight Ratio: Net	110 hp/ton
Gross	151 hp/ton
Ground Pressure: Zero penetration	13.1 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	3.25 inches (83mm)	30 degrees
Lower	4.0-2.75 inches (102-70mm)	0 to 60 degrees
Sides, Upper	1.75 inches (44mm)	20 degrees
Lower	2.75 inches (70mm)	0 degrees (incl. track armor)
Rear	1.63 inches (41mm)	17 degrees
Top	1.0 inches (25mm)	90 degrees
Floor	1.0 inches (25mm)	90 degrees
Turret Thickness:		
Gun Shield	equals 4.0 inches (102mm)	0 degrees
Front	3.25 inches (83mm)	7 degrees
Sides	3.25 inches (83mm)	0 degrees
Rear	3.25 inches (83mm)	0 degrees
Top	1.0 inches (25mm)	90 degrees

ARMAMENT

Primary: 3 inch Gun M7 and 37mm Gun M6 in Combination Mount T49 in turret	
Traverse: Electric and manual	360 degrees
Traverse Rate: (max)	20 seconds/360 degrees
Elevation: Manual	+30 to —10 degrees
Firing Rate: (max)	15 rounds/minute (3 inch) 30 rounds/minute (37mm)
Loading System:	Manual
Stabilizer System:	Elevation only

Secondary:

- (2) .50 caliber MG HB M2 in Mount T52 in hull front
- (1) .30 caliber MG M1919A4 in bow mount (fixed)
- * (1) .30 caliber MG M1919A4 flexible AA mount on turret roof
- Provision for (2) .45 caliber SMG M1928A1

AMMUNITION

75 rounds 3 inch	24 hand grenades
202 rounds 37mm	
6900 rounds .50 caliber	
1200 rounds .45 caliber	
5500 rounds .30 caliber	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscope M8 with Telescope M39	Gunner's Quadrant M1
	Telescope M15	
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M6 (2)
Bow Gunner	None	Periscope M6 (1) and Protectoscope (1)
Ammunition Passer	Hatch and hull pistol ports (2)	Protectoscopes (2) in hull pistol port covers
Commander	Hatch	Periscope M6 (1)
Gunner	None	Periscope M8 (1)
Loader	Pistol port (1)	Periscope M6 (1) and Protectoscope (1) in pistol port cover

Total Periscopes: M6 (5), M8 (1)

Total Protectoscopes: (4)

Total Pistol Ports: Hull (2), Turret (1)

* (1) .50 caliber MG HB M2 may be substituted for .30 caliber AA MG

ENGINE

Make and Model: Wright G-200 Model 795C9GC1	
Type: 9 cylinder, 4 cycle, radial	
Cooling System: Air	Ignition: Magneto
Displacement:	1823 cubic inches
Bore and Stroke:	6.125 x 6.875 inches
Compression Ratio:	4.92:1
Net Horsepower (max): Governed speed	700 hp at 1950 rpm
Gross Horsepower (max):	960 hp at 2300 rpm
Gross Torque (max): Governed speed	1810 ft-lb at 1950 rpm
Weight:	1350 pounds, dry
Fuel: 80 octane gasoline	464 gallons
Engine Oil:	72 quarts

POWER TRAIN

Transmission: Electric drive with speed infinitely variable both forward and reverse	
Steering: Electric	
Brakes: Electric	
Final Drive: Spur gear	Gear Ratio: 10:1

Drive Sprocket: At rear of vehicle with 14 teeth
Pitch Diameter: 26.806 inches

RUNNING GEAR

Suspension: Horizontal volute spring	
16 dual wheels in 8 bogies (4 bogies/track)	
Tire Size: 18 x 7 inches	
8 dual track return rollers (4/track)	
Dual adjustable idler at front of each track	
Idler Tire Size: 30 x 7 inches	
2 dual auxiliary idlers (1/track) between main idler and front bogie	
Tracks: Outside guide T31*	
Type: (T31) Double pin, 25.75 inch width, rubber backed steel	
Pitch: 6 inches	
Shoes per Vehicle: 198 (99/track)	
Ground Contact Length: 187.9 inches	

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC	
Battery Charging Generator: (1) 24 volts, 200 amperes, driven by power take-off from main engine	
Auxiliary Generator: (1) 30 volts, 50 amperes, driven by the auxiliary engine	
Battery: (2) 12 volts in series	

COMMUNICATIONS

Radio: SCR 508, 528, or 538 in rear of turret, SCR 506 (command tanks only) in right sponson	
Interphone: Part of radio, 6 stations	

FIRE AND GAS PROTECTION

- (6) 10 pound carbon dioxide, fixed
- (2) 4 pound carbon dioxide, portable
- (4) 1½ quart decontaminating apparatus M2

PERFORMANCE

Maximum Speed: Sustained, level road	20 miles/hour
Maximum Grade:	55 per cent
Maximum Trench:	11 feet
Maximum Vertical Wall:	36 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 100 miles

* Center guide added later to these tracks and the outside guides removed

HEAVY TANK T1E2, Pilot

GENERAL DATA

Crew:	6 or 7 men
Length: Gun forward	320 inches
Length: Gun to rear	285 inches
Length: Without gun	285 inches
Gun Overhang: Gun forward	35 inches
Width: Over track armor	123 inches
Height: Over cupola	122 inches
Tread:	93.9 inches
Ground Clearance:	21 inches
Fire Height:	approx. 97 inches
Turret Ring Diameter: (inside)	69.0 inches
Weight, Combat Loaded:	approx. 126,000 pounds
Weight, Unstowed:	approx. 120,000 pounds
Power to Weight Ratio: Net	13.1 hp/ton
Gross	15.2 hp/ton
Ground Pressure: Zero penetration	130 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front	equals 30 inches (76mm)	0 degrees
Sides, Front	equals 2.5 inches (64mm)	0 degrees
Rear	equals 2.0 inches (51mm)	0 degrees
Rear	equals 2.0 inches (51mm)	0 degrees
Top	10 inches (25mm)	90 degrees
Floor	10 inches (25mm)	90 degrees

Turret Thickness:

Gun Shield	equals 30 inches (76mm)	0 degrees
Front	equals 30 inches (76mm)	0 degrees
Sides	equals 30 inches (76mm)	0 degrees
Rear	equals 30 inches (76mm)	0 degrees
Top	10 inches (25mm)	90 degrees

ARMAMENT

Primary: 3 inch Gun T12 and 37mm Gun M5E1 in combination mount in turret

Traverse: Electric and manual	360 degrees
Traverse Rate: (max)	20 seconds/360 degrees
Elevation: Manual	+30 to -10 degrees
Firing Rate: (max)	15 rounds/minute (3 inch)
	30 rounds/minute (37mm)

Loading System:	Manual
Stabilizer System:	Elevation only

Secondary:

- (1) .50 caliber MG HB M2 in AA rotor mount in rear of turret roof
- (2) .50 caliber MG HB M2 in flexible twin mount in hull front
- (2) .30 caliber MG M1919A4 in fixed bow mounts (elevation +10 to -5 deg.)
- (1) .30 caliber MG M1919A4 in commander's cupola
- Provision for (2) .45 caliber SMG M1928A1

AMMUNITION

75 rounds 3 inch	24 hand grenades
200 rounds 37mm	
8000 rounds .50 caliber	
1200 rounds .45 caliber	
10,000 rounds .30 caliber	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscope M1 with Telescope T32	Gunner's Quadrant M1
	Telescope M15	

Vision Devices

Driver	Direct	Indirect
Bow Gunner	Hatch	Protectoscope (1)
Ammunition Passer	None	Protectoscope (1)
	Hatch and hull pistol ports (2)	Protectoscopes (2) in pistol port covers
Commander	Hatch and vision slots (2)	Protectoscope (1)
Gunner	None	Periscope M1 (1)
Loader	Pistol port (1)	Protectoscope (1) in pistol port cover

Total Periscopes: M1 (1)

Total Protectoscopes: (6)

Total Pistol Ports: Hull (2), Turret (1)

Total Vision Slots: (2)

ENGINE

Make and Model: Wright G-200 Model 781C9GC1	
Type: 9 cylinder, 4 cycle, radial	
Cooling System: Air Ignition: Magneto	
Displacement:	1823 cubic inches
Bore and Stroke:	6.125 x 6.875 inches
Compression Ratio:	4.92:1
Net Horsepower (max):	825 hp at 2300 rpm
Gross Horsepower (max):	960 hp at 2300 rpm
Gross Torque (max):	1830 ft-lb at 2100 rpm
Weight:	1350 pounds, dry
Fuel: 80 octane gasoline	477 gallons
Engine Oil:	72 quarts

POWER TRAIN

Transmission: Timken mechanical w/Twin Disc torque converter model 16001, w/Hycon hydraulic control, 2 speeds forward, 1 reverse
Gear Ratios: 1st 1.61:1 reverse 1.61:1
2nd 0.22:1

Steering: Controlled differential

Gear Ratio: 0.62:1	Steering Ratio: 1.62:1
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Brakes: Budd disc, mechanical and Hycon hydraulic control

Final Drive: Compensating differential Gear Ratio: 5:1

Drive Sprocket: At rear of vehicle with 14 teeth

Pitch Diameter: 26.806 inches

RUNNING GEAR

Suspension: Horizontal volute spring

16 dual wheels in 8 bogies (4 bogies/track)

Tire Size: 18 x 7 inches

8 dual track return rollers (4/track)

Dual adjustable idler at front of each track

Idler Tire Size: 30 x 7 inches

2 dual auxiliary idlers (1/track) between main idler and front bogie

Tracks: Outside guide w/removable rubber track pads

Type: Double pin, 25.75 inch width, rubber backed steel

Pitch: 6 inches

Shoes per Vehicle: 198 (99/track)

Ground Contact Length: 187.9 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: (1) 24 volts, 50 amperes, driven by power take-off from main engine

Auxiliary Generator: (1) 30 volts, 50 amperes, driven by the auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508, 528, or 538 in rear of turret, SCR 506 (command tanks only) in right sponson.

Interphone: Part of radio, 6 stations

FIRE PROTECTION

(6) 10 pound carbon dioxide, fixed

(2) 4 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road	22 miles/hour
Maximum Grade:	60 per cent
Maximum Trench:	11 feet
Maximum Vertical Wall:	36 inches
Maximum Forging Depth:	48 inches
Minimum Turning Circle: (diameter)	74 feet
Cruising Range: Roads	approx. 100 miles

HEAVY TANK M6

GENERAL DATA

Crew:	6 men
Length: Gun forward, w/stowage boxes	332.0 inches
Length: Gun to rear, w/stowage boxes	297.0 inches
Length: Without gun, w/stowage boxes	297.0 inches
Gun Overhang: Gun forward	35.0 inches
Width: Over track armor	123.0 inches
Height: To turret roof	118.0 inches
Tread:	93.9 inches
Ground Clearance:	20.5 inches
Fire Height:	approx. 97 inches
Turret Ring Diameter: (inside)	69.0 inches
Weight, Combat Loaded:	approx. 126,500 pounds
Weight, Unstowed:	approx. 120,000 pounds
Power to Weight Ratio: Net	13.0 hp/ton
Gross	15.2 hp/ton
Ground Pressure: Zero penetration	13.1 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	3.25 inches (83mm)	30 degrees
Lower	4.0-2.75 inches (102-70mm)	0 to 60 degrees
Sides, Upper	1.75 inches (44mm)	20 degrees
Lower	2.75 inches (70mm)	0 degrees
		(incl. track armor)
Rear	1.63 inches (41mm)	17 degrees
Top	1.0 inches (25mm)	90 degrees
Floor	1.0 inches (25mm)	90 degrees
Turret Thickness:		
Gun Shield	equals 4.0 inches (102mm)	0 degrees
Front	3.25 inches (83mm)	7 degrees
Sides	3.25 inches (83mm)	0 degrees
Rear	3.25 inches (83mm)	0 degrees
Top	1.0 inches (25mm)	90 degrees

ARMAMENT

Primary: 3 inch Gun M7 and 37mm Gun M6 in Combination Mount T49 in turret

Traverse: Electric and manual	360 degrees
Traverse Rate: (max)	20 seconds/360 degrees
Elevation: Manual	+30 to -10 degrees
Firing Rate: (max)	15 rounds/minute (3 inch)
	30 rounds/minute (37mm)

Loading System: Manual
Stabilizer System: Elevation only

Secondary:

- (2) .50 caliber MG HB M2 in Mount T52 in hull front
- (1) .30 caliber MG M1919A4 in bow mount (fixed)
- * (1) .30 caliber MG M1919A4 flexible AA mount on turret roof
- Provision for (2) .45 caliber SMG M1928A1

AMMUNITION

- 75 rounds 3 inch
- 202 rounds 37mm
- 6900 rounds .50 caliber
- 1200 rounds .45 caliber
- 5500 rounds .30 caliber
- 24 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscope M8 with Telescope M39	Gunner's Quadrant M1
	Telescope M15	

Vision Devices:

	Direct	Indirect
Driver	Hatch	Periscope M6 (2)
Bow Gunner	None	Periscope M6 (1) and Protectoscope (1)
Ammunition Passer	Hatch and hull pistol ports (2)	Protectoscopes (2) in hull pistol port covers
Commander	Hatch	Periscope M6 (1)
Gunner	None	Periscope M8 (1)
Loader	Pistol port (1)	Periscope M6 (1) and Protectoscope (1) in pistol port cover

Total Periscopes: M6 (5), M8 (1)

Total Protectoscopes: (4)

Total Pistol Ports: Hull (2), Turret (1)

* (1) .50 caliber MG HB M2 may be substituted for .30 caliber AA MG

ENGINE

Make and Model: Wright G-200 Model 781C9GC1
Type: 9 cylinder, 4 cycle, radial
Cooling System: Air Ignition: Magneto
Displacement: 1823 cubic inches
Bore and Stroke: 6.125 x 6.875 inches
Compression Ratio: 4.92:1
Net Horsepower (max): 825 hp at 2300 rpm
Gross Horsepower (max): 960 hp at 2300 rpm
Gross Torque (max): 1830 ft-lb at 2100 rpm
Weight: 1350 pounds, dry
Fuel: 80 octane gasoline 477 gallons
Engine Oil: 72 quarts

POWER TRAIN

Transmission: Timken mechanical w/Twin Disc torque converter model 16001, w/Hycon hydraulic control, 2 speeds forward, 1 reverse
Gear Ratios: 1st 1.61:1 reverse 1.61:1
2nd 0.22:1

Steering: Controlled differential

Gear Ratio: 0.62:1 Steering Ratio: 1.62:1

Brakes: Budd disc, mechanical and Hycon hydraulic control

Final Drive: Compensating differential Gear Ratio: 5:1

Drive Sprocket: At rear of vehicle with 14 teeth

Pitch Diameter: 26.806 inches

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Dual adjustable idler at front of each track

Idler Tire Size: 30 x 7 inches

2 dual auxiliary idlers (1/track) between main idler and front bogie

Tracks: Outside guide; T31*

Type: (T31) Double pin, 25.75 inch width, rubber backed steel

Pitch: 6 inches

Shoes per Vehicle: 198 (99/track)

Ground Contact Length: 187.9 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: (1) 24 volts, 50 amperes, driven by power take-off from main engine

Auxiliary Generator: (1) 30 volts, 50 amperes, driven by the auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508, 528, or 538 in rear of turret, SCR 506 (command tanks only) in right sponson.

Interphone: Part of radio, 6 stations

FIRE AND GAS PROTECTION

(6) 10 pound carbon dioxide, fixed

(2) 4 pound carbon dioxide, portable

(4) 1½ quart decontaminating apparatus M2

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour

Maximum Grade: 60 per cent

Maximum Trench: 11 feet

Maximum Vertical Wall: 36 inches

Maximum Fording Depth: 48 inches

Minimum Turning Circle: (diameter) 74 feet

Cruising Range: Roads approx. 100 miles

* Center guide added later to these tracks and outside guides removed

HEAVY TANK M6A1

GENERAL DATA

Crew:	6 men
Length: Gun forward, w/stowage boxes	332.0 inches
Length: Gun to rear, w/stowage boxes	297.0 inches
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Turret Thickness:		
Gun Shield	equals 4.0 inches (102mm)	0 degrees
Front	3.25 inches (83mm)	7 degrees
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Bow Gunner	None	Periscope M6 (1) and Protectoscope (1)
Ammunition Passer	Hatch and hull pistol ports (2)	Protectoscopes (2) in hull pistol port covers
Commander	Hatch	Periscope M6 (1)
Gunner	None	Periscope M8 (1)
Loader	Pistol port (1)	Periscope M6 (1) and Protectoscope (1) in pistol port cover

Total Periscopes: M6 (5), M8 (1)

Total Protectoscopes: (4)

Total Pistol Ports: Hull (2), Turret (1)

* (1) .50 caliber MG HB M2 may be substituted for .30 caliber AA MG

ENGINE

Make and Model: Wright G-200 Model 781C9GC1
 Type: 9 cylinder, 4 cycle, radial
 Cooling System: Air Ignition: Magneto
 Displacement: 1823 cubic inches
 Bore and Stroke: 6.125 x 6.875 inches
 Compression Ratio: 4.92:1
 Net Horsepower (max): 825 hp at 2300 rpm
 Gross Horsepower (max): 960 hp at 2300 rpm
 Gross Torque (max): 1830 ft-lb at 2100 rpm
 Weight: 1350 pounds, dry
 Fuel: 80 octane gasoline 477 gallons
 Engine Oil: 72 quarts

POWER TRAIN

Transmission: Timken mechanical w/Twin Disc torque converter model 16001, w/vacuum assist control, 2 speeds forward, 1 reverse
 Gear Ratios: 1st 1.61:1 reverse 1.61:1
 2nd 0.22:1

Steering: Controlled differential

Gear Ratio: 0.62:1 Steering Ratio: 1.62:1

Brakes: Budd disc, mechanical and vacuum assist control

Final Drive: Compensating differential Gear Ratio: 5:1

Drive Sprocket: At rear of vehicle with 14 teeth

Pitch Diameter: 26.806 inches

RUNNING GEAR

Suspension: Horizontal volute spring

16 dual wheels in 8 bogies (4 bogies/track)

Tire Size: 18 x 7 inches

8 dual track return rollers (4/track)

Dual adjustable idler at front of each track

Idler Tire Size: 30 x 7 inches

2 dual auxiliary idlers (1/track) between main idler and front bogie

Tracks: Outside guide; T31*

Type: (T31) Double pin, 25.75 inch width, rubber backed steel

Pitch: 6 inches

Shoes per Vehicle: 198 (99/track)

Ground Contact Length: 187.9 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: (1) 24 volts, 50 amperes, driven by power take-off from main engine

Auxiliary Generator: (1) 30 volts, 50 amperes, driven by the auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508, 528, or 538 in rear of turret, SCR 506 (command tanks only) in right sponson.

