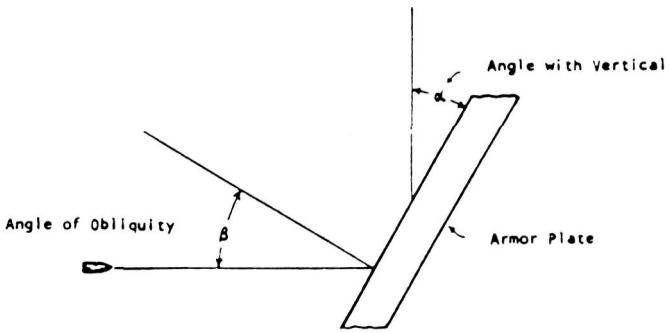
VEHICLE DATA SHEETS

All of the production light tanks in the U.S. Army since World War II are described in the data sheets of this section. In addition, data sheets are included for some of the experimental tanks and many of the self-propelled artillery vehicles based on lightweight chassis.

Whenever they were available, the original arsenal drawings provided the vehicle dimensions. Other source documents were the characteristic sheets, notes on materiel, and technical manuals for the appropriate vehicles. In the case of many experimental vehicles, information was obtained from the test reports issued at Fort Knox or Aberdeen Proving Ground. Some dimensions such as ground clearance or fire height would vary with the suspension spring compression resulting from the load on the vehicle. In this case, the design reference values are quoted to permit comparison between the various vehicles.

Some of the terms may require clarification. The fire height is defined as the distance from the ground to the centerline of the main weapon bore at zero elevation. The ground contact length at zero penetration is the distance between the centers of the front and rear road wheels. This value is used to calculate the ground contact area and the ground pressure of the vehicle. The combat weight of the vehicle is used in the latter calculation. This combat weight includes the crew with a full load of fuel and ammunition. If available, the exact weight of an experimental vehicle is listed. However, in some cases only approximate weights could be obtained. For production vehicles, the average weight is often rounded off to the nearest 1000 pounds. When available, the maximum values are quoted for the gross and net engine horsepower and torque. The gross horsepower and torque are the values obtained with only those accessories essential to engine operation without the effect of items such as air cleaners or generators. The net values reflect the operation of the engine as installed in the vehicle with all of its accessories. The power to weight ratios were calculated using the combat weight. The terms left and right are from the perspective of someone seated in the vehicle driver's seat.

During the operational life of the vehicle, the stowage arrangements were frequently changed. In that case, the stowage specified when the vehicle was new or during its period of greatest use is listed. Some items also may have been omitted because of security restrictions.



Security considerations also limit the information available on certain vehicles. This particularly applies to the use of composite special armor. On the early vehicles, the armor is specified by type, thickness, and angle with the vertical. This angle is measured between a vertical plane and the armor plate surface as indicated by the angle alpha in the sketch. Note also in this two dimensional drawing that the angle beta is the angle of obliquity. The latter is defined as the angle between a line perpendicular to the armor plate and the path of a projectile impacting the plate.

LIGHT TANK T37

GENERAL DATA

Crew:	4 men
Length: Gun forward	292.1 inches
Length: Gun in travel position	249.3 inches
Length: Without gun	222.1 inches
Gun Overhang: Gun forward	70 inches
Width: Over fenders	127 inches
Height: Over cupola	102 inches
Tread:	101.75 inches
Ground Clearance:	17.5 inches
Fire Height:	approx. 75 inches
Turret Ring Diameter: (inside)	69 inches
Weight, Combat Loaded:	48,280 pounds
Weight, Unstowed:	42,680 pounds
Power to Weight Ratio: Net	16.2 hp/ton
Gross	20.7 hp/ton
Ground Pressure: Zero penetration	9.4 psi

ARMOR

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

Hull Thickness	Actual	Angle w/Vertical
Front, Upper	1.0 inches (25mm)	60 degrees
Lower	1.25 inches (32mm)	45 degrees
Sides, Front	1.0 inches (25mm)	12 degrees
Rear	0.75 inches (19mm)	12 degrees
Rear, Upper	0.75 inches (19mm)	55 degrees
Lower	0.75 inches (19mm)	40 degrees
Top	0.5 inches (13mm)	90 degrees
Floor, Front	1.25 inches (32mm)	90 degrees
Rear	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Gun Shield	1.25-1.0 inches (32-25mm)	60 degrees
Front	1.25 inches (32mm)	55 degrees
Sides	1.0 inches (25mm)	10 degrees
Rear	1.0 inches (25mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: 76mm Gun T94 in Mount T137 in turret

Traverse: Electric-hydraulic and manual	360 degrees
Traverse Rate: (max)	12 seconds/360 degrees
Elevation: Electric-hydraulic and manual	+20 to —9 degrees
Elevation Rate: (max)	6 degrees/second
Firing Rate: (max)	12 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret
(1) .50 caliber MG HB M2 coaxial w/76mm gun in turret
(2) .30 caliber MG M1919A4 in turret blisters
Provision for (4) .45 caliber SMG M3

AMMUNITION

60 rounds 76mm
1980 rounds .50 caliber
900 rounds .45 caliber
3750 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Range Finder T37 (stereo)	Azimuth Indicator
		Elevation Quadrant M9
		Gunner's Quadrant M1A1
Blister Machine Guns:	Periscope T32	
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Gunner	None	Periscope T32 (1)
Loader	Hatch and pistol port	Periscope T32 (1)

Total Periscopes: M15 (1), M17 (4), T32 (2)
Total Pistol Ports: Turret (1)
Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: Continental AOS-895-1
Type: 6 cylinder, 4 cycle, opposed, supercharged
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	390 hp at 2800 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	800 ft-lb at 2100 rpm
Gross Torque: (max)	945 ft-lb at 2400 rpm
Weight:	1660 pounds, dry
Fuel: 80 octane gasoline	143 gallons
Engine Oil:	58 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-1, 2 ranges forward, 1 reverse
Single stage hydraulic torque converter
Stall multiplication: 4:1
Overall Usable Ratios: low 14.7:1 reverse 14.7:1
high 3.9:1
Steering Control: Mechanical, wobble stick
Steering Rate: 6.8 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 3.769:1
Drive Sprocket: At rear of vehicle with 12 teeth
Pitch Diameter: 23.182 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
6 dual track return rollers (3/track)
Dual compensating idler at front of each track
Idler Size: 22.5 x 4.5 inches, steel, no tire
Shock absorbers fitted on first 2 and last 2 road wheels on each side
Track tension idler installed between last road wheel and sprocket
Tracks: Center guide T91
Type: (T91) Single pin, 21 inch width, steel
Pitch: 6 inches
Shoes per Vehicle: 150 (75/track)
Ground Contact Length: 122 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (2) 24 volts, 150 amperes, in parallel driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series, 1 set per generator

COMMUNICATIONS

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

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	41 miles/hour
Maximum Tractive Effort: TE at stall	45,000 pounds
Per Cent of Vehicle Weight: TE/W	93 per cent
Maximum Grade:	60 per cent
Maximum Trench:	8 feet
Maximum Vertical Wall:	26 inches
Maximum Fording Depth:	44 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	150 miles

LIGHT TANK T41

GENERAL DATA

Crew:	4	men
Length: Gun forward	317.1	inches
Length: Gun in travel position	273.2	inches
Length: Without gun	222.1	inches
Gun Overhang: Gun forward	95	inches
Width: Over fenders	127	inches
Height: Over cupola	107.9	inches
Tread:	101.75	inches
Ground Clearance:	17.5	inches
Fire Height:	approx. 75	inches
Turret Ring Diameter: (inside)	69	inches
Weight, Combat Loaded:	51,600	pounds
Weight, Unstowed:	45,980	pounds
Power to Weight Ratio: Net	15.1	hp/ton
Gross	19.4	hp/ton
Ground Pressure: Zero penetration	10.1	psi