Interphone: Part of radio, 6 stations

FIRE AND GAS PROTECTION

(6) 10 pound carbon dioxide, fixed

(2) 4 pound carbon dioxide, portable

(4) 1½ quart decontaminating apparatus M2

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour

Maximum Grade: 60 per cent

Maximum Trench: 11 feet

Maximum Vertical Wall: 36 inches

Maximum Forging Depth: 48 inches

Minimum Turning Circle: (diameter) 74 feet

Cruising Range: Roads approx. 100 miles

* Center guide added later to these tracks and outside guides removed

HEAVY TANK M6A2E1

GENERAL DATA

Crew:	5 men
Length: Gun forward, w/stowage boxes	440.0 inches
Length: Gun to rear, w/stowage boxes	390.0 inches
Length: Without gun, w/stowage boxes	297.0 inches
Gun Overhang: Gun forward	143.0 inches
Width: Over track armor	123.0 inches
Height: To turret roof	137.0 inches
Tread:	93.9 inches
Ground Clearance:	20.5 inches
Fire Height:	approx. 106 inches
Turret Ring Diameter: (inside)	80.0 inches
Weight, Combat Loaded:	approx. 154,000 pounds
Weight, Unstowed:	approx. 147,000 pounds
Power to Weight Ratio: Net	9.1 hp/ton
Gross	12.5 hp/ton
Ground Pressure: Zero penetration	15.9 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front	equals 7.5 inches (191mm)	0 degrees
Sides, Upper	1.75 inches (44mm)	20 degrees
Lower	2.75 inches (70mm)	0 degrees
		(incl. track armor)
Rear	1.63 inches (41mm)	17 degrees
Top	1.0 inches (25mm)	90 degrees
Floor	1.0 inches (25mm)	90 degrees
Turret Thickness:		
Gun Shield	7.5 inches (191mm)	0 degrees
Front	equals 7.5 inches (191mm)	0 degrees
Sides	3.5 inches (89mm)	0 degrees
Rear	8.2 inches (208mm)	0 degrees
Top	1.0 inches (25mm)	90 degrees

ARMAMENT

Primary: 105mm Gun T5E1 in combination mount in turret		
Traverse: Electric and manual	360 degrees	
Traverse Rate: (max)	20 seconds/360 degrees	
Elevation: Manual	+20 to -10 degrees	
Firing Rate: (max)	6 rounds/minute	
Loading System:	Manual	
Stabilizer System:	None	

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret roof
- (1) .30 caliber MG M1919A4 coaxial w/105mm gun in turret
- Provision for (5) .45 caliber SMG M3

AMMUNITION

60 rounds 105mm	12 hand grenades
600 rounds .50 caliber	
900 rounds .45 caliber	
4000 rounds .30 caliber	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscopic Sight	Azimuth Indicator
	Telescope	Elevation Quadrant M9
		Gunner's Quadrant M1
Vision Devices:	Direct	Indirect
Driver	None	Periscope M6 (2)
Asst. Driver	None	Periscope M6 (1)
Commander	Vision blocks (6) in cupola, hatch	Periscope M6 (1)
Gunner	None	Periscopic Sight
Loader	Hatch and pistol port	Periscope M6 (1)

Total Periscopes: M6 (5), Periscopic Sight (1)

Total Pistol Ports: Hull (0), Turret (1)

Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: Wright G-200 Model 795C9GC1	
Type: 9 cylinder, 4 cycle, radial	
Cooling System: Air	Ignition: Magneto
Displacement:	1823 cubic inches
Bore and Stroke:	6.125 x 6.875 inches
Compression Ratio:	4.92:1
Net Horsepower (max): Governed speed	700 hp at 1950 rpm
Gross Horsepower (max):	960 hp at 2300 rpm
Gross Torque (max): Governed speed	1810 ft-lb at 1950 rpm
Weight:	1350 pounds, dry
Fuel: 80 octane gasoline	464 gallons
Engine Oil:	72 quarts

POWER TRAIN

Transmission: Electric drive with speed infinitely variable both forward and reverse	
Steering: Electric	
Brakes: Electric	
Final Drive: Spur gear	Gear Ratio: 10:1
Drive Sprocket: At rear of vehicle with 14 teeth	
Pitch Diameter: 26.806 inches	

RUNNING GEAR

Suspension: Horizontal volute spring
16 dual wheels in 8 bogies (4 bogies/track)
Tire Size: 18 x 7 inches
8 dual track return rollers (4/track)
Dual adjustable idler at front of each track
Idler Tire Size: 30 x 7 inches
2 dual auxiliary idlers (1/track) between main idler and front bogie
Tracks: Outside guide T31*
Type: (T31) Double pin, 25.75 inch width, rubber backed steel
Pitch: 6 inches
Shoes per Vehicle: 198 (99/track)
Ground Contact Length: 187.9 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Battery Charging Generator: (1) 24 volts, 200 amperes, driven by power take-off from main engine
Auxiliary Generator: (1) 30 volts, 50 amperes, driven by the auxiliary engine
Battery: (2) 12 volts in series
COMMUNICATIONS
Radio: SCR 508, 528, or 538 in rear of turret, SCR 506 (command tanks only) in right sponson
Interphone: Part of radio, 6 stations

FIRE AND GAS PROTECTION

- (6) 10 pound carbon dioxide, fixed
- (2) 4 pound carbon dioxide, portable
- (4) 1½ quart decontaminating apparatus M2

PERFORMANCE

Maximum Speed: Sustained, level road	18 miles/hour
Maximum Grade:	30 per cent
Maximum Trench:	11 feet
Maximum Vertical Wall:	36 inches
Maximum Forging Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 100 miles

* Center guide added later to these tracks and the outside guides removed

SUPERHEAVY TANK T28 (105mm GUN MOTOR CARRIAGE T95)

GENERAL DATA

Crew:	4	men
Length: Gun forward	438.0	inches
Length: Without gun	295.1	inches
Gun Overhang: Gun forward	142.9	inches
Width: Over armor side skirts	179.3	inches
Without outboard tracks	124.0	inches
Height: Over AA MG	112.4	inches
Tread: With outboard tracks	126.5	inches
Without outboard tracks	104.5	inches
Ground Clearance:	19.5	inches
Fire Height:	approx. 60	inches
Weight, Combat Loaded:	approx. 190,000	pounds
Weight, Unstowed:	approx. 180,600	pounds
Weight, Without Outboard Tracks:	approx. 131,000	pounds
Power to Weight Ratio: Net	4.3	hp/ton
Gross	5.3	hp/ton
Ground Pressure: Zero penetration, w/outboard tracks	11.7	psi
Zero penetration, w/o outboard tracks	16.2	psi

ARMOR

Type: Turret, none; Hull, rolled and cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Gun Shield	11.5 inches (292mm)	0 degrees
Front, Upper	12.0 inches (305mm)	0 degrees
Lower	5.25 inches (133mm)	60 degrees
Sides, Upper	2.5 inches (64mm)	57 degrees
* Lower	6.0 inches (152mm)	0 degrees
Rear	2.0 inches (51mm)	9 degrees
Top	1.5 inches (38mm)	90 degrees
Floor	1.0 inches (25mm)	90 degrees

ARMAMENT

Primary: 105mm Gun T5E1 in Mount T40 in front hull	
Traverse: Manual	10 degrees right, 11 degrees left
Elevation: Manual	+19 degrees 30 minutes to -5 degrees
Firing Rate: (max)	4 rounds/minute (1 loader)
Loading System:	Manual
Stabilizer System:	None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on hull roof
- Provision for (1) .45 caliber SMG M3
- Provision for (3) .30 caliber Carbine M2

AMMUNITION

62 rounds 105mm	12 hand grenades
660 rounds .50 caliber	
180 rounds .45 caliber	
225 rounds .30 caliber (carbine)	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope T139	Panoramic Telescope T141
Vision Devices:	Periscope M10E3	Elevation Quadrant M9
Driver	Direct	Indirect
Commander	Vision blocks (6) in cupola, hatch	Periscope M13 (1)
Gunner	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Loader	None	Periscope M10E3 and Panoramic Telescope T141
	None	None

Total Periscopes: M10E3 (1), M13 (1), M15 (1)

Total Cupolas: (2) each w/6 vision blocks on hull roof

* Includes 4 inch armor side skirt

ENGINE

Make and Model: Ford GAF	
Type: 8 cylinder, 4 cycle, 60 degree vee	
Cooling System: Liquid Ignition: Magneto	
Displacement:	1100 cubic inches
Bore and Stroke:	5.4 x 6 inches
Compression Ratio:	7.5:1
Net Horsepower (max):	410 hp at 2600 rpm
Gross Horsepower (max):	500 hp at 2600 rpm
Net Torque (max):	780 ft-lb at 2325 rpm
Gross Torque (max):	1050 ft-lb at 2200 rpm
Weight:	1414 pounds, dry
Fuel: 80 octane gasoline	400 gallons
Engine Oil:	32 quarts

POWER TRAIN

Transfer Case: Planetary reduction gears
Gear Ratios: 1.377:1 engine to transmission
Transmission: Torqmatic, 3 speeds forward, 1 reverse
Torque Converter Ratio: Varies from 1:1 to 4.8:1
Gear Ratios: 1st 1:1 3rd 0.244:1
2nd 0.428:1 reverse 0.756:1

Steering: Controlled differential

 Steering Ratio: 2.08:1

Brakes: Mechanical, external contracting

Final Drive: Planetary Gear Gear Ratio: 12.126:1

Drive Sprocket: At rear of vehicle with 14 teeth

 Pitch Diameter: 26.964 inches

RUNNING GEAR

Suspension: Double track horizontal volute spring, with separable outboard tracks

 32 dual wheels in 16 bogies (8 bogies/side or 4 bogies/track)

 Tire Size: 20.5 x 4.5 inches

 12 dual track return rollers (6/side or 3/track)

 8 single track return rollers (4/side or 2/track)

 Dual adjustable idler at front of each track

 Idler Tire Size: 22 x 4.5 inches

Tracks: Center guide

 Type: Double pin, 19.5 inch width, rubber and steel

 Pitch: 6 inches

 Shoes per Vehicle: 408 (204/side or 102/track)

 Ground Contact Length: 208 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 and 12 volts DC

Generator: (1) 28.5 volts, 150 amperes, belt driven by either the main engine or the auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 and AN/VRC 3 on bulkhead in fighting compartment

Interphone: 4 stations

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed

(1) 4 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road	8 miles/hour
Maximum Tractive Effort: TE at stall	143,000 pounds
Per Cent of Vehicle Weight: TE/W	75 per cent
Maximum Grade:	60 per cent
Maximum Trench:	9.5 feet
Maximum Vertical Wall:	24 inches
Maximum Fording Depth:	47 inches
Minimum Turning Circle: (diameter)	80 feet
Cruising Range: Roads	approx. 100 miles

HEAVY TANK T29

GENERAL DATA

Crew: 6 men
 Length: Gun forward 455.5 inches
 Length: Gun in travel position 393.3 inches
 Length: Without gun 299.6 inches
 Gun Overhang: Gun forward 155.9 inches
 Width: Over sandshields 149.7 inches
 Height: Over cupola 126.9 inches
 Tread: w/28 inch tracks 1150 inches
 w/23 inch tracks 1100 inches
 Ground Clearance: 188 inches
 Fire Height: approx. 85 inches
 Turret Ring Diameter: (inside) 80.0 inches
 Weight, Combat Loaded: approx. 141,500 pounds
 Weight, Unstowed: approx. 132,500 pounds
 Power to Weight Ratio: Net 9.2 hp/ton
 Gross 109 hp/ton
 Ground Pressure: Zero penetration, w/28 inch tracks 12.2 psi
 Zero penetration, w/23 inch tracks 14.9 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel;
 Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	4.0 inches (102mm)	54 degrees
Lower	2.75 inches (70mm)	58 degrees
Sides, Front	3.0 inches (76mm)	0 degrees
Rear	2.0 inches (51mm)	0 degrees
Rear, Upper	2.0 inches (51mm)	9 degrees
Lower	0.75 inches (19mm)	62 degrees
Top	1.5 inches (38mm)	90 degrees
Floor, Front	1.0 inches (25mm)	90 degrees
Rear	0.5 inches (13mm)	90 degrees
Turret Thickness:		
Gun Shield	8 to 11 inches (203 to 279mm)	0 degrees
Front	7.0 inches (178mm)	0 degrees
Sides	5.0 inches (127mm)	0 degrees
Rear	4.0 inches (102mm)	0 degrees
Top	1.5 inches (38mm)	90 degrees

ARMAMENT

Primary: 105mm Gun T5E2 in Mount T123E1 in turret
 Traverse: Electric-hydraulic and manual 360 degrees
 Traverse Rate: (max) 20 seconds/360 degrees
 Elevation: Manual +15 to -10 degrees
 Firing Rate: (max) 6 rounds/minute (2 loaders)
 Loading System: Manual
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret
- (2) .50 caliber MG HB M2 coaxial w/105mm gun in turret
- (1) .30 caliber MG M1919A4 in bow mount
- Provision for (6) .45 caliber SMG M3

AMMUNITION

63 rounds 105mm 12 hand grenades
 2420 rounds .50 caliber
 1080 rounds .45 caliber
 2500 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope T143E1	Azimuth Indicator T19
	Periscope M10E5	Elevation Quadrant M9
		Gunner's Quadrant M1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M13 (1)
Asst. Driver	Hatch	Periscope M13 (1)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Gunner	None	Periscope M10E5 (1)
Loader, left	Hatch	None
Loader, right	Hatch and pistol port	None

Total Periscopes: M10E5 (1), M13 (2), M15 (1)

Total Pistol Ports: Hull (0), Turret (1)

Total Vision Blocks: (6) in cupola on turret port

ENGINE

Make and Model: Ford GAC
 Type: 12 cylinder, 4 cycle, 60 degree vee
 Cooling System: Liquid Ignition: Magneto
 Displacement: 1649 cubic inches
 Bore and Stroke: 5.4 x 6 inches
 Compression Ratio: 7.5:1
 Net Horsepower (max): 650 hp at 2800 rpm
 Gross Horsepower (max): 770 hp at 2800 rpm
 Net Torque (max): 1440 ft-lb at 1600 rpm
 Gross Torque (max): 1560 ft-lb at 1600 rpm
 Weight: 1850 pounds, dry
 Fuel: 80 octane gasoline 300 gallons
 Engine Oil: 55 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-1, 2 ranges forward, 1 reverse
 Three stage hydraulic torque converter
 Stall Multiplication: 4.75:1
 Overall Usable Ratios: low 12.7:1 reverse 20.6:1
 high 6.2:1

Steering Control: Mechanical, wobble stick

Steering Rate: 5.7 rpm

Brakes: Multiple disc

Final Drive: Spur gear Gear Ratio: 6.31:1

Drive Sprocket: At rear of vehicle with 15 teeth

Pitch Diameter: 28.89 inches

RUNNING GEAR

Suspension: Torsion bar

16 individually sprung dual road wheels (8/track)

Tire Size: 26 x 6 inches

14 dual track return rollers (7/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 3 and last 2 road wheels on each side

Tracks: Center guide T80E3 and T84E3

* Type: (T80E3) Double pin, 28 inch width, rubber backed steel

(T84E3) Double pin 28 inch width, rubber chevron

Pitch: 6 inches

Shoes per Vehicle: 204 (102/track)

Ground Contact Length: 204.6 inches, left side
 208.6 inches, right side

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: 28.5 volts, 175 amperes, gear driven by main engine

Auxiliary Generator: 28.5 volts, 175 amperes, driven by auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 or 528 in turret bustle

AN/VRC-3 in turret bustle

Interphone: 6 stations plus external extension kit RC-298

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed

(2) 4 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour

Maximum Tractive Effort: TE at stall 86,300 pounds

Per Cent of Vehicle Weight: TE/W

62 per cent

Maximum Grade:

6.25 feet

Maximum Trench:

26 inches

Maximum Fording Depth:

42 inches

Minimum Turning Circle: (diameter)

pivot approx. 100 miles

* The T80E3 and T84E3 tracks are the 23 inch wide T80E1 and T84E1 tracks

fitted with 5 inch extended end connectors.