ARMOR

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

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.0 inches (25mm)	60 degrees
Lower	1.25 inches (32mm)	45 degrees
Sides, Front	1.0 inches (25mm)	12 degrees
Rear	0.75 inches (19mm)	12 degrees
Rear, Upper	0.75 inches (19mm)	55 degrees
Lower	0.75 inches (19mm)	40 degrees
Top	0.5 inches (13mm)	90 degrees
Floor, Front	1.25 inches (32mm)	90 degrees
Rear	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Gun Shield	1.25-1.0 inches (32-25mm)	60 degrees
Front	1.25 inches (32mm)	56 degrees
Sides	1.0 inches (25mm)	10 degrees
Rear	1.0 inches (25mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: 76mm Gun T91 in Mount T138 in turret

Traverse: Electric-hydraulic and manual	360 degrees
Traverse Rate: (max)	11 seconds/360 degrees
Elevation: Electric-hydraulic and manual	+20 to -9 degrees
Elevation Rate: (max)	6 degrees/second
Firing Rate: (max)	12 rounds/minute
Loading System:	Manual
Stabilizer System:	Azimuth and elevation

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret
(1) .50 caliber MG HB M2 coaxial w/76mm gun in turret
(2) .30 caliber MG M1919A4 in turret blisters
Provision for (4) .45 caliber SMG M3

AMMUNITION

40 rounds 76mm
1540 rounds .50 caliber
900 rounds .45 caliber
3500 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Range Finder (color coincidence)	Azimuth Indicator Elevation Quadrant M9
	Lead Computer	Gunner's Quadrant M1A1
Blister Machine Guns:	Periscope T32	
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15 (1)
Gunner	None	Periscope T32 (1)
Loader	Hatch and pistol port	Periscope T32 (1)

Total Periscopes: M15 (1), M17 (4), T32 (2)
Total Pistol Ports: Turret (1)
Total Vision Blocks: (6) in cupola on turret top

ENGINE

Make and Model: Continental AOS-895-1
Type: 6 cylinder, 4 cycle, opposed, supercharged
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	390 hp at 2800 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	800 ft-lb at 2100 rpm
Gross Torque: (max)	945 ft-lb at 2400 rpm
Weight:	1660 pounds, dry
Fuel: 80 octane gasoline	143 gallons
Engine Oil:	58 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-1, 2 ranges forward, 1 reverse
Single stage hydraulic torque converter
Stall multiplication: 4:1
Overall Usable Ratios: low 14.7:1 reverse 14.7:1
high 3.9:1
Steering Control: Mechanical, wobble stick
Steering Rate: 6.8 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 3.769:1
Drive Sprocket: At rear of vehicle with 12 teeth
Pitch Diameter: 23.182 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
6 dual track return rollers (3/track)
Dual compensating idler at front of each track
Idler Size: 22.5 x 4.5 inches, steel, no tire
Shock absorbers fitted on first 2 and last 2 road wheels on each side
Tracks: Center guide T91
Type: (T91) Single pin, 21 inch width, steel
Pitch: 6 inches
Shoes per Vehicle: 150 (75/track)
Ground Contact Length: 122 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (2) 24 volts, 150 amperes, in parallel driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series, 1 set per generator

COMMUNICATIONS

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

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	41	miles/hour
Maximum Tractive Effort: TE at stall	45,000	pounds
Per Cent of Vehicle Weight: TE/W	87	per cent
Maximum Grade:	60	per cent
Maximum Trench:	8	feet
Maximum Vertical Wall:	26	inches
Maximum Fording Depth:	44	inches
Minimum Turning Circle: (diameter)		pivot
Cruising Range: Roads	150	miles

76mm GUN TANKS M41 (T41E1) AND M41A1 (T41E2)