HEAVY TANK T29E1

GENERAL DATA

Crew: 6 men
 Length: Gun forward 455.5 inches
 Length: Gun in travel position 393.3 inches
 Length: Without gun 299.6 inches
 Gun Overhang: Gun forward 155.9 inches
 Width: Over sandshields 149.7 inches
 Height: Over cupola 126.9 inches
 Tread: w/28 inch tracks 115.0 inches
 w/23 inch tracks 110.0 inches
 Ground Clearance: 18.8 inches
 Fire Height: approx. 85 inches
 Turret Ring Diameter: (inside) 80.0 inches
 Weight, Combat Loaded: approx. 141,000 pounds
 Weight, Unstowed: approx. 132,000 pounds
 Power to Weight Ratio: Net 10.6 hp/ton
 Gross 12.3 hp/ton
 Ground Pressure: Zero penetration, w/28 inch tracks 12.2 psi
 Zero penetration, w/23 inch tracks 14.8 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel;

Welded assembly
 Hull Thickness: Actual Angle w/Vertical
 Front, Upper 4.0 inches (102mm) 54 degrees
 Lower 2.75 inches (70mm) 58 degrees
 Sides, Front 3.0 inches (76mm) 0 degrees
 Rear 2.0 inches (51mm) 0 degrees
 Rear, Upper 2.0 inches (51mm) 9 degrees
 Lower 0.75 inches (19mm) 62 degrees
 Top 1.5 inches (38mm) 90 degrees
 Floor, Front 1.0 inches (25mm) 90 degrees
 Rear 0.5 inches (13mm) 90 degrees
 Turret Thickness:
 Gun Shield 8 to 11 inches 0 degrees
 (203 to 279mm)
 Front 7.0 inches (178mm) 0 degrees
 Sides 5.0 inches (127mm) 0 degrees
 Rear 4.0 inches (102mm) 0 degrees
 Top 1.5 inches (38mm) 90 degrees

ARMAMENT

Primary: 105mm Gun T5E1 in Mount T123 in turret
 Traverse: Electric-hydraulic and manual 360 degrees
 Traverse Rate: (max) 20 seconds/360 degrees
 Elevation: Manual +15 to -10 degrees
 Firing Rate: (max) 6 rounds/minute (2 loaders)
 Loading System: Manual
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret
- (2) .50 caliber MG HB M2 coaxial w/105mm gun in turret
- (1) .30 caliber MG M1919A4 in bow mount
- Provision for (6) .45 caliber SMG M3

AMMUNITION

63 rounds 105mm 12 hand grenades
 2420 rounds .50 caliber
 1080 rounds .45 caliber
 2500 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon: Direct Indirect
 Telescope T143E1 Azimuth Indicator T19
 Periscope M10E5 Elevation Quadrant M9
 Gunner's Quadrant M1
 Vision Devices: Direct Indirect
 Driver Hatch Periscope M13 (1)
 Asst. Driver Hatch Periscope M13 (1)
 Commander Vision blocks (6) Periscope M15 (1)
 in cupola, hatch
 Gunner None Periscope M10E5 (1)
 Loader, left Hatch None
 Loader, right Hatch and pistol port None

Total Periscopes: M10E5 (1), M13 (2), M15 (1)
 Total Pistol Ports: Hull (0), Turret (1)
 Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: General Motors Allison V-1710-E32
 Type: 12 cylinder, 4 cycle, 60 degree vee
 Cooling System: Liquid Ignition: Magneto
 Displacement: 1710.6 cubic inches
 Bore and Stroke: 5.5 x 6.0 inches
 Compression Ratio: 6.65:1
 Net Horsepower (max): 750 hp at 2800 rpm
 Gross Horsepower (max): 870 hp at 2800 rpm
 Net Torque (max): 1700 ft-lb at 1700 rpm
 Gross Torque (max): 1810 ft-lb at 1800 rpm
 Weight: 1595 pounds, dry
 Fuel: 80 octane gasoline 222 gallons
 Engine Oil: 52 quarts
POWER TRAIN
 Transmission: Cross-drive CD-850-1, 2 ranges forward, 1 reverse
 Three stage hydraulic torque converter
 Stall Multiplication: 4.75:1
 Overall Usable Ratios: low 12.7:1 reverse 20.6:1
 high 6.2:1

Steering Control: Mechanical, wobble stick

Steering Rate: 5.7 rpm
 Brakes: Multiple disc
 Final Drive: Spur gear Gear Ratio: 6.31:1
 Drive Sprocket: At rear of vehicle with 15 teeth
 Pitch Diameter: 28.89 inches

RUNNING GEAR

Suspension: Torsion bar
 16 individually sprung dual road wheels (8/track)
 Tire Size: 26 x 6 inches
 14 dual track return rollers (7/track)
 Dual compensating idler at front of each track
 Idler Tire Size: 26 x 6 inches
 Shock absorbers fitted on first 3 and last 2 road wheels on each side
 Tracks: Center guide T80E3 and T84E3
 * Type: (T80E3) Double pin, 28 inch width, rubber backed steel
 (T84E3) Double pin 28 inch width, rubber chevron
 Pitch: 6 inches
 Shoes per Vehicle: 204 (102/track)
 Ground Contact Length: 204.6 inches, left side
 208.6 inches, right side

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
 Main Generator: 28.5 volts, 200 amperes, gear driven by main engine
 Auxiliary Generator: 28.5 volts, 200 amperes, driven by auxiliary engine
 Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 or 528 in turret bustle
 AN/VRC-3 in turret bustle
 Interphone: 6 stations plus external extension kit RC-298

FIRE PROTECTION

- (2) 10 pound carbon dioxide, fixed
- (2) 4 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour
 Maximum Grade: 60 per cent
 Maximum Trench: 6.25 feet
 Maximum Vertical Wall: 26 inches
 Maximum Forging Depth: 42 inches
 Minimum Turning Circle: (diameter) pivot
 Cruising Range: Roads approx. 75 miles

* The T80E3 and T84E3 tracks are the 23 inch wide T80E1 and T84E1 tracks fitted with 5 inch extended end connectors.

HEAVY TANK T29E3

GENERAL DATA

Crew: 6 men
 Length: Gun forward 455.5 inches
 Length: Gun in travel position 393.3 inches
 Length: Without gun 299.6 inches
 Gun Overhang: Gun forward 155.9 inches
 Width: Over sandshields 149.7 inches
 Height: Over cupola 126.9 inches
 Tread: w/28 inch tracks 115.0 inches
 w/23 inch tracks 110.0 inches
 Ground Clearance: 18.8 inches
 Fire Height: approx. 85 inches
 Turret Ring Diameter: (inside) 80.0 inches
 Weight, Combat Loaded: approx. 144,000 pounds
 Weight, Unstowed: approx. 135,000 pounds
 Power to Weight Ratio: Net 9.0 hp/ton
 Gross 10.7 hp/ton
 Ground Pressure: Zero penetration, w/28 inch tracks 12.4 psi
 Zero penetration, w/23 inch tracks 15.2 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel;
 Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	4.0 inches (102mm)	54 degrees
Lower	2.75 inches (70mm)	58 degrees
Sides, Front	3.0 inches (76mm)	0 degrees
Rear	2.0 inches (51mm)	0 degrees
Rear, Upper	2.0 inches (51mm)	9 degrees
Lower	0.75 inches (19mm)	62 degrees
Top	1.5 inches (38mm)	90 degrees
Floor, Front	1.0 inches (25mm)	90 degrees
Rear	0.5 inches (13mm)	90 degrees
Turret Thickness:		
Gun Shield	8 to 11 inches (203 to 279mm)	0 degrees
Front	7.0 inches (178mm)	0 degrees
Sides	5.0 inches (127mm)	0 degrees
Rear	4.0 inches (102mm)	0 degrees
Top	1.5 inches (38mm)	90 degrees

ARMAMENT

Primary: 105mm Gun T5E1 in Mount T123 in turret
 Traverse: Electric-hydraulic and manual 360 degrees
 Traverse Rate: (max) 20 seconds/360 degrees
 Elevation: Manual +15 to -10 degrees
 Firing Rate: (max) 6 rounds/minute (2 loaders)
 Loading System: Manual
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret
- (2) .50 caliber MG HB M2 coaxial w/105mm gun in turret
- (1) .30 caliber MG M1919A4 in bow mount
- Provision for (6) .45 caliber SMG M3

AMMUNITION

63 rounds 105mm 12 hand grenades
 2420 rounds .50 caliber
 1080 rounds .45 caliber
 2500 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Range Finder T31E1	Panoramic Telescope T141
	Telescope T93E2	Panoramic Telescope T144
	Periscope M10E5 (1)	Panoramic Telescope T145
		Azimuth Indicator T19
		Elevation Quadrant M9
		Gunner's Quadrant M1

Vision Devices:

	Direct	Indirect
Driver	Hatch	Periscope M13 (1)
Asst. Driver	Hatch	Periscope M13 (1)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Gunner	None	Range Finder T31E1 Periscope M10E5 (1) Panoramic Telescopes T141, T144, or T145
Loader, left	Hatch	None
Loader, right	Hatch and pistol port	None

Total Periscopes: M10E5 (1), M13 (2), M15 (1)

Total Pistol Ports: Hull (0), Turret (1)

Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: Ford GAC
 Type: 12 cylinder, 4 cycle, 60 degree vee
 Cooling System: Liquid Ignition: Magneto
 Displacement: 1649 cubic inches
 Bore and Stroke: 5.4 x 6 inches
 Compression Ratio: 7.5:1
 Net Horsepower (max): 650 hp at 2800 rpm
 Gross Horsepower (max): 770 hp at 2800 rpm
 Net Torque (max): 1440 ft-lb at 1600 rpm
 Gross Torque (max): 1560 ft-lb at 1600 rpm
 Weight: 1850 pounds, dry
 Fuel: 80 octane gasoline 300 gallons
 Engine Oil: 55 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-1, 2 ranges forward, 1 reverse
 Three stage hydraulic torque converter
 Stall Multiplication: 4.75:1
 Overall Usable Ratios: low 12.7:1 reverse 20.6:1
 high 6.2:1

Steering Control: Mechanical, wobble stick

Steering Rate: 5.7 rpm

Brakes: Multiple disc

Final Drive: Spur gear Gear Ratio: 6.31:1

Drive Sprocket: At rear of vehicle with 15 teeth

Pitch Diameter: 28.89 inches

RUNNING GEAR

Suspension: Torsion bar

16 individually sprung dual road wheels (8/track)

Tire Size: 26 x 6 inches

14 dual track return rollers (7/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 3 and last 2 road wheels on each side

Tracks: Center guide T80E3 and T84E3

* Type: (T80E3) Double pin, 28 inch width, rubber backed steel
 (T84E3) Double pin 28 inch width, rubber chevron

Pitch: 6 inches

Shoes per Vehicle: 204 (102/track)

Ground Contact Length: 204.6 inches, left side
 208.6 inches, right side

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: 28.5 volts, 175 amperes, gear driven by main engine

Auxiliary Generator: 28.5 volts, 175 amperes, driven by auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 or 528 in turret bustle

AN/VRC-3 in turret bustle

Interphone: 6 stations plus external extension kit RC-298

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed

(2) 4 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour

Maximum Tractive Effort: TE at stall 86,300 pounds

Per Cent of Vehicle Weight: 62 per cent

Maximum Grade: 60 per cent

Maximum Trench: 6.25 feet

Maximum Vertical Wall: 26 inches

Maximum Fording Depth: 42 inches

Minimum Turning Circle: (diameter) pivot

Cruising Range: Roads approx. 75 miles

* The T80E3 and T84E3 tracks are the 23 inch wide T80E1 and T84E1 tracks fitted with 5 inch extended end connectors.

HEAVY TANK T30

GENERAL DATA

Crew:	6 men
Length: Gun forward	429.0 inches
Length: Gun in travel position	365.0 inches
Length: Without gun	299.6 inches
Gun Overhang: Gun forward	129.4 inches
Width: Over sandshields	149.7 inches
Height: Over cupola	126.9 inches
Tread: w/28 inch tracks	115.0 inches
w/23 inch tracks	110.0 inches
Ground Clearance:	188 inches
Fire Height:	approx. 85 inches
Turret Ring Diameter: (inside)	80.0 inches
Weight, Combat Loaded:	approx. 142,600 pounds
Weight, Unstowed:	approx. 133,600 pounds
Power to Weight Ratio: Net	9.9 hp/ton
Gross	11.4 hp/ton
Ground Pressure: Zero penetration, w/28 inch tracks	12.3 psi
Zero penetration, w/23 inch tracks	15.0 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	4.0 inches (102mm)	54 degrees
Lower	2.75 inches (70mm)	58 degrees
Sides, Front	3.0 inches (76mm)	0 degrees
Rear	2.0 inches (51mm)	0 degrees
Rear, Upper	2.0 inches (51mm)	9 degrees
Lower	0.75 inches (19mm)	62 degrees
Top	1.5 inches (38mm)	90 degrees
Floor, Front	1.0 inches (25mm)	90 degrees
Rear	0.5 inches (13mm)	90 degrees
Turret Thickness:		
Gun Shield	8 to 11 inches (203 to 279mm)	0 degrees
Front	7.0 inches (178mm)	0 degrees
Sides	5.0 inches (127mm)	0 degrees
Rear	4.0 inches (102mm)	0 degrees
Top	1.5 inches (38mm)	90 degrees

ARMAMENT

Primary: 155mm Gun T7 in Mount T124 in turret
 Traverse: Electric-hydraulic and manual 360 degrees
 Traverse Rate: (max) 20 seconds/360 degrees
 Elevation: Manual +15 to -10 degrees
 Firing Rate: (max) 2 rounds/minute (2 loaders)
 Loading System: Manual w/hoist and spring rammer

Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret
- (1) .50 caliber MG HB M2 coaxial w/155mm gun in turret
- (1) .30 caliber MG M1919A4 in bow mount

Provision for (6) .45 caliber SMG M3

AMMUNITION

34 rounds 155mm 12 hand grenades
 2200 rounds .50 caliber
 1080 rounds .45 caliber
 2500 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope T143E1	Azimuth Indicator T19
	Periscope M10E9	Elevation Quadrant M9
		Gunner's Quadrant M1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M13 (1)
Asst. Driver	Hatch	Periscope M13 (1)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Gunner	None	Periscope M10E9 (1)
Loader, left	Hatch	None
Loader, right	Hatch and pistol port	None
Total Periscopes:	M10E9 (1), M13 (2), M15 (1)	
Total Pistol Ports:	Hull (0), Turret (1)	
Total Vision Blocks:	(6) in cupola on turret top	

ENGINE

Make and Model: Continental AV-1790-3
 Type: 12 cylinder, 4 cycle, 90 degree vee
 Cooling System: Air Ignition: Magneto
 Displacement: 1791.7 cubic inches
 Bore and Stroke: 5.75 x 5.75 inches
 Compression Ratio: 6.5:1
 Net Horsepower (max): 704 hp at 2800 rpm
 Gross Horsepower (max): 810 hp at 2800 rpm
 Net Torque (max): 1440 ft-lb at 2000 rpm
 Gross Torque (max): 1610 ft-lb at 2200 rpm
 Weight: 2332 pounds, dry
 Fuel: 80 octane gasoline 320 gallons
 Engine Oil: 72 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-1, 2 ranges forward, 1 reverse
 Three stage hydraulic torque converter
 Stall Multiplication: 4.75:1
 Overall Usable Ratios: low 12.7:1 reverse 20.6:1
 high 6.2:1

Steering Control: Mechanical, wobble stick
 Steering Rate: 5.7 rpm

Brakes: Multiple disc
 Final Drive: Spur gear Gear Ratio: 6.31:1
 Drive Sprocket: At rear of vehicle with 15 teeth
 Pitch Diameter: 28.89 inches

RUNNING GEAR

Suspension: Torsion bar
 16 individually sprung dual road wheels (8/track)
 Tire Size: 26 x 6 inches
 14 dual track return rollers (7/track)
 Dual compensating idler at front of each track
 Idler Tire Size: 26 x 6 inches
 Single track tension idler in front of each sprocket
 Shock absorbers fitted on first 3 and last 2 road wheels on each side
 Tracks: Center guide T80E3 and T84E3
 * Type: (T80E3) Double pin, 28 inch width, rubber backed steel
 (T84E3) Double pin, 28 inch width, rubber chevron
 Pitch: 6 inches
 Shoes per Vehicle: 204 (102/track)
 Ground Contact Length: 204.6 inches, left side
 208.6 inches, right side

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
 Main Generator: 28.5 volts, 200 amperes, gear driven by main engine
 Auxiliary Generator: 28.5 volts, 200 amperes, driven by auxiliary engine
 Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 or 528 in turret bustle
 AN/VRC-3 in turret bustle
 Interphone: 6 stations plus external extension kit RC-298

FIRE PROTECTION

- (3) 10 pound carbon dioxide, fixed
- (2) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour
 Maximum Tractive Effort: TE at stall 91,700 pounds
 Per Cent of Vehicle Weight: TE/W 64 per cent
 Maximum Grade: 60 per cent
 Maximum Trench: 6.25 feet
 Maximum Vertical Wall: 26 inches
 Maximum Fording Depth: 42 inches
 Minimum Turning Circle: (diameter) pivot
 Cruising Range: Roads approx. 100 miles
 * The T80E3 and T84E3 tracks are the 23 inch wide T80E1 and T84E1 tracks fitted with 5 inch extended end connectors.

HEAVY TANK T32

GENERAL DATA

Crew: 5 men
 Length: Gun forward 426.6 inches
 Length: Gun in travel position 375.0 inches
 Length: Without gun 278.4 inches
 Gun Overhang: Gun forward 148.2 inches
 Width: Over sandshields 148.3 inches
 Height: To top of cupola 110.7 inches
 Tread: w/28 inch tracks 115.0 inches
 w/23 inch tracks 110.0 inches
 Ground Clearance: 18.3 inches
 Fire Height: approx. 78 inches
 Turret Ring Diameter: (inside) 69.0 inches
 Weight, Combat Loaded: approx. 120,000 pounds
 Weight, Unstowed: approx. 112,000 pounds
 Power to Weight Ratio: Net 108 hp/ton
 Gross 128 hp/ton
 Ground Pressure: Zero penetration, w/28 inch tracks 11.6 psi
 Zero penetration, w/23 inch tracks 14.2 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel;
 Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	54 degrees
Lower	3.75 inches (95mm)	59 degrees
Sides	3.0 inches (76mm)	0 degrees
Rear	2.0 inches (51mm)	9 degrees
Top	1.5 inches (38mm)	90 degrees
Floor, Front	1.0 inches (25mm)	90 degrees
Rear	0.5 inches (13mm)	90 degrees

Turret Thickness:	Actual	Angle w/Vertical
Gun Shield	11.75 inches (298mm)	0 degrees
Front	11.75 inches (298mm)	15 degrees
Sides	7.75 to 6 inches (197 to 152mm)	9 degrees
Rear	6.0 inches (152mm)	0 degrees
Top	1.0 inches (25mm)	90 degrees

ARMAMENT

Primary: 90mm Gun T15E2 in Mount T119 in turret
 Traverse: Electric-hydraulic and manual 360 degrees
 Traverse Rate: (max) 15 seconds/360 degrees
 Elevation: Manual +20 to -10 degrees
 Firing Rate: (max) 4 rounds/minute
 Loading System: Manual
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret
- (1) .30 caliber MG M1919A4 coaxial w/90mm gun in turret
- (1) .30 caliber MG M1919A4 in bow mount
- Provision for (5) .45 caliber SMG M3

AMMUNITION

54 rounds 90mm 12 hand grenades
 550 rounds .50 caliber
 900 rounds .45 caliber
 4000 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope M77E1 or	Azimuth Indicator M20
	Telescope M71E4	Elevation Quadrant M9
	Periscope M10E4	Gunner's Quadrant M1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M13 (1)
Asst. Driver	Hatch	Periscope M13 (1)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Gunner	None	Periscope M10E4 (1)
Loader	Hatch and pistol port	Periscope M13 (1)

Total Periscopes: M10E4 (1), M13 (3), M15 (1)

Total Pistol Ports: Hull (0), Turret (1)

Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: Ford GAC
 Type: 12 cylinder, 4 cycle, 60 degree vee
 Cooling System: Liquid Ignition: Magneto
 Displacement: 1649 cubic inches
 Bore and Stroke: 5.4 x 6 inches
 Compression Ratio: 7.5:1
 Net Horsepower (max): 650 hp at 2800 rpm
 Gross Horsepower (max): 770 hp at 2800 rpm
 Net Torque (max): 1440 ft-lb at 1600 rpm
 Gross Torque (max): 1560 ft-lb at 1600 rpm
 Weight: 1850 pounds, dry
 Fuel: 80 octane gasoline 255 gallons
 Engine Oil: 55 quarts

POWER TRAIN

Transmission: Cross-drive EX-120, 2 ranges forward, 1 reverse
 Three stage hydraulic torque converter
 Stall Multiplication: 4.75:1
 Overall Usable Ratios: low 12:1 reverse 22:1
 high 6:1

Steering Control: Mechanical, wobble stick

Steering Rate: 5.7 rpm

Brakes: Multiple disc

Final Drive: Planetary gear Gear Ratio: 5.47:1

Drive Sprocket: At rear of vehicle with 13 teeth

Pitch Diameter: 25.038 inches

RUNNING GEAR

Suspension: Torsion bar

14 individually sprung dual road wheels (7/track)

Tire Size: 26 x 6 inches

12 dual track return rollers (6/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 2 and last 2 road wheels on each side

Tracks: Center guide, T80E3 and T84E3

* Type: (T80E3) Double pin, 28 inch width, rubber backed steel
 (T84E3) Double pin, 28 inch width, rubber chevron

Pitch: 6 inches

Shoes per Vehicle: 188 (94/track)

Ground Contact Length: 182.1 inches, left side
 185.9 inches, right side

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: (1) 28.5 volts, 150 amperes, gear driven by main engine

Auxiliary Generator: (1) 28.5 volts, 150 amperes, driven by auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 and AN/VRC-3 in turret bustle

Interphone: 5 stations

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed

(2) 4 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour

Maximum Tractive Effort: TE at stall 90,000 pounds

Per Cent of Vehicle Weight: TE/W 75 per cent

Maximum Grade: 60 per cent

Maximum Trench: 8.5 feet

Maximum Vertical Wall: 46 inches

Maximum Forging Depth: 48 inches

Minimum Turning Circle: (diameter) pivot

Cruising Range: Roads approx. 100 miles

* The T80E3 and T84E3 tracks are the 23 inch wide T80E1 and T84E1 tracks fitted with 5 inch extended end connectors.

HEAVY TANK T32

GENERAL DATA

Crew:	5 men
Length: Gun forward	426.6 inches
Length: Gun in travel position	375.0 inches
Length: Without gun	278.4 inches
Gun Overhang: Gun forward	148.2 inches
Width: Over sandshields	148.3 inches
Height: To top of cupola	110.7 inches
Tread: w/28 inch tracks	115.0 inches
w/23 inch tracks	110.0 inches
Ground Clearance:	18.3 inches
Fire Height:	approx. 78 inches
Turret Ring Diameter: (inside)	69.0 inches
Weight, Combat Loaded:	approx. 120,000 pounds
Weight, Unstowed:	approx. 112,000 pounds
Power to Weight Ratio: Net	108 hp/ton
Gross	12.8 hp/ton
Ground Pressure: Zero penetration, w/28 inch tracks	11.6 psi
Zero penetration, w/23 inch tracks	14.2 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	54 degrees
Lower	3.75 inches (95mm)	59 degrees
Sides	3.0 inches (76mm)	0 degrees
Rear	2.0 inches (51mm)	9 degrees
Top	1.5 inches (38mm)	90 degrees
Floor, Front	1.0 inches (25mm)	90 degrees
Rear	0.5 inches (13mm)	90 degrees
Turret Thickness:		
Gun Shield	11.75 inches (298mm)	0 degrees
Front	11.75 inches (298mm)	15 degrees
Sides	7.75 to 6 inches (197 to 152mm)	9 degrees
Rear	6.0 inches (152mm)	0 degrees
Top	1.0 inches (25mm)	90 degrees

ARMAMENT

Primary: 90mm Gun T15E2 in Mount T119 in turret

Traverse: Electric-hydraulic and manual	360 degrees
Traverse Rate: (max)	15 seconds/360 degrees
Elevation: Manual	+20 to -10 degrees
Firing Rate: (max)	4 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret
- (1) .30 caliber MG M1919A4 coaxial w/90mm gun in turret
- (1) .30 caliber MG M1919A4 in bow mount

Provision for (5) .45 caliber SMG M3

AMMUNITION

54 rounds 90mm	12 hand grenades
550 rounds .50 caliber	
900 rounds .45 caliber	
4000 rounds .30 caliber	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
Telescope M77E1	or	Azimuth Indicator M20
Telescope M71E4		Elevation Quadrant M9
Periscope M10E4		Gunner's Quadrant M1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M13 (1)
Asst. Driver	Hatch	Periscope M13 (1)
Commander	Vision blocks (6)	Periscope M15 (1)
	in cupola, hatch	
Gunner	None	Periscope M10E4 (1)
Loader	Hatch and pistol port	Periscope M13 (1)

Total Periscopes: M10E4 (1), M13 (3), M15 (1)

Total Pistol Ports: Hull (0), Turret (1)

Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: Ford GAC
 Type: 12 cylinder, 4 cycle, 60 degree vee
 Cooling System: Liquid Ignition: Magneto
 Displacement: 1649 cubic inches
 Bore and Stroke: 5.4 x 6 inches
 Compression Ratio: 7.5:1
 Net Horsepower (max): 650 hp at 2800 rpm
 Gross Horsepower (max): 770 hp at 2800 rpm
 Net Torque (max): 1440 ft-lb at 1600 rpm
 Gross Torque (max): 1560 ft-lb at 1600 rpm
 Weight: 1850 pounds, dry
 Fuel: 80 octane gasoline 255 gallons
 Engine Oil: 55 quarts

POWER TRAIN

Transmission: Cross-drive EX-120, 2 ranges forward, 1 reverse
 Three stage hydraulic torque converter
 Stall Multiplication: 4.75:1
 Overall Usable Ratios: low 12:1 reverse 22:1
high 6:1

Steering Control: Mechanical, wobble stick

Steering Rate: 5.7 rpm

Brakes: Multiple disc

Final Drive: Planetary gear Gear Ratio: 5.47:1

Drive Sprocket: At rear of vehicle with 13 teeth

Pitch Diameter: 25.038 inches

RUNNING GEAR

Suspension: Torsion bar

14 individually sprung dual road wheels (7/track)

Tire Size: 26 x 6 inches

12 dual track return rollers (6/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 2 and last 2 road wheels on each side

Tracks: Center guide, T80E3 and T84E3

* Type: (T80E3) Double pin, 28 inch width, rubber backed steel
 (T84E3) Double pin, 28 inch width, rubber chevron

Pitch: 6 inches

Shoes per Vehicle: 188 (94/track)

Ground Contact Length: 182.1 inches, left side
 185.9 inches, right side

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: (1) 28.5 volts, 150 amperes, gear driven by main engine

Auxiliary Generator: (1) 28.5 volts, 150 amperes, driven by auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 and AN/VRC-3 in turret bustle

Interphone: 5 stations

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed

(2) 4 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour

Maximum Tractive Effort: TE at stall 90,000 pounds

Per Cent of Vehicle Weight: TE/W 75 per cent

Maximum Grade: 60 per cent

Maximum Trench: 8.5 feet

Maximum Vertical Wall: 46 inches

Maximum Fording Depth: 48 inches

Minimum Turning Circle: (diameter) pivot

Cruising Range: Roads approx. 100 miles

* The T80E3 and T84E3 tracks are the 23 inch wide T80E1 and T84E1 tracks fitted with 5 inch extended end connectors.

HEAVY TANK T32E1

GENERAL DATA

Crew:	5 men
Length: Gun forward	426.6 inches
Length: Gun in travel position	375.0 inches
Length: Without gun	278.4 inches
Gun Overhang: Gun forward	148.2 inches
Width: Over sandshields	148.3 inches
Height: To top of cupola	110.7 inches
Tread: w/28 inch tracks	115.0 inches
w/23 inch tracks	110.0 inches
Ground Clearance:	18.3 inches
Fire Height:	approx. 78 inches
Turret Ring Diameter: (inside)	69.0 inches
Weight, Combat Loaded:	approx. 120,000 pounds
Weight, Unstowed:	approx. 112,000 pounds
Power to Weight Ratio: Net	10.8 hp/ton
Gross	12.8 hp/ton
Ground Pressure: Zero penetration, w/28 inch tracks	11.6 psi
Zero penetration, w/23 inch tracks	14.2 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel;

Welded assembly		
Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	54 degrees
Lower	3.75 inches (95mm)	59 degrees
Sides	3.0 inches (76mm)	0 degrees
Rear	2.0 inches (51mm)	9 degrees
Top	1.5 inches (38mm)	90 degrees
Floor, Front	1.0 inches (25mm)	90 degrees
Rear	0.5 inches (13mm)	90 degrees
Turret Thickness:		
Gun Shield	11.75 inches (298mm)	0 degrees
Front	11.75 inches (298mm)	15 degrees
Sides	7.75 to 6 inches (197 to 152mm)	9 degrees
Rear	6.0 inches (152mm)	0 degrees
Top	1.0 inches (25mm)	90 degrees

ARMAMENT

Primary: 90mm Gun T15E2 in Mount T119 in turret

Traverse: Electric-hydraulic and manual	360 degrees
Traverse Rate: (max)	15 seconds/360 degrees
Elevation: Manual	+20 to -10 degrees
Firing Rate: (max)	4 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret
- (1) .30 caliber MG M1919A4 coaxial w/90mm gun in turret
- Provision for (5) .45 caliber SMG M3

AMMUNITION

54 rounds 90mm	12 hand grenades
550 rounds .50 caliber	
900 rounds .45 caliber	
2000 rounds .30 caliber	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope M77E1 or	Azimuth Indicator M20
	Telescope M71E4	Elevation Quadrant M9
	Periscope M10E4	Gunner's Quadrant M1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M25 (1)
Asst. Driver	Hatch	Periscope M25 (1)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Gunner	None	Periscope M10E4 (1)
Loader	Hatch and pistol port	Periscope M13 (1)

Total Periscopes: M10E4 (1), M13 (1), M15 (1), M25 (2)

Total Pistol Ports: Hull (0), Turret (1)

Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: Ford GAC	
Type: 12 cylinder, 4 cycle, 60 degree vee	
Cooling System: Liquid	Ignition: Magneto
Displacement:	1649 cubic inches
Bore and Stroke:	5.4 x 6 inches
Compression Ratio:	7.5:1
Net Horsepower (max):	650 hp at 2800 rpm
Gross Horsepower (max):	770 hp at 2800 rpm
Net Torque (max):	1440 ft-lb at 1600 rpm
Gross Torque (max):	1560 ft-lb at 1600 rpm
Weight:	1850 pounds, dry
Fuel: 80 octane gasoline	255 gallons
Engine Oil:	55 quarts

POWER TRAIN

Transmission: Cross-drive EX-120, 2 ranges forward, 1 reverse	
Three stage hydraulic torque converter	
Stall Multiplication: 4.75:1	
Overall Usable Ratios: low 12:1	reverse 22:1
	high 6:1

Steering Control: Mechanical, wobble stick

Steering Rate: 5.7 rpm

Brakes: Multiple disc

Final Drive: Planetary gear Gear Ratio: 5.47:1

Drive Sprocket: At rear of vehicle with 13 teeth

Pitch Diameter: 25.038 inches

RUNNINGGEAR

Suspension: Torsion bar

14 individually sprung dual road wheels (7/track)

Tire Size: 26 x 6 inches

12 dual track return rollers (6/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 2 and last 2 road wheels on each side

Tracks: Center guide, T80E3 and T84E3

* Type: (T80E3) Double pin, 28 inch width, rubber backed steel
(T84E3) Double pin, 28 inch width, rubber chevron

Pitch: 6 inches

Shoes per Vehicle: 188 (94/track)

Ground Contact Length: 182.1 inches, left side
185.9 inches, right side

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: (1) 28.5 volts, 150 amperes, gear driven by main engine

Auxiliary Generator: (1) 28.5 volts, 150 amperes, driven by auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 and AN/VRC-3 in turret bustle

Interphone: 5 stations

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed

(2) 4 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour

Maximum Tractive Effort: TE at stall 90,000 pounds

Per Cent of Vehicle Weight: TE/W 75 per cent

Maximum Grade: 60 per cent

Maximum Trench: 8.5 feet

Maximum Vertical Wall: 46 inches

Maximum Fording Depth: 48 inches

Minimum Turning Circle: (diameter) pivot

Cruising Range: Roads approx. 100 miles

* The T80E3 and T84E3 tracks are the 23 inch wide T80E1 and T84E1 tracks fitted with 5 inch extended end connectors.

HEAVY TANK T34

GENERAL DATA

Crew:	6 men
Length: Gun forward	463.5 inches
Length: Gun in travel position	398.2 inches
Length: Without gun	299.6 inches
Gun Overhang: Gun forward	163.9 inches
Width: Over sandshields	149.7 inches
Height: Over cupola	126.9 inches
Tread: w/28 inch tracks	115.0 inches
w/23 inch tracks	110.0 inches
Ground Clearance:	18.8 inches
Fire Height:	approx. 85 inches
Turret Ring Diameter: (inside)	80.0 inches
Weight, Combat Loaded:	approx. 143,600 pounds
Weight, Unstowed:	approx. 134,600 pounds
Power to Weight Ratio: Net	9.8 hp/ton
Gross	11.3 hp/ton
Ground Pressure: Zero penetration, w/28 inch tracks	12.4 psi
Zero penetration, w/23 inch tracks	15.1 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	4.0 inches (102mm)	54 degrees
Lower	2.75 inches (70mm)	58 degrees
Sides, Front	3.0 inches (76mm)	0 degrees
Rear	2.0 inches (51mm)	0 degrees
Rear, Upper	2.0 inches (51mm)	9 degrees
Lower	0.75 inches (19mm)	62 degrees
Top	1.5 inches (38mm)	90 degrees
Floor, Front	1.0 inches (25mm)	90 degrees
Rear	0.5 inches (13mm)	90 degrees
Turret Thickness:		
Gun Shield	8 to 11 inches (203 to 279mm)	0 degrees
Front	7.0 inches (178mm)	0 degrees
Sides	5 inches (127mm)	0 degrees
Rear	8.0 inches (203mm)	0 degrees
Top	1.5 inches (38mm)	90 degrees

ARMAMENT

Primary: 120mm Gun T53 in Mount T125 in turret
 Traverse: Electric-hydraulic and manual 360 degrees
 Traverse Rate: (max) 20 seconds/360 degrees
 Elevation: Manual +15 to -10 degrees
 Firing Rate: (max) 5 rounds/minute (2 loaders)
 Loading System: Manual
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret
- (2) .50 caliber MG HB M2 coaxial w/120mm gun in turret
- (1) .30 caliber MG M1919A4 in bow mount
- Provision for (6) .45 caliber SMG M3

AMMUNITION

34 rounds 120mm 12 hand grenades
 2090 rounds .50 caliber
 1080 rounds .45 caliber
 2500 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope T143E2	Azimuth Indicator T19
	Periscope M10E10	Elevation Quadrant M9
		Gunner's Quadrant M1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M13 (1)
Asst. Driver	Hatch	Periscope M13 (1)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Gunner	None	Periscope M10E10 (1)
Loader, left	Hatch	None
Loader, right	Hatch and pistol port	None

Total Periscopes: M10E10 (1), M13 (2), M15 (1)

Total Pistol Ports: Hull (0), Turret (1)

Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: Continental AV-1790-3
 Type: 12 cylinder, 4 cycle, 90 degree vee
 Cooling System: Air Ignition: Magneto
 Displacement: 1791.7 cubic inches
 Bore and Stroke: 5.75 x 5.75 inches
 Compression Ratio: 6.5:1
 Net Horsepower (max): 704 hp at 2800 rpm
 Gross Horsepower (max): 810 hp at 2800 rpm
 Net Torque (max): 1440 ft-lb at 2000 rpm
 Gross Torque (max): 1610 ft-lb at 2200 rpm
 Weight: 2332 pounds, dry
 Fuel: 80 octane gasoline 320 gallons
 Engine Oil: 72 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-1, 2 ranges forward, 1 reverse
 Three stage hydraulic torque converter
 Stall Multiplication: 4.75:1
 Overall Usable Ratios: low 12.7:1 reverse 20.6:1
 high 6.2:1

Steering Control: Mechanical, wobble stick

Steering Rate: 5.7 rpm

Brakes: Multiple disc

Final Drive: Spur gear Gear Ratio: 6.31:1

Drive Sprocket: At rear of vehicle with 15 teeth

Pitch Diameter: 28.89 inches

RUNNING GEAR

Suspension: Torsion bar

16 individually sprung dual road wheels (8/track)

Tire Size: 26 x 6 inches

14 dual track return rollers (7/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Single track tension idler in front of each sprocket

Shock absorbers fitted on first 3 and last 2 road wheels on each side

Tracks: Center guide, T80E3 and T84E3

* Type: (T80E3) Double pin, 28 inch width, rubber backed steel

(T84E3) Double pin, 28 inch width, rubber chevron

Pitch: 6 inches

Shoes per Vehicle: 204 (102/track)

Ground Contact Length: 204.6 inches, left side

208.6 inches, right side

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: 28.5 volts, 200 amperes, gear driven by main engine

Auxiliary Generator: 28.5 volts, 200 amperes, driven by auxiliary engine

Battery: (2) 12 volts in series

COMMUNICATIONS

Radio: SCR 508 or 528 in turret bustle

Interphone: 6 stations plus external extension kit RC-298

FIRE PROTECTION

(3) 10 pound carbon dioxide, fixed

(2) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour

Maximum Tractive Effort: TE at stall 91,700 pounds

Per Cent of Vehicle Weight: TE/W 64 per cent

Maximum Grade: 60 per cent

Maximum Trench: 6.25 feet

Maximum Vertical Wall: 26 inches

Maximum Fording Depth: 42 inches

Minimum Turning Circle: (diameter) pivot

Cruising Range: Roads approx. 100 miles

* The T80E3 and T84E3 tracks are the 23 inch wide T80E1 and T84E1 tracks fitted with 5 inch extended end connectors.