GENERAL DATA

Crew:	4	men
Length: Gun forward, M41 w/early muzzle brake	318.6	inches
M41A1 w/late muzzle brake	319.8	inches
Length: Gun in travel position, M41 w/early muzzle brake	274.5	inches
M41A1 w/late muzzle brake	276.8	inches
Length: Without gun	229.1	inches
Gun Overhang: Gun forward, M41 w/early muzzle brake	89.5	inches
M41A1 w/late muzzle brake	90.7	inches
Width: Over fenders	125.9	inches
Height: Over AA MG	118.8	inches
Tread:	102.5	inches
Ground Clearance:	17.5	inches
Fire Height:	approx. 75	inches
Turret Ring Diameter: (inside)	73	inches
Weight, Combat Loaded: M41	51,200	pounds
M41A1	51,800	pounds
Weight, Unstowed: M41 and M41A1	44,700	pounds
Power to Weight Ratio: Net, M41	17.4	hp/ton
M41A1	17.2	hp/ton
Gross, M41	19.5	hp/ton
M41A1	19.3	hp/ton
Ground Pressure: Zero penetration, M41	9.6	psi
M41A1	9.7	psi

ARMOR

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

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.0 inches (25mm)	60 degrees
Lower	1.25 inches (32mm)	45 degrees
Sides, Upper Front	1.0 inches (25mm)	0 degrees
Upper Rear	0.75 inches (19mm)	0 degrees
Lower by driver	1.0 inches (25mm)	45 degrees
Lower not by driver	0.5 inches (13mm)	60 degrees
Rear, Upper (doors)	0.5 inches (13mm)	56 degrees
Lower	0.75 inches (19mm)	40 degrees
Top	0.75 inches (19mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Gun Shield	1.25 inches (32mm)	50 degrees
Front	1.0 inches (25mm)	18 degrees
Sides	1.0 inches (25mm)	10 and 30 degrees
Rear	1.0 inches (25mm)	0 degrees
Top, Front	0.75 inches (19mm)	73 degrees
Rear	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: 76mm Gun M32 (T91E3) in Mount M76 (T138E1) in turret (M41)
76mm Gun M32 (T91E3) in Mount M76A1 (T138E2) in turret (M41A1)

Traverse: Electric-hydraulic and manual	360 degrees
Traverse Rate: (max)	10 seconds/360 degrees
Elevation: Manual (M41)	+20 to -10 degrees
Electric-hydraulic and manual (M41A1)	+20 to -10 degrees
Elevation Rate: (max) (M41A1)	4 degrees/second
Firing Rate: (max)	12 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:
(1) .50 caliber MG HB M2 flexible AA mount on turret
(1) .50 caliber MG HB M2E1 coaxial w/76mm gun in turret
or
(1) .30 caliber MG M1919A4E1 coaxial w/76mm gun in turret
Provision for (1) .45 caliber SMG M3A1
Provision for (1) .30 caliber Carbine M2

AMMUNITION

57 rounds 76mm (M41)
65 rounds 76mm (M41A1)
600 rounds .50 caliber AA
2175 rounds .50 caliber coaxial
or
5225 rounds .30 caliber coaxial (M41)
4900 rounds .30 caliber coaxial (M41A1)
180 rounds .45 caliber
90 rounds .30 caliber (carbine)
8 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscope M20 (T35) or M20A	Azimuth Indicator M31 (T24)
	Telescope M97 (T156)	Elevation Quadrant M9
	Ballistic Drive M4 (T23)	Gunner's Quadrant Ml or M1A1

Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4) and Periscope M19 (infrared) (1)
Commander	Vision blocks (5) in cupola, hatch	Periscope M20 (T35) or M20A1 (1)
Gunner	None	Periscope M20 (T35) or M20A1 (1)
Loader	Hatch	Periscope M13 or M13B1 (1)

Total Periscopes: M13 or M13B1 (1), M17 (4), M19 (infrared) (1), M20 (T35) or M20A1 (2)
Total Vision Blocks: (5) in cupola on turret top

ENGINE

Make and Model: Continental AOS-895-3
Type: 6 cylinder, 4 cycle