HEAVY TANK T43, Pilot #1

GENERAL DATA

Crew: 5 men
 Length: Gun forward 448.6 inches
 Length: Gun in travel position 397.5 inches
 Length: Without gun 275.3 inches
 Gun Overhang: Gun forward 173.3 inches
 Width: Over sandshields 147.6 inches
 Height: Over cupola 126.7 inches
 Tread: 115.0 inches
 Ground Clearance: 16.1 inches
 Fire Height: approx. 82 inches
 Turret Ring Diameter: (inside) 85.0 inches
 Weight, Combat Loaded: approx. 120,000 pounds
 Weight, Unstowed: approx. 110,000 pounds
 Power to Weight Ratio: Net 10.8 hp/ton
 Gross 13.5 hp/ton
 Ground Pressure: Zero penetration 12.4 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel;

Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	60 degrees
Lower	4.0 inches (102mm)	45 degrees
Sides, Upper	equals 3.0 inches (76mm)	0 degrees
Lower	equals 3.0 inches (76mm)	0 degrees
Rear, Upper	1.5 inches (38mm)	30 degrees
Lower	1.0 inches (25mm)	62 degrees
Top	1.0 inches (25mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Center	1.0 inches (25mm)	90 degrees
Rear	0.5 inches (13mm)	90 degrees
Turret Thickness:		
Gun Shield	10.5 to 4 inches (267 to 102mm)	0 to 45 degrees
Front	5.0 inches (127mm)	60 degrees
Sides	3.25-2.75 inches (83-70mm)	40 degrees
Rear	2.0 inches (51mm)	40 degrees
Top	1.5 inches (38mm)	85 to 90 degrees

ARMAMENT

Primary: 120mm Gun T122 in Mount T140 in turret
 Traverse: Electric-hydraulic and manual 360 degrees
 Traverse Rate: (max) 20 seconds/360 degrees
 Elevation: Electric-hydraulic and manual +15 to -8 degrees
 Elevation Rate: (max) 4 degrees/second
 Firing Rate: (max) 5 rounds/minute (2 loaders)
 Loading System: Manual
 Stabilizer System: None

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret
 * (2) .50 caliber MG HB M2E1 coaxial w/120mm gun in turret
 Provision for (1) .45 caliber SMG M3
 Provision for (1) .30 caliber Carbine M2 w/grenade launcher

AMMUNITION

34 rounds 120mm 12 hand grenades
 4000 rounds .50 caliber (w/2 .50 caliber coax MG)
 2800 rounds .50 caliber (w/1 .50 caliber coax MG)
 5225 rounds .30 caliber (w/1 .30 caliber coax MG)
 180 rounds .45 caliber
 90 rounds .30 caliber (carbine)

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Range Finder T42	Azimuth Indicator T25
	Periscope T35	Elevation Quadrant T21
		Gunner's Quadrant M1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope T36 (3)
Commander	Vision blocks (5) in cupola, hatch	Periscope T35 (1)
Gunner	None	Periscope T35 (1)
Loader, left	Pistol port	None
Loader, right	Hatch	None

Total Periscopes: T35 (2), T36 (3)

Total Pistol Ports: Hull (0), Turret (1)

Total Vision Blocks: (5) in cupola on turret top

* A .30 caliber MG M1919A4E1 or T153 may be substituted for one of the coaxial .50 caliber machine guns.

ENGINE

Make and Model: Continental AV-1790-5C
 Type: 12 cylinder, 4 cycle, 90 degree vee
 Cooling System: Air Ignition: Magneto
 Displacement: 1791.7 cubic inches
 Bore and Stroke: 5.75 x 5.75 inches
 Compression Ratio: 6.5:1
 Net Horsepower (max): 650 hp at 2400 rpm
 Gross Horsepower (max): 810 hp at 2800 rpm
 Net Torque (max): 1250 ft-lb at 2100 rpm
 Gross Torque (max): 1575 ft-lb at 2200 rpm
 Weight: 2554 pounds, dry
 Fuel: 80 octane gasoline 280 gallons
 Engine Oil: 72 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-4, 2 ranges forward, 1 reverse
 Single stage multiphase hydraulic torque converter
 Stall Multiplication: 4.3:1
 Overall Usable Ratios: low 13.0:1 reverse 17.8:1
 high 4.5:1

Steering Control: Mechanical, wobble stick
 Steering Rate: 5.6 rpm

Brakes: Multiple disc
 Final Drive: Spur gear Gear Ratio: 7.077:1
 Drive Sprocket: At rear of vehicle with 13 teeth
 Pitch Diameter: 28.802 inches

RUNNING GEAR

Suspension: Torsion bar
 14 individually sprung dual road wheels (7/track)
 Tire Size: 26 x 6 inches
 12 dual track return rollers (6/track)
 Dual compensating idler at front of each track
 Idler Tire Size: 26 x 6 inches
 Single track tension idler in front of each sprocket
 Shock absorbers fitted on first 3 and last 2 road wheels on each side
 Tracks: Center guide T96 and T97
 Type: (T96) Double pin, 28 inch width, rubber backed steel
 (T97) Double pin, 28 inch width, rubber chevron
 Pitch: 6.94 inches
 Shoes per Vehicle: 164 (82/track)
 Ground Contact Length: 173.4 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
 Main Generator: 24 volts, 200 amperes, gear driven by main engine
 Auxiliary Generator: 28.5 volts, 300 amperes, driven by auxiliary engine
 Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/GRC-3 thru 8 series or SCR 508 or SCR 528 in turret bustle
 Interphone: 4 stations plus external extension kit AN/VIA-1

FIRE PROTECTION

(3) 10 pound carbon dioxide, fixed
 (1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road	25 miles/hour
Maximum Tractive Effort: TE at stall	92,000 pounds
Per Cent of Vehicle Weight: TE/W	77 per cent
Maximum Grade:	60 per cent
Maximum Trench:	7.5 feet
Maximum Vertical Wall:	27 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 80 miles

120mm GUN TANK M103

GENERAL DATA

Crew: 5 men
 Length: Gun forward 448.6 inches
 Length: Gun in travel position 400.3 inches
 Length: Without gun 275.3 inches
 Gun Overhang: Gun forward 173.3 inches
 Width: Over tracks 143.0 inches
 Height: Over cupola MG 140.1 inches
 Tread: 115.0 inches
 Ground Clearance: 15.4 inches
 Fire Height: approx. 82 inches
 Turret Ring Diameter: (inside) 85.0 inches
 Weight, Combat Loaded: approx. 125,000 pounds
 Weight, Unstowed: approx. 117,000 pounds
 Power to Weight Ratio: Net 11.0 hp/ton
 Gross 13.0 hp/ton
 Ground Pressure: Zero penetration 12.9 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel;
 Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	60 degrees
Lower	4.5 inches (114mm)	50 degrees
Sides, Upper	equals 2.0 inches (51mm)	40 degrees
Lower	equals 1.75 inches (44mm)	30 degrees
Rear, Upper	1.5 inches (38mm)	30 degrees
Lower	1.0 inches (25mm)	60 degrees
Top	1.0 inches (25mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	1.25 inches (32mm)	90 degrees
Turret Thickness:		
Gun Shield	10 to 4 inches (254 to 102mm)	0 to 45 degrees
Front	5.0 inches (127mm)	50 degrees
Sides	5.38-2.75 inches (137-70mm)	20 to 40 degrees
Rear	2.0 inches (51mm)	40 degrees
Top	1.5 inches (38mm)	85 to 90 degrees

ARMAMENT

Primary: 120mm Gun M58 (T123E1) in Mount M89 (T154) in turret
 Traverse: Electric-hydraulic and manual 360 degrees
 Traverse Rate: (max) 20 seconds/360 degrees
 Elevation: Electric-hydraulic and manual +15 to -8 degrees
 Elevation Rate: (max) 4 degrees/second
 Firing Rate: (max) 5 rounds/minute (2 loaders)
 Loading System: Manual
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 in remote control mount on commander's cupola M4
- (2) .30 caliber MG M1919A4E1 or M37 coaxial w/120mm gun in turret
 Provision for (1) .45 caliber SMG M3A1
 Provision for (1) .30 caliber Carbine M2 w/grenade launcher

AMMUNITION

33 rounds 120mm 8 hand grenades
 900 rounds .50 caliber
 180 rounds .45 caliber
 8150 rounds .30 caliber
 180 rounds .30 caliber (carbine)

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon: Direct Indirect
 Range Finder M14 Azimuth Indicator M30
 Periscope M20A1 Elevation Quadrant M13
 Ballistic Drive M6 Gunner's Quadrant M1A1

Vision Devices: Direct Indirect
 Driver Hatch Early: Periscope M26 (3)
 Late: Periscope M27 (3)
 and Periscope M24,
 infrared (1)
 Commander Hatch Periscope M17 (4)
 Gunner None Periscope M20A1 (1)
 Range Finder M14
 Loader, left None None
 Loader, right Hatch None
 Total Periscopes: M17 (4), M20A1 (1), M24 (infrared) (1), M26 or 27 (3)

ENGINE

Make and Model: Continental AV1790-5B, AV-1790-7, AV-1790-7B or AV-1790-7C
 (data for AV-1790-7C)
 Type: 12 cylinder, 4 cycle, 90 degree vee
 Cooling System: Air Ignition: Magneto
 Displacement: 1791.7 cubic inches
 Bore and Stroke: 5.75 x 5.75 inches
 Compression Ratio: 6.5:1
 Net Horsepower (max): 690 hp at 2800 rpm
 Gross Horsepower (max): 810 hp at 2800 rpm
 Net Torque (max): 1410 ft-lb at 2200 rpm
 Gross Torque (max): 1600 ft-lb at 2200 rpm
 Weight: 2647 pounds, dry
 Fuel: 80 octane gasoline 280 gallons
 Engine Oil: 64 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-4A or CD-850-4B (data for CD-850-4B)
 2 ranges forward, 1 reverse
 Single stage multiphase hydraulic torque converter
 Stall Multiplication: 4.0:1
 Overall Usable Ratios: low 13.0:1 reverse 18.1:1
 high 4.5:1

Steering Control: Mechanical, steering wheel
 Steering Rate: 5.7 rpm

Brakes: Multiple disc
 Final Drive: Spur gear Gear Ratio: 7.077:1
 Drive Sprocket: At rear of vehicle with 11 teeth
 Pitch Diameter: 24.504 inches

RUNNING GEAR

Suspension: Torsion bar
 14 individually sprung dual road wheels (7/track)
 Tire Size: 26 x 6 inches
 12 dual track return rollers (6/track)
 Dual compensating idler at front of each track
 Idler Tire Size: 26 x 6 inches
 Shock absorbers fitted on first 3 and last 2 road wheels on each side
 Tracks: Center guide T96, T97, T97E1, or T97E2
 Type: (T96) Double pin, 28 inch width, rubber backed steel
 (T97) Double pin, 28 inch width, rubber chevron
 (T97E1) Double pin, 28 inch width, rubber chevron
 (T97E2) Double pin, 28 inch width, rubber chevron
 Pitch: 6.94 inches
 Shoes per Vehicle: 164 (early), 162 (late), 82 or 81/track
 Ground Contact Length: 173.4 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
 Main Generator: 24 volts, 300 amperes, gear driven by main engine
 Auxiliary Generator: 24 volts, 300 amperes, driven by auxiliary engine
 Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/GRC-3 thru 8 series in turret bustle
 AN/ARC-3 or AN/ARC-27 (air to ground) also may be fitted
 Interphone: 4 stations plus external extension kit AN/VIA-1

FIRE PROTECTION

- (3) 10 pound carbon dioxide, fixed
- (1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 21 miles/hour
 Maximum Tractive Effort: TE at stall 110,000 pounds
 Per Cent of Vehicle Weight: TE/W 88 per cent
 Maximum Grade: 60 per cent
 Maximum Trench: 7.5 feet
 Maximum Vertical Wall: 36 inches
 Maximum Fording Depth: 48 inches
 Minimum Turning Circle: (diameter) pivot
 Cruising Range: Roads approx. 80 miles

120mm GUN TANK M103A1

GENERAL DATA

Crew: 5 men
 Length: Gun forward 448.6 inches
 Length: Gun in travel position 400.3 inches
 Length: Without gun 275.3 inches
 Gun Overhang: Gun forward 173.3 inches
 Width: Over tracks 143.0 inches
 Height: Over cupola MG 140.1 inches
 Tread: 115.0 inches
 Ground Clearance: 15.4 inches
 Fire Height: approx. 82 inches
 Turret Ring Diameter: (inside) 85.0 inches
 Weight, Combat Loaded: approx. 125,000 pounds
 Weight, Unstowed: approx. 117,000 pounds
 Power to Weight Ratio: Net 110 hp/ton
 Gross 130 hp/ton
 Ground Pressure: Zero penetration 12.9 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	60 degrees
Lower	4.5 inches (114mm)	50 degrees
Sides, Upper	equals 2.0 inches (51mm)	40 degrees
Lower	equals 1.75 inches (44mm)	30 degrees
Rear, Upper	1.5 inches (38mm)	30 degrees
Lower	1.0 inches (25mm)	60 degrees
Top	1.0 inches (25mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	1.25 inches (32mm)	90 degrees

Turret Thickness:

Gun Shield	10 to 4 inches (254 to 102mm)	0 to 45 degrees
Front	5.0 inches (127mm)	50 degrees
Sides	5.38-2.75 inches (137-70mm)	20 to 40 degrees
Rear	2.0 inches (51mm)	40 degrees
Top	1.5 inches (38mm)	85 to 90 degrees

ARMAMENT

Primary: 120mm Gun M58 in Mount M89A1 in turret
 Traverse: Amplidyne and manual 360 degrees
 Traverse Rate: (max) 17 seconds/360 degrees
 Elevation: Amplidyne and manual +15 to -8 degrees
 Elevation Rate: (max) 4 degrees/second
 Firing Rate: (max) 5 rounds/minute (2 loaders)
 Loading System: Manual
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 in flexible mount on commander's cupola Mil
- (1) .30 caliber MG M37 coaxial w/120mm gun in turret
- Provision for (2) .45 caliber SMG M3A1 (USMC)

AMMUNITION

38 rounds 120mm 8 hand grenades
 1000 rounds .50 caliber
 360 rounds .45 caliber
 5250 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Range Finder M15	Azimuth Indicator M28
	Periscope M29	Elevation Quadrant M13
	Ballistic Computer M14	Gunner's Quadrant M1A1
	Telescope M102	

Vision Devices:

Driver	Direct	Indirect
	Hatch	Periscope M27 (3) and Periscope M24, infrared (1)
Commander	Hatch	Periscope M17 (4) and Range Finder M15
Gunner	None	Periscope M29 (1)
Loader, left	None	None
Loader, right	Hatch	None

Total Periscopes: M17 (4), M24 (infrared) (1), M27 (3), M29 (1)

ENGINE

Make and Model: Continental AV-1790-5B, AV-1790-7, AV-1790-7B or AV-1790-7C (data for AV-1790-7C)

Type: 12 cylinder, 4 cycle, 90 degree vee
 Cooling System: Air Ignition: Magneto
 Displacement: 1791.7 cubic inches
 Bore and Stroke: 5.75 x 5.75 inches
 Compression Ratio: 6.5:1
 Net Horsepower (max): 690 hp at 2800 rpm
 Gross Horsepower (max): 810 hp at 2800 rpm
 Net Torque (max): 1410 ft-lb at 2200 rpm
 Gross Torque (max): 1600 ft-lb at 2200 rpm
 Weight: 2647 pounds, dry
 Fuel: 80 octane gasoline 280 gallons
 Engine Oil: 64 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-4A or CD-850-4B (data for CD-850-4B)
 2 ranges forward, 1 reverse
 Single stage multiphase hydraulic torque converter
 Stall Multiplication: 4.0:1
 Overall Usable Ratios: low 13.0:1 high 4.5:1 reverse 18.1:1

Steering Control: Mechanical, steering wheel

Steering Rate: 5.7 rpm

Brakes: Multiple disc

Final Drive: Spur gear Gear Ratio: 7.077:1

Drive Sprocket: At rear of vehicle with 11 teeth

Pitch Diameter: 24.504 inches

RUNNING GEAR

Suspension: Torsion bar

14 individually sprung dual road wheels (7/track)

Tire Size: 26 x 6 inches

12 dual track return rollers (6/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 3 and last 2 road wheels on each side

Tracks: Center guide T96, T97, T97E1, or T97E2

Type: (T96) Double pin, 28 inch width, rubber backed steel

(T97) Double pin, 28 inch width, rubber chevron

(T97E1) Double pin, 28 inch width, rubber chevron

(T97E2) Double pin, 28 inch width, rubber chevron

Pitch: 6.94 inches

Shoes per Vehicle: 164 (early), 162 (late), 82 or 81/track

Ground Contact Length: 173.4 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: 24 volts, 300 amperes, gear driven by main engine

Auxiliary Generator: 24 volts, 300 amperes, driven by auxiliary engine

Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/GRC-3 thru 8 series or AN/VRC-7 in turret bustle

AN/ARC-3 or AN/ARC-27 (air to ground) also may be fitted

Interphone: 4 stations plus external extension kit AN/VIA-1

FIRE PROTECTION

(3) 10 pound carbon dioxide, fixed (1 shot, 30 pounds)

(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 21 miles/hour

Maximum Tractive Effort: TE at stall 110,000 pounds

Per Cent of Vehicle Weight: TE/W 88 per cent

Maximum Grade: 60 per cent

Maximum Trench: 7.5 feet

Maximum Vertical Wall: 36 inches

Maximum Fording Depth: w/o deep water kit 48 inches

w/deep water kit 96 inches

Minimum Turning Circle: (diameter) pivot

Cruising Range: Roads, w/o jettison tank kit approx. 80 miles

Roads, w/jettison tank kit approx. 145 miles

120mm GUN TANK M103A2

GENERAL DATA

Crew: 5 men
 Length: Gun forward 442.2 inches
 Length: Gun in travel position 393.9 inches
 Length: Without gun 275.3 inches
 Gun Overhang: Gun forward 166.9 inches
 Width: Over tracks 143.0 inches
 Height: Over cupola MG 140.1 inches
 Tread: 115.0 inches
 Ground Clearance: 15.4 inches
 Fire Height: approx. 82 inches
 Turret Ring Diameter: (inside) 85.0 inches
 Weight, Combat Loaded: approx. 128,000 pounds
 Weight, Unstowed: approx. 123,000 pounds
 Power to Weight Ratio: Net 100 hp/ton
 Gross 117 hp/ton
 Ground Pressure: Zero penetration 13.2 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	60 degrees
Lower	4.5 inches (114mm)	50 degrees
Sides, Upper	equals 2.0 inches (51mm)	40 degrees
Lower	equals 1.75 inches (44mm)	30 degrees
Rear, Upper	1.5 inches (38mm)	30 degrees
Lower	1.0 inches (25mm)	60 degrees
Top	1.0 inches (25mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	1.25 inches (32mm)	90 degrees
Turret Thickness:		
Gun Shield	10 to 4 inches (254 to 102mm)	0 to 45 degrees
Front	5.0 inches (127mm)	50 degrees
Sides	5.38-2.75 inches (137-70mm)	20 to 40 degrees
Rear	2.0 inches (51mm)	40 degrees
Top	1.5 inches (38mm)	85 to 90 degrees

ARMAMENT

Primary: 120mm Gun M58 in Mount M89A1 in turret
 Traverse: Amplidyne and manual 360 degrees
 Traverse Rate: (max) 17 seconds/360 degrees
 Elevation: Amplidyne and manual +15 to -8 degrees
 Elevation Rate: (max) 4 degrees/second
 Firing Rate: (max) 5 rounds/minute (2 loaders)
 Loading System: Manual
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 flexible mount on commander's cupola Mil
- (1) .30 caliber MG M37 coaxial w/120mm gun in turret
- Provision for (2) .45 caliber SMG M3A1 (USMC)

AMMUNITION

38 rounds 120mm 8 hand grenades
 1000 rounds .50 caliber
 360 rounds .45 caliber
 5250 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon: Direct Indirect
 Range Finder M24 Azimuth Indicator M28A1
 Periscope M29 Elevation Quadrant MDB1
 Ballistic Computer M14A1 Gunner's Quadrant M1A1
 Telescope M102C

Vision Devices:

	Direct	Indirect
Driver	Hatch	Periscope M27 (3) and Periscope M24, infrared (1)
Commander	Hatch	Periscope M17 (4) and Range Finder M24
Gunner	None	Periscope M29 (1)
Loader, left	None	None
Loader, right	Hatch	None

Total Periscopes: M17 (4), M24 (infrared) (1), M27 (3), M29 (1)

ENGINE

Make and Model: Continental AVDS-1790-2A
 Type: 12 cylinder, 4 cycle, 90 degree vee
 Cooling System: Air Ignition: Compression
 Displacement: 1791.7 cubic inches
 Bore and Stroke: 5.75 x 5.75 inches
 Compression Ratio: 16:1
 Net Horsepower (max): 643 hp at 2400 rpm
 Gross Horsepower (max): 750 hp at 2400 rpm
 Net Torque (max): 1575 ft-lb at 1750 rpm
 Gross Torque (max): 1710 ft-lb at 1800 rpm
 Weight: 4700 pounds, dry
 Fuel: 40 cetane diesel 440 gallons
 Engine Oil: 72 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-6 or CD-850-6A (data for CD-850-6A)
 2 ranges forward, 1 reverse
 Single stage multiphase hydraulic torque converter
 Stall Multiplication: 4.0:1
 Overall Usable Ratios: low 12.0:1 reverse 16.9:1
 high 4.3:1

Steering Control: Mechanical, steering wheel

Steering Rate: 5.7 rpm

Brakes: Multiple disc

Final Drive: Spur gear Gear Ratio: 7.077:1

Drive Sprocket: At rear of vehicle with 11 teeth

Pitch Diameter: 25.000 inches

RUNNING GEAR

Suspension: Torsion bar

14 individually sprung dual road wheels (7/track)

Tire Size: 26 x 6 inches

12 dual track return rollers (6/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 3 and last 2 road wheels on each side

Tracks: Center guide T107

Type: (T107) Double pin, 28 inch width, rubber chevron

Pitch: 7.09 inches

Shoes per Vehicle: 162 (81/track)

Ground Contact Length: 173.4 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: 24 volts, 300 amperes, gear driven by main engine

Auxiliary Generator: None

Battery: (6) 3 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/GRC-3 thru 8 series in turret bustle

AN/ARC-3 or AN/ARC-27 (air to ground) also may be fitted

Interphone: 4 stations plus external extension kit AN/VIA-1

FIRE PROTECTION

(3) 10 pound carbon dioxide, fixed (2 shot; 1st 10 lb., 2nd 20 lb.)

(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 23 miles/hour

Maximum Tractive Effort: TE at stall 93,000 pounds

Per Cent of Vehicle Weight: TE/W

73 per cent

Maximum Grade: 60 per cent

Maximum Trench: 8.5 feet

Maximum Vertical Wall: 36 inches

Maximum Fording Depth: w/o deep water kit 48 inches

w/deep water kit 96 inches

Minimum Turning Circle: (diameter) pivot

Cruising Range: Roads approx. 300 miles

120mm GUN TANK T57

GENERAL DATA

Crew:	4 men
Length: Gun forward	449.3 inches
Length: Gun in travel position	401.0 inches
Length: Without gun	275.3 inches
Gun Overhang: Gun forward	174.0 inches
Width: Over tracks	143.0 inches
Height: Over turret roof	104.5 inches
Tread:	115.0 inches
Ground Clearance:	18.0 inches
Fire Height:	88.3 inches
Turret Ring Diameter: (inside)	85.0 inches
Weight, Combat Loaded:	120,000 pounds
Weight, Unstowed:	116,000 pounds
Power to Weight Ratio: Net	10.8 hp/ton
Gross	13.5 hp/ton
Ground Pressure: Zero penetration	12.4 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	60 degrees
Lower	4.5 inches (114mm)	50 degrees
Sides, Upper	equals 2.0 inches (51mm)	40 degrees
Lower	equals 1.75 inches (44mm)	30 degrees
Rear, Upper	1.5 inches (38mm)	30 degrees
Lower	1.0 inches (25mm)	60 degrees
Top	1.0 inches (25mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	1.25 inches (32mm)	90 degrees
Turret Thickness:		
Front	5.0 inches (127mm)	60 degrees
Sides	5.38 inches (137mm)	20 to 40 degrees
Rear	equals 2.0 inches (51mm)	40 degrees
Top	1.5 inches (38mm)	86 to 90 degrees (0 elevation)

ARMAMENT

Primary:	120mm Gun T179 in Mount T169 (rigid) in turret
Traverse:	Amplidyne and manual 360 degrees
Traverse Rate: (max)	15 seconds/360 degrees
Elevation:	Amplidyne and manual +15 to -8 degrees
Elevation Rate: (max)	4 degrees/second
Firing Rate: (max w/auto load)	30 rounds/minute (design rate)
Loading System:	Automatic w/8 round magazine
Stabilizer System:	None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret hatch
- (1) .30 caliber MG HB M1919A4E1 or T153 coaxial w/120mm gun in turret
- Provision for (1) .45 caliber SMG M3A1
- Provision for (1) .30 caliber Carbine M2 w/grenade launcher

AMMUNITION

18 rounds 120mm	8 hand grenades
3425 rounds .50 caliber	
180 rounds .45 caliber	
3000 rounds .30 caliber	
180 rounds .30 caliber (carbine)	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	* Direct	Indirect
	Range Finder T50	Azimuth Indicator T28
	Range Drive T33E2	Elevation Quadrant M13
	Periscope M20A1	Gunner's Quadrant M1 or M1A1
	Range Drive T32E2	
	Telescope T170	

Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope T36 (3)
Commander	Hatch	Periscope T36 (6)
		Range Finder T50
Gunner	None	Periscope M20A1 (1)
Loader	Hatch	Periscope M13 (1)

Total Periscopes: M13 (1), M20A1 (1), T36 (9)

* Space provided for Ballistic Computer T34

ENGINE

Make and Model:	Continental AV-1790-5C
Type:	12 cylinder, 4 cycle, 90 degree vee
Cooling System:	Air Ignition: Magneto
Displacement:	1791.7 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	6.5:1
Net Horsepower (max):	650 hp at 2400 rpm
Gross Horsepower (max):	810 hp at 2800 rpm
Net Torque (max):	1250 ft-lb at 2100 rpm
Gross Torque (max):	1575 ft-lb at 2200 rpm
Weight:	2554 pounds, dry
Fuel: 80 octane gasoline	280 gallons
Engine Oil:	72 quarts

POWER TRAIN

Transmission:	Cross-drive CD-850-4, 2 ranges forward, 1 reverse
	Single stage multiphase hydraulic torque converter
Stall Multiplication:	4.3:1
Overall Usable Ratios:	low 13.0:1 reverse 17.8:1 high 4.5:1

Steering Control: Mechanical, steering wheel

Steering Rate: 5.6 rpm

Brakes: Multiple disc

Final Drive: Spur gear Gear Ratio: 7.077:1

Drive Sprocket: At rear of vehicle with 11 teeth

Pitch Diameter: 24.504 inches

RUNNING GEAR

Suspension: Torsion bar

14 individually sprung dual road wheels (7/track)

Tire Size: 26 x 6 inches

12 dual track return rollers (6/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 3 and last 2 road wheels on each side

Tracks: Center guide T96 and T97

Type: (T96) Double pin, 28 inch width, rubber backed steel

(T97) Double pin, 28 inch width, rubber chevron

Pitch: 6.94 inches

Shoes per Vehicle: 164 (82/track)

Ground Contact Length: 173.4 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: 24 volts, 200 amperes, gear driven by main engine

Auxiliary Generator: 24 volts, 300 amperes, driven by auxiliary engine

Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/GRC-3 thru 8 series in turret bustle

Interphone: 4 stations plus external extension kit AN/VIA-1

FIRE PROTECTION

(3) 10 pound carbon dioxide, fixed

(2) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road	22 miles/hour
Maximum Tractive Effort: TE at stall	105,400 pounds
Per Cent of Vehicle Weight: TE/W	88 per cent
Maximum Grade:	60 per cent
Maximum Trench:	7.5 feet
Maximum Vertical Wall:	27 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 80 miles

155mm GUN TANK T58

GENERAL DATA

Crew: 4 men
 Length: Gun forward 425.8 inches
 Length: Gun in travel position 379.0 inches
 Length: Without gun 275.3 inches
 Gun Overhang: Gun forward 150.5 inches
 Width: Over tracks 143.0 inches
 Height: Over turret hatch 125.0 inches
 Tread: 115.0 inches
 Ground Clearance: 15.0 inches
 Fire Height: approx. 92 inches
 Turret Ring Diameter: (inside) 85.0 inches
 Weight, Combat Loaded: approx. 132,000 pounds
 Weight, Unstowed: 126,270 pounds
 Power to Weight Ratio: Net 9.8 hp/ton
 Gross 12.3 hp/ton
 Ground Pressure: Zero penetration 13.6 psi

ARMOR

Type: Turret, cast homogenous steel; Hull, rolled and cast homogenous steel;
 Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	5.0 inches (127mm)	60 degrees
Lower	4.5 inches (114mm)	50 degrees
Sides, Upper	equals 2.0 inches (51mm)	40 degrees
Lower	equals 1.75 inches (44mm)	30 degrees
Rear, Upper	1.5 inches (38mm)	30 degrees
Lower	1.0 inches (25mm)	60 degrees
Top	1.0 inches (25mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	1.25 inches (32mm)	90 degrees
Turret Thickness:		
Front	5.0 inches (127mm)	60 degrees
Sides	3.25-2.75 inches (83-70mm)	40 degrees
Rear	2.0 inches (51mm)	40 degrees
Top	1.5 inches (38mm)	80 to 90 degrees (0 elevation)

ARMAMENT

Primary: 155mm Gun T180 in Mount T170 in turret
 Traverse: Amplidyne and manual 360 degrees
 Traverse Rate: (max) 20 seconds/360 degrees
 Elevation: Amplidyne and manual +12 to -8 degrees
 Elevation Rate: (max) 4 degrees/second
 Firing Rate: (max w/auto load) 23 rounds/minute (design rate)
 Loading System: Automatic w/6 round magazine
 Stabilizer System: None

Secondary:

- (1) .50 caliber MG HB M2 flexible AA mount on turret hatch
- (1) .30 caliber MG HB M1919A4E1 coaxial w/155mm gun in turret
- Provision for (1) .45 caliber SMG M3A1
- Provision for (1) .30 caliber Carbine M2 w/grenade launcher

AMMUNITION

32 rounds 155mm 8 hand grenades
 1200 rounds .50 caliber
 180 rounds .45 caliber
 6500 rounds .30 caliber
 180 rounds .30 caliber (carbine)

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	* Direct	Indirect
	Range Finder T50E1	Azimuth Indicator T28
	Range Drive T33E3	Elevation Quadrant M13
	Periscope M20 (T35)	Gunner's Quadrant M1 or M1A1
	Range Drive T32E3	
	Telescope T170	
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope T36 (3)
Commander	Hatch	Periscope T36 (7)
		Range Finder T50E1
Gunner	None	Periscope M20 (T35) (1)
Loader	Hatch	Periscope MB (1)

Total Periscopes: MB (1), M20 (1), T36 (10)

* Space provided for Ballistic Computer T34E2

ENGINE

Make and Model: Continental AV-1790-5C
 Type: 12 cylinder, 4 cycle, 90 degree vee
 Cooling System: Air Ignition: Magneto
 Displacement: 1791.7 cubic inches
 Bore and Stroke: 5.75 x 5.75 inches
 Compression Ratio: 6.5:1
 Net Horsepower (max): 650 hp at 2400 rpm
 Gross Horsepower (max): 810 hp at 2800 rpm
 Net Torque (max): 1250 ft-lb at 2100 rpm
 Gross Torque (max): 1575 ft-lb at 2200 rpm
 Weight: 2554 pounds, dry
 Fuel: 80 octane gasoline 280 gallons
 Engine Oil: 72 quarts

POWER TRAIN

Transmission: Cross-drive CD-850-4, 2 ranges forward, 1 reverse
 Single stage multiphase hydraulic torque converter
 Stall Multiplication: 4.3:1
 Overall Usable Ratios: low 13.0:1 reverse 17.8:1
 high 4.5:1

Steering Control: Mechanical, steering wheel

Steering Rate: 5.6 rpm

Brakes: Multiple disc

Final Drive: Spur gear Gear Ratio: 7.077:1

Drive Sprocket: At rear of vehicle with 11 teeth

Pitch Diameter: 24.504 inches

RUNNING GEAR

Suspension: Torsion bar

14 individually sprung dual road wheels (7/track)

Tire Size: 26 x 6 inches

12 dual track return rollers (6/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers fitted on first 3 and last 2 road wheels on each side

Tracks: Center guide, T96 and T97

Type: (T96) Double pin, 28 inch width, rubber backed steel

(T97) Double pin, 28 inch width, rubber chevron

Pitch: 6.94 inches

Shoes per Vehicle: 164 (82/track)

Ground Contact Length: 173.4 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: 24 volts, 200 amperes, gear driven by main engine

Auxiliary Generator: 24 volts, 300 amperes, driven by auxiliary engine

Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/GRC-3 thru 8 series in turret bustle

Interphone: 4 stations plus external extension kit AN/VIA-1

FIRE PROTECTION

(3) 10 pound carbon dioxide, fixed

(2) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 22 miles/hour
 Maximum Tractive Effort: TE at stall 105,400 pounds
 Per Cent of Vehicle Weight: TE/W 80 per cent
 Maximum Grade: 60 per cent
 Maximum Trench: 7.5 feet
 Maximum Vertical Wall: 27 inches
 Maximum Fording Depth: 48 inches
 Minimum Turning Circle: (diameter) pivot
 Cruising Range: Roads approx. 80 miles

HEAVY RECOVERY VEHICLE M51

GENERAL DATA

Crew: 4 men
 Length: Boom and spade in travel position 399 inches
 Width: Over tracks 143 inches
 Height: Over AA MG approx. 129 inches
 Tread: 115 inches
 Ground Clearance: 18 inches
 Weight, Combat Loaded: approx. 120,000 pounds
 Weight, Unstowed: approx. 112,500 pounds
 Power to Weight Ratio: Net 12.8 hp/ton
 Gross 16.3 hp/ton
 Ground Pressure: Zero penetration 11.5 psi

ARMOR

Type: Hull and Cab, rolled homogenous steel; Welded assembly
 Hull and Cab

Thickness:	Actual	Angle w/Vertical
Front, Upper	0.75 inches (19mm)	36 degrees
Lower	1.5 inches (38mm)	0 degrees
Sides, Upper	0.75 inches (19mm)	0 degrees
Lower	1.0 inches (25mm)	0 degrees
Rear, Upper	0.75 inches (19mm)	0 degrees
Lower	1.5 inches (38mm)	0 degrees
Top	0.75 inches (19mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	1.0 inches (25mm)	90 degrees

ARMAMENT

(1) .50 caliber MG HB M2 flexible AA mount on commander's cupola
 Provision for (1) 3.5 inch Rocket Launcher M20
 Provision for (1) .45 caliber SMG M3A1
 Provision for (1) .30 caliber Carbine M2

AMMUNITION

1500 rounds .50 caliber 32 hand grenades
 6 rockets 3.5 inch
 180 rounds .45 caliber
 540 rounds .30 caliber (carbine)

RECOVERY EQUIPMENT

Spade: One on front and one on rear of vehicle operated by the auxiliary winch
 Auxiliary Winch: 10,000 pound capacity, hydraulic power
 Main Winch: 90,000 pound capacity, hydraulic power
 Crane: 60,000 pound capacity, 4 feet from rear of vehicle, boom retracted
 30,000 pound capacity, 8 feet from rear of vehicle, boom extended

VISION EQUIPMENT

	Direct	Indirect
Driver	Hatch	Periscope M17 (4) and Periscope M19 (1) infrared
Commander	Hatch	Periscope M17 (4)
Crane Operator	Hatch and rear vision door	None
Rigger	None	None

Total Periscopes: M17 (8), M19 infrared (1)

ENGINE

Make and Model: Continental AVSI-1790-6
 Type: 12 cylinder, 4 cycle, 90 degree vee, supercharged, fuel injection
 Cooling System: Air Ignition: Magneto
 Displacement: 1791.7 cubic inches
 Bore and Stroke: 5.75 x 5.75 inches
 Compression Ratio: 5.5:1
 Net Horsepower (max): 765 hp at 2800 rpm
 Gross Horsepower (max): 980 hp at 2800 rpm
 Net Torque (max): 1670 ft-lb at 2100 rpm
 Gross Torque (max): 1870 ft-lb at 2400 rpm
 Weight: 3050 pounds, dry
 Fuel: 80 octane gasoline 400 gallons
 Engine Oil: 64 quarts

POWER TRAIN

Transmission: Cross-drive XT-1400-2A, 3 ranges forward, 1 reverse
 Single stage multiphase hydraulic torque converter w/lock-up clutch
 Stall Multiplication: 3.6:1
 Overall Usable Ratios: low 112:1 reverse 121.3:1
 intermediate 52.3:1
 high 24.4:1

Steering Control: Mechanical, T-bar

Steering Rate: 5.6 rpm

Brakes: Multiple disc

Final Drive: Planetary gear Gear Ratio: 4.63:1

Drive Sprocket: At rear of vehicle with 11 teeth

Pitch Diameter: 25.000 inches

RUNNING GEAR

Suspension: Torsion bar

14 individually sprung dual road wheels (7/track)

Tire Size: 26 x 6 inches

8 dual track return rollers (4/track)

Dual compensating idler at front of each track

Idler Tire Size: 26 x 6 inches

Shock absorbers (snubbers) fitted on first 2 and last 2 road wheels on each side

Tracks: Center guide, T107

Type: (T107) Double pin, 28 inch width, rubber chevron

Pitch: 7.09 inches

Shoes per Vehicle: 162 (81/track)

Ground Contact Length: 186.25 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

Main Generator: (1) 24 volts, 300 amperes, gear driven by main engine

Auxiliary Generator: (1) 28 volts, 300 amperes, driven by auxiliary engine

Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/GRC-3, 6, or 8 or AN/VRC 13, 14, or 15 in the center rear of cab

Interphone: AN/UIC-1, 4 stations

FIRE PROTECTION

(8) 10 pound carbon dioxide, fixed (2 shot)

(2) 5 pound carbon dioxide, portable

(2) 15 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Sustained, level road 30 miles/hour

Maximum Tractive Effort: TE at stall 179,500 pounds

Per Cent of Vehicle Weight: TE/W 150 per cent

Maximum Grade: 60 per cent

Maximum Trench: 9.1 feet

Maximum Vertical Wall: 36 inches (w/o pintle)

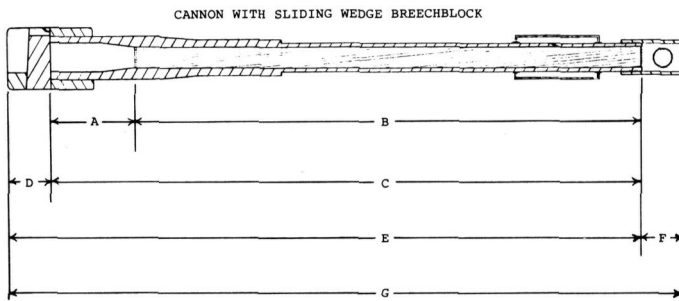
Maximum Fording Depth: 60 inches

Minimum Turning Circle: (diameter) pivot

Cruising Range: Roads approx. 150 miles

WEAPON DATA SHEETS

Data describing the general characteristics and performance of the armor piercing weapons mounted on American heavy tanks are tabulated on the following pages. The various dimensions included are defined in the sketch below.

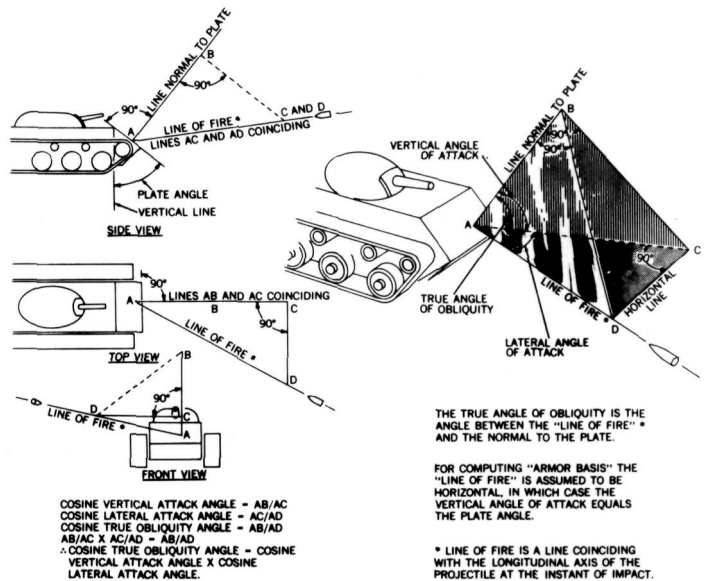


- A. Length of Chamber (to rifling)
- B. Length of Rifling
- C. Length of Bore
- D. Depth of Breech Recess
- E. Length, Muzzle to Rear Face of Breech
- F. Additional Length, Blast Deflector, Etc.
- G. Overall Length

Ammunition is listed by the official nomenclature in use during its period of greatest service. However, since this terminology frequently changed during the service life, a standard nomenclature is added in parentheses to prevent confusion. These standard terms which are used separately and in combination are defined below.

AP	Armor piercing, uncapped
APBC	Armor piercing with ballistic cap
APCBC	Armor piercing with armor piercing cap and ballistic cap
APCR	Armor piercing, composite rigid
HE	High explosive
HEAT	High explosive antitank, shaped charge
TP	Target practice
TPBC	Target practice with ballistic cap
TPCR	Target practice, composite rigid
-T	Tracer

Armor penetration performance for the various types of ammunition is quoted for various angles of obliquity. As mentioned in the introduction to the vehicle data sheets, this angle is defined as the angle between a line perpendicular to the armor plate and the projectile path. However, in three dimensions, the calculation of the true angle of obliquity is a little more complicated as indicated in these drawings. Here the true angle of obliquity is shown to be the angle whose cosine equals the product of the cosines for the vertical and lateral attack angles.



During the World War II period, penetration performance was usually provided for 30 degree angles of obliquity. However, with the appearance of highly sloped armor on the later tanks, these data were of limited value. Postwar penetration performance data were quoted for angles of 60 degrees allowing a more realistic evaluation of the effectiveness against an actual vehicle. Where possible these data sheets include penetration performance for the armor piercing ammunition at both 30 and 60 degree angles of obliquity. If values for 60 degrees are unknown, data for the largest available angle are included. Note that the relative performance of the various types of ammunition at 30 degrees obliquity is not necessarily maintained at 60 degrees.

37mm GUN M6

Carriage and Mount	Heavy Tanks M6, M6A1, and T1E1	
Length of Chamber (to rifling)	9.55 inches	
Length of Rifling	68.45 inches	
Length of Chamber (to projectile base)	8.1 inches (square base projectiles)	
Travel of Projectile in Bore	69.9 inches (square base projectiles)	
Length of Bore	78.0 inches, 53.5 calibers	
Depth of Breech Recess	4.5 inches	
Length, Muzzle to Rear Face of Breech	82.5 inches	
Additional Length, Muzzle Brake, etc.	None	
Overall Length	82.5 inches	
Diameter of Bore	1.457 inches	
Chamber Capacity	19.35 cubic inches (APC M51), 19.19 cubic inches (HE M63)	
Weight, Tube	138 pounds	
Total Weight	185 pounds	
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	12 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Fixed	
Primer	Percussion	
Weight, Complete Round	APC M51 Shot (APCBC-T)	3.48 pounds (1.6 kg)
	AP M74 Shot (AP-T)	3.34 pounds (1.5 kg)
	HE M63 Shell (HE)	3.13 pounds (1.4 kg)
	Canister M2	3.49 pounds (1.6 kg)
Weight, Projectile	APC M51 Shot (APCBC-T)	1.92 pounds (0.9 kg)
	AP M74 Shot (AP-T)	1.92 pounds (0.9 kg)
	HE M63 Shell (HE)	1.61 pounds (0.7 kg)
	Canister M2 (122 steel balls)	1.94 pounds (0.9 kg)
Maximum Powder Pressure	50,000 psi	
Maximum Rate of Fire	30 rounds/minute	
Muzzle Velocity	APC M51 Shot (APCBC-T)	2900 ft/sec (844 m/sec)
	AP M74 Shot (AP-T)	2900 ft/sec (884 m/sec)
	HE M63 Shell (HE)	2600 ft/sec (792 m/sec)
	Canister M2	2500 ft/sec (762 m/sec)
Muzzle Energy of Projectile, $KE = \frac{1}{2}MV^2$ Rotational energy is neglected and values are based on long tons (2240 pounds)	APC M51 Shot (APCBC-T)	112 ft-tons
	AP M74 Shot (AP-T)	112 ft-tons
	HE M63 Shell (HE)	75 ft-tons
	Canister M2	84 ft-tons
Maximum Range (independent of mount)	APC M51 Shot (APCBC-T)	12,850 yards (11,750 m)
	AP M74 Shot (AP-T)	8725 yards (7978 m)
	HE M63 Shell (HE)	9500 yards (8687 m)
	Canister M2	200 yards (183 m)
Penetration Performance Range	1000 yards (914 m)	approx. 2000 yards (1829 m)
	Homogenous Armor at 30 degrees obliquity	
APC M51 Shot (APCBC-T)	1.8 inches (46mm)	1.4 inches (35mm)
	Homogenous Armor at 60 degrees obliquity	
APC M51 Shot (APCBC-T)	0.8 inches (20mm)	0.7 inches (17mm)

3 inch GUN M7

Carriage and Mount	Heavy Tanks M6, M6A1, and T1E1	
Length of Chamber (to rifling)	23.15 inches	
Length of Rifling	126.85 inches	
Length of Chamber (to projectile base)	21.5 inches (square base projectiles)	
Travel of Projectile in Bore	128.5 inches (square base projectiles)	
Length of Bore	150.0 inches, 50.0 calibers	
Depth of Breech Recess	8.10 inches	
Length, Muzzle to Rear Face of Breech	158.10 inches	
Additional Length, Muzzle Brake, etc.	None	
Overall Length	158.10 inches	
Diameter of Bore	3.000 inches	
Chamber Capacity	205.585 cubic inches (APC M62), 203.50 cubic inches (HE M42A1)	
Total Weight	1990 pounds	
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	28 grooves, uniform right-hand twist, one turn in 40 calibers	
Ammunition	Fixed	
Primer	Percussion	
Weight, Complete Round	APC M62 Projectile (APCBC/HE-T)	27.24 pounds (12.4 kg)
	HVAP M93 Shot (APCR-T)	20.77 pounds (9.4 kg)
	AP M79 Shot (AP-T)	26.56 pounds (12.0 kg)
	HE M42A1 Shell (HE)	24.91 pounds (11.3 kg)
	HC BI M88 Shell (Smoke)	15.40 pounds (7.0 kg)
Weight, Projectile	APC M62 Projectile (APCBC/HE-T)	15.44 pounds (7.0 kg)
	HVAP M93 Shot (APCR-T)	9.40 pounds (4.3 kg)
	AP M79 Shot (AP-T)	15.00 pounds (6.8 kg)
	HE M42A1 Shell (HE)	12.87 pounds (5.8 kg)
	HC BI M88 Shell (Smoke)	7.38 pounds (3.3 kg)
Maximum Powder Pressure	38,000 psi	
Maximum Rate of Fire	15 rounds/minute	
Muzzle Velocity	APC M62 Projectile (APCBC/HE-T)	2600 ft/sec (792 m/sec)
	HVAP M93 Shot (APCR-T)	3400 ft/sec (1036 m/sec)
	AP M79 Shot (AP-T)	2600 ft/sec (792 m/sec)
	HE M42A1 Shell (HE)	2800 ft/sec (853 m/sec)
	HC BI M88 Shell (Smoke)	900 ft/sec (274 m/sec)
Muzzle Energy of Projectile, $KE = \frac{1}{2}MV^2$	APC M62 Projectile (APCBC/HE-T)	724 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HVAP M93 Shot (APCR-T)	753 ft-tons
	AP M79 Shot (AP-T)	703 ft-tons
	HE M42A1 Shell (HE)	699 ft-tons
Maximum Range (independent of mount)	APC M62 Projectile (APCBC/HE-T)	16,100 yards (14,722 m)
	HVAP M93 Shot (APCR-T)	13,100 yards (11,979 m)
	AP M79 Shot (AP-T)	12,770 yards (11,677 m)
	HE M42A1 Shell (HE)	14,780 yards (13,515 m)
	HC BI M88 Shell (Smoke) at 12 degrees elevation	2000 yards (1829 m)
Penetration Performance Range	1000 yards (914 m)	2000 yards (1829 m)
	Homogenous Armor at 30 degrees obliquity	
APC M62 Projectile (APCBC/HE-T)	3.5 inches (88mm)	3.0 inches (75mm)
HVAP M93 Shot (APCR-T)	5.3 inches (135mm)	3.9 inches (98mm)
AP M79 Shot (AP-T)	3.6 inches (92mm)	2.5 inches (64mm)
	Homogenous Armor at 55 degrees obliquity	
APC M62 Projectile (APCBC/HE-T)	2.0 inches (51mm)	1.7 inches (43mm)
HVAP M93 Shot (APCR-T)	2.1 inches (53mm)	1.5 inches (38mm)

90mm GUN M3 (T7)

Carriage and Mount	Mounted experimentally in Heavy Tank T1E1	
Length of Chamber (to rifling)	24.8 inches	
Length of Rifling	152.4 inches	
Length of Chamber (to projectile base)	20.8 inches (boat-tailed projectiles)	
Travel of Projectile in Bore	156.4 inches (boat-tailed projectiles)	
Length of Bore	177.15 inches, 500 calibers	
Depth of Breech Recess	9.00 inches	
Length, Muzzle to Rear Face of Breech	186.15 inches	
Additional Length, Muzzle Brake M3	160 inches (late production guns only)	
Overall Length	202.2 inches	
Diameter of Bore	3.543 inches	
Chamber Capacity	300 cubic inches	
Weight, Complete (w/o muzzle brake)	2300 pounds	
Weight, Muzzle Brake M3	149.5 pounds	
Total Weight	approx.	2450 pounds
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	32 grooves, uniform right-hand twist, one turn in 32 calibers	
Ammunition	Fixed	
Primer	Percussion	
Weight, Complete Round	APC M82 Projectile (APCBC/HE-T) early	42.75 pounds (19.4 kg)
	APC M82 Projectile (APCBC/HE-T) late	43.87 pounds (19.9 kg)
	HVAP M304 (T30E16) Shot (APCR-T)	37.13 pounds (16.9 kg)
	AP T33 Shot (APBC-T)	43.82 pounds (19.9 kg)
	HE M71 Shell (HE)	41.93 pounds (19.1 kg)
Weight, Projectile	APC M82 Projectile (APCBC/HE-T)	24.11 pounds (11.0 kg)
	HVAP M304 (T30E16) Shot (APCR-T)	16.80 pounds (7.6 kg)
	AP T33 Shot (APBC-T)	24.06 pounds (10.9 kg)
	HE M71 Shell (HE)	23.29 pounds (10.6 kg)
Maximum Powder Pressure	38,000 psi	
Maximum Rate of Fire	8 rounds/minute	
Muzzle Velocity	APC M82 Projectile (APCBC/HE-T) early	2650 ft/sec (808 m/sec)
	APC M82 Projectile (APCBC/HE-T) late	2800 ft/sec (853 m/sec)
	HVAP M304 (T30E16) Shot (APCR-T)	3350 ft/sec (1021 m/sec)
	AP T33 Shot (APBC-T)	2800 ft/sec (853 m/sec)
	HE M71 Shell (HE)	2700 ft/sec (823 m/sec)
Muzzle Energy of Projectile, $KE=\frac{1}{2}MV^2$	APC M82 Projectile (APCBC/HE-T) early	1174 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	APC M82 Projectile (APCBC/HE-T) late	1310 ft-tons
	HVAP M304 (T30E16) Shot (APCR-T)	1307 ft-tons
	AP T33 Shot (APBC-T)	1310 ft-tons
	HE M71 Shell (HE)	1177 ft-tons
Maximum Range (independent of mount)	APC M82 Projectile (APCBC/HE-T) early	20,400 yards (18,654 m)
	APC M82 Projectile (APCBC/HE-T) late	21,400 yards (19,568 m)
	HVAP M304 (T30E16) Shot (APCR-T)	15,700 yards (14,356 m)
	AP T33 Shot (APBC-T)	21,000 yards (19,202 m)
	HE M71 Shell (HE)	19,560 yards (17,886 m)
Penetration Performance Range	1000 yards (914 m)	2000 yards (1829 m)
	Homogenous Armor at 30 degrees obliquity	
APC M82 Projectile (APCBC/HE-T) early	4.4 inches (112mm)	3.8 inches (96mm)
APC M82 Projectile (APCBC/HE-T) late	4.8 inches (122mm)	4.2 inches (106mm)
HVAP M304 (T30E16) Shot (APCR-T)	7.9 inches (199mm)	6.1 inches (156mm)
AP T33 Shot (APBC-T)	4.6 inches (117mm)	4.3 inches (109mm)
	Homogenous Armor at 55 degrees obliquity	
APC M82 Projectile (APCBC/HE-T) early	2.3 inches (58mm)	2.0 inches (51mm)
APC M82 Projectile (APCBC/HE-T) late	2.5 inches (64mm)	2.2 inches (56mm)
HVAP M304 (T30E16) Shot (APCR-T)	2.9 inches (74mm)	1.8 inches (46mm)
AP T33 Shot (APBC-T)	2.5 inches (64mm)	2.3 inches (58mm)

90mm GUN T15E2

Carriage and Mount	Heavy Tanks T32 and T32E1 in Mount T119	
Length of Chamber (to rifling)	40.7 inches	
Length of Rifling	207.2 inches	
Length of Chamber (to projectile base)	36.7 inches (boat-tailed projectiles)	
Travel of Projectile in Bore	211.2 inches (boat-tailed projectiles)	
Length of Bore	247.9 inches, 70.0 calibers	
Depth of Breech Recess	9.0 inches	
Length, Muzzle to Rear Face of Breech	256.9 inches	
Additional Length, Muzzle Brake M3	160 inches	
Overall Length	272.9 inches	
Diameter of Bore	3.543 inches	
Chamber Capacity	488 cubic inches (estimated)	
Weight, Complete (w/o muzzle brake)	3270 pounds	
Weight, Muzzle Brake M3	150 pounds	
Total Weight	3420 pounds	
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	32 grooves, uniform right-hand twist, one turn in 32 calibers	
Ammunition	Separated	
Primer	Percussion	
Weight, Complete Round	AP T43 Shot (APBC-T)	51.2 pounds (23.2 kg)
	HVAP T44 Shot (APCR-T)	44 pounds (20.0 kg)
	HE T42 Shell (HE)	50.4 pounds (22.9 kg)
Weight, Projectile	AP T43 Shot (APBC-T)	24.06 pounds (10.9 kg)
	HVAP T44 Shot (APCR-T)	16.70 pounds (7.6 kg)
	HE T42 Shell (HE)	23.3 pounds (10.6 kg)
Maximum Powder Pressure	41,500 psi	
Maximum Rate of Fire	4 rounds/minute	
Muzzle Velocity	AP T43 Shot (APBC-T)	3200 ft/sec (975 m/sec)
	HVAP T44 Shot (APCR-T)	3750 ft/sec (1143 m/sec)
	HE T42 Shell (HE)	3200 ft/sec (975 m/sec)
Muzzle Energy of Projectile, $KE = \frac{1}{2}MV^2$	AP T43 Shot (APBC-T)	1711 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HVAP T44 Shot (APCR-T)	1628 ft-tons
	HE T42 Shell (HE)	1654 ft-tons
Maximum Range (independent of mount)	HE T42 Shell (HE)	27,000 yards (24,689 m)
Penetration Performance Range	1000 yards (914 m)	2000 yards (1829 m)
	Homogenous Armor at 30 degrees obliquity	
AP T43 Shot (APBC-T)	5.0 inches (127mm)	4.8 inches (122mm)
HVAP T44 Shot (APCR-T)	8.7 inches (221mm)	6.8 inches (173mm)
	Homogenous Armor at 55 degrees obliquity	
AP T43 Shot (APBC-T)	2.9 inches (74mm)	2.8 inches (71mm)
HVAP T44 Shot (APCR-T)	3.7 inches (94mm)	2.5 inches (64mm)

105mm GUNS T5E1 and T5E2

Carriage and Mount	Heavy Tank M6A2E1 (T5E1 Gun), Heavy Tank T28 (105mm GMC T95) in Mount T40 (T5E1 Gun), Heavy Tank T29 in Mount T123E1 (T5E2 Gun), Heavy Tank T29E1 in Mount T123 (T5E1 Gun), Heavy Tank T29E2 in Mount T123E2 (T5E2 Gun), Heavy Tank T29E3 in Mount T123 (T5E1 Gun)	
Length of Chamber (to rifling)	32.72 inches	
Length of Rifling	236.09 inches	
Length of Chamber (to projectile base)	28.81 inches	
Travel of Projectile in Bore	240.00 inches	
Length of Bore	268.81 inches, 65.0 calibers	
Depth of Breech Recess	9.25 inches	
Length, Muzzle to Rear Face of Breech	278.06 inches	
Additional Length, Muzzle Brake T10	185 inches	
Overall Length	296.5 inches	
Diameter of Bore	4.134 inches	
Chamber Capacity	615 cubic inches	
Weight, Tube (w/o muzzle brake)	5170 pounds	
Weight, Complete (w/o muzzle brake)	6300 pounds	
Weight, Muzzle Brake T10	184 pounds	
Total Weight	approx.	6484 pounds
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	36 grooves, uniform right-hand twist, one turn in 30 calibers	
Ammunition	Separated	
Primer	Percussion	
Weight, Complete Round	AP-T T32 Shot (APBC-T)	74 pounds (34 kg)
	HVAP-T T29E3 Shot (APCR-T)	60 pounds (27 kg)
	HE T30E1 Shell (HE)	69 pounds (31 kg)
Weight, Projectile	AP-T T32 Shot (APBC-T)	39.0 pounds (17.7 kg)
	HVAP-T T29E3 Shot (APCR-T)	24.6 pounds (11.2 kg)
	HE T30E1 Shell (HE)	33.5 pounds (15.2 kg)
Maximum Powder Pressure	42,000 psi	
Maximum Rate of Fire	6 rounds/minute, two loaders	
Muzzle Velocity	AP-T T32 Shot (APBC-T)	3000 ft/sec (914 m/sec)
	HVAP-T T29E3 Shot (APCR-T)	3700 ft/sec (1128 m/sec)
	HE T30E1 Shell (HE)	3100 ft/sec (945 m/sec)
	HE T30E1 Shell (HE) red. vel.	2500 ft/sec (762 m/sec)
Muzzle Energy of Projectile, $KE = \frac{1}{2}MV^2$	AP-T T32 Shot (APBC-T)	2433 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HVAP-T T29E3 Shot (APCR-T)	2335 ft-tons
	HE T30E1 Shell (HE)	2232 ft-tons
	HE T30E1 Shell (HE) red. vel.	1451 ft-tons
Maximum Range (independent of mount)	Undetermined*	
Penetration Performance Range	1000 yards (914 m)	2000 yards (1829 m)
Estimated*	Homogenous Armor at 30 degrees obliquity	
AP-T T32 Shot (APBC-T)	5.3 inches (135mm)	4.7 inches (119mm)
	Homogenous Armor at 60 degrees obliquity	
AP-T T32 Shot (APBC-T)	3.3 inches (84mm)	2.7 inches (69mm)

*Ammunition development terminated prior to the completion of the testing program.

120mm GUN T53

Carriage and Mount	Heavy Tank T34 in Mount T125	
Length of Chamber (to rifling)	38.05 inches	
Length of Rifling	243.95 inches	
Length of Chamber (to projectile base)	33.7 inches	
Travel of Projectile in Bore	248.3 inches	
Length of Bore	282.00 inches, 60 calibers	
Depth of Breech Recess	9.00 inches	
Length, Muzzle to Rear Face of Breech	291.00 inches	
Additional Length, Muzzle Brake T18	11.3 inches	
Overall Length	302.3 inches	
Diameter of Bore	4.7 inches	
Chamber Capacity	1046 cubic inches	
Weight, Tube (w/o muzzle brake)	6180 pounds	
Weight, Complete (w/o muzzle brake)	7300 pounds	
Weight, Muzzle Brake T18	105 pounds	
Total Weight	approx.	7405 pounds
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	42 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Separated	
Primer	Percussion	
Weight, Complete Round	Test Shot T20E3	100 pounds (45 kg)
Weight, Projectile	Test Shot T20E3	50 pounds (23 kg)
Maximum Powder Pressure	38,000 psi	
Maximum Rate of Fire	5 rounds/minute, two loaders	
Muzzle Velocity	Test Shot T20E3	3100 ft/sec (945 m/sec)
Muzzle Energy of Projectile, $KE=\frac{1}{2}MV^2$	Test Shot T20E3	3331 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)		
Maximum Range (independent of mount)	Undetermined*	
Penetration Performance Range	1000 yards (914 m)	2000 yards (1829 m)
Estimated*	Homogenous Armor at 30 degrees obliquity	
AP Shot (APBC)	7.8 inches (198mm)	6.8 inches (173mm)
HVAP Shot (APCR)	15.0 inches (381mm)	12.5 inches (318mm)
	Homogenous Armor at 60 degrees obliquity	
AP Shot (APBC)	4.0 inches (102mm)	3.6 inches (91mm)
HVAP Shot (APCR)	4.4 inches (112mm)	3.0 inches (76mm)

*Program for the T53 gun terminated prior to completion of the ammunition development.

120mm GUN T122

Carriage and Mount	Heavy Tank T43 (1st pilot) in Mount T140 (concentric)	
Length of Chamber (to rifling)	38.05 inches	
Length of Rifling	243.95 inches	
Length of Chamber (to projectile base)	33.7 inches	
Travel of Projectile in Bore	248.3 inches	
Length of Bore	282.00 inches, 60 calibers	
Depth of Breech Recess	9.00 inches	
Length, Muzzle to Rear Face of Breech	291.00 inches	
Additional Length, Muzzle Brake	11.3 inches	
Overall Length	302.3 inches	
Diameter of Bore	4.7 inches	
Chamber Capacity	1015 cubic inches	
Weight, Tube (w/o muzzle brake)	4601 pounds	
Weight, Complete (w/o muzzle brake)	6215 pounds, estimated	
Weight, Muzzle Brake	105 pounds	
Total Weight	approx.	6320 pounds
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	42 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Separated	
Primer	Percussion	
Weight, Complete Round	AP Shot (APBC)	100 pounds (45 kg)
Weight, Projectile	AP Shot (APBC)	50 pounds (23 kg)
Maximum Powder Pressure	38,000 psi	
Maximum Rate of Fire	5 rounds/minute, two loaders	
Muzzle Velocity	AP Shot (APBC)	3100 ft/sec (945 m/sec)
Muzzle Energy of Projectile, $KE = \frac{1}{2}MV^2$	AP Shot (APBC)	3331 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)		
Maximum Range (independent of mount)	Undetermined*	
Penetration Performance Range	1000 yards (914 m)	2000 yards (1829 m)
Estimated*		
AP Shot (APBC)	7.8 inches (198mm)	6.8 inches (173mm)
HVAP Shot (APCR)	150 inches (381mm)	12.5 inches (318mm)
Homogenous Armor at 60 degrees obliquity		
AP Shot (APBC)	4.0 inches (102mm)	3.6 inches (91mm)
HVAP Shot (APCR)	4.4 inches (112mm)	3.0 inches (76mm)

*Program for the T122 gun terminated prior to completion of the ammunition development.

120mm GUNS M58 (T123E1) and T179

Carriage and Mount	120mm Gun Tank M103 in Mount M89 and 120mm Gun Tanks M103A1 and M103A2 in Mount M89A1 (M58 Gun) 120mm Gun Tank T57 in Mount T169 (T179 Gun)	
Length of Chamber (to rifling)	38.05 inches	
Length of Rifling	243.95 inches	
Length of Chamber (to projectile base)	33.7 inches	
Travel of Projectile in Bore	248.3 inches	
Length of Bore	282.00 inches, 60.0 calibers	
Depth of Breech Recess	9.50 inches	
Length, Muzzle to Rear Face of Breech	291.50 inches	
Additional Length, Blast Deflector	7.25 inches	
Overall Length	298.75 inches	
Diameter of Bore	4.7 inches	
Chamber Capacity	1021 cubic inches	
Weight, Tube	4600 pounds	
Total Weight	6280 pounds	
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	42 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Separated	
Primer	Percussion or percussion-electric	
Weight, Complete Round	*AP-T M358 Shot (APBC-T)	107.31 pounds (48.8 kg)
	⌘ HEAT-T M469 (T153E15) Shell (HEAT-T)	52.55 pounds (23.9 kg)
	**HE-T M356 (T15E3) Shell (HE-T)	89.15 pounds (40.5 kg)
	**WP-T M357 (T16E4) Shell (Smoke)	89.15 pounds (40.5 kg)
	*TP-T M359E2 (T147E7) Shot (TPBC-T)	107.31 pounds (48.8 kg)
Weight, Projectile	AP-T M358 Shot (APBC-T)	50.85 pounds (23.1 kg)
	HEAT-T M469 (T153E15) Shell (HEAT-T)	31.11 pounds (14.1 kg)
	HE-T M356 (T15E3) Shell (HE-T)	50.41 pounds (22.9 kg)
	WP-T M357 (T16E4) Shell (Smoke)	50.41 pounds (22.9 kg)
	TP-T M359E2 (T147E7) Shot (TPBC-T)	50.85 pounds (23.1 kg)
Maximum Powder Pressure	48,000 psi	
Maximum Rate of Fire	5 rounds/minute, manual loading, two loaders (M58 gun)	
Muzzle Velocity	AP-T M358 Shot (APBC-T)	3500 ft/sec (1067 m/sec)
	HEAT-T M469 (T153E15) Shell (HEAT-T)	3750 ft/sec (1143 m/sec)
	HE-T M356 (T15E3) Shell (HE-T)	2500 ft/sec (762 m/sec)
	WP-T M357 (T16E4) Shell (Smoke)	2500 ft/sec (762 m/sec)
	TP-T M359E2 (T147E7) Shot (TPBC-T)	3500 ft/sec (1067 m/sec)
Muzzle Energy of Projectile, $KE = \frac{1}{2}MV^2$	AP-T M358 Shot (APBC-T)	4318 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HEAT-T M469 (T153E15) Shell (HEAT-T)	3033 ft-tons
	HE-T M356 (T15E3) Shell (HE-T)	2184 ft-tons
	WP-T M357 (T16E4) Shell (Smoke)	2184 ft-tons
	TP-T M359E2 (T147E7) Shot (TPBC-T)	4318 ft-tons
Maximum Range (independent of mount)	AP-T M358 Shot (APBC-T)	25,290 yards (23,125 m)
	HEAT-T M469 (T153E15) Shell (HEAT-T)	25,290 yards (23,125 m)
	HE-T M356 (T15E3) Shell (HE-T)	19,910 yards (18,206 m)
	WP-T M357 (T16E4) Shell (Smoke)	19,910 yards (18,206 m)
	TP-T M359E2 (T147E7) Shot (TPBC-T)	25,290 yards (23,125 m)
Penetration Performance Range	1000 yards (914 m)	2000 yards (1829 m)
	Homogenous Armor at 30 degrees obliquity	
AP-T M358 Shot (APBC-T)	8.7 inches (221mm)	7.7 inches (196mm)
HEAT-T M469 (T153E15) Shell (HEAT-T)	13.0 inches (330mm)	13.0 inches (330mm)
	Homogenous Armor at 60 degrees obliquity	
AP-T M358 Shot (APBC-T)	4.9 inches (124mm)	4.5 inches (114mm)
HEAT-T M469 (T153E15) Shell (HEAT-T)	7.5 inches (191mm)	7.5 inches (191mm)

*With propelling charge assembly M46 (T38E1) in cartridge case M109 (T25)

**With propelling charge assembly M45 (T21E1) in cartridge case M109 (T25)

⌘ With propelling charge assembly M99 (T42E1) in cartridge case M111

The T179 gun was similar to the M58 gun, but it was inverted in the T169 mount for use with an automatic loader. The T169 was a rigid mount without a recoil system.

155mm GUNS T7 and T7E1

Carriage and Mount	Heavy Tank T30 in Mount T124 (T7 Gun) and Heavy Tank T30E1 in Mount T124E1 (T7E1 Gun)	
Length of Chamber (to rifling)	27.22 inches	
Length of Rifling	216.78 inches	
Length of Chamber (to projectile base)	26 inches	
Travel of Projectile in Bore	218 inches	
Length of Bore	244 inches, 40 calibers	
Depth of Breech Recess	8.5 inches	
Length, Muzzle to Rear Face of Breech	252.5 inches	
Additional Length, Muzzle Brake T19	130 inches	
Overall Length	265.5 inches	
Diameter of Bore	6.102 inches	
Chamber Capacity	800 cubic inches	
Weight, Tube (w/o muzzle brake)	3955 pounds	
Weight, Complete (w/o muzzle brake)	5100 pounds	
Weight, Muzzle Brake T19	155 pounds	
Total Weight	approx.	5255 pounds
Type of Breechblock	Semiautomatic, horizontal sliding wedge	
Rifling	48 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Separated	
Primer	Percussion	
Weight, Complete Round	HE	135 pounds (61 kg)
Weight, Projectile	HE	95 pounds (43 kg)
Maximum Powder Pressure	32,000 psi	
Maximum Rate of Fire	2 rounds/minute, manual loading, two loaders (T7 gun)	
Muzzle Velocity	HE	2300 ft/sec (717 m/sec)
Muzzle Energy of Projectile, $KE = \frac{1}{2}MV^2$	HE	3484 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)		
Maximum Range (independent of mount)	Undetermined*	

*Development was terminated prior to the completion of the test program.

The T7E1 gun differed from the T7 in that it was modified for use with a power rammer and ejection equipment.

155mm GUN T180

Carriage and Mount	155mm Gun Tank T58 in Mount TI70	
Length of Chamber (to rifling)	28 inches	
Length of Rifling	216 inches	
Length of Chamber (to projectile base)	27 inches	
Travel of Projectile in Bore	217 inches	
Length of Bore	244 inches, 40 calibers	
Depth of Breech Recess	8.5 inches	
Length, Muzzle to Rear Face of Breech	252.5 inches	
Additional Length, Blast Deflector	11.6 inches	
Overall Length	264.1 inches	
Diameter of Bore	6.102 inches	
Chamber Capacity	800 cubic inches	
Total Weight	5588 pounds	
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	48 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Separated	
Primer	Percussion	
Weight, Complete Round	HE	135 pounds (61 kg)
	HEAT T267	105 pounds (48 kg)
Weight, Projectile	HE	95 pounds (43 kg)
	HEAT T267	64 pounds (29 kg)
Maximum Powder Pressure	32,000 psi	
Maximum Rate of Fire	23 rounds/minute (design rate w/automatic loader)	
Muzzle Velocity	HE	2300 ft/sec (717 m/sec)
	HEAT T267	2650 ft/sec (826 m/sec)
Muzzle Energy of Projectile, $KE = \frac{1}{2}MV^2$	HE	3484 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HEAT T267	3116 ft-tons
Maximum Range (independent of mount)	Undetermined*	
Penetration Performace	Homogenous Armor at all ranges	
HEAT T267, Estimated*	13.9 inches (353mm) at 30 degrees obliquity	
	8.0 inches (203mm) at 60 degrees obliquity	

*Development was terminated prior to the completion of the test program.

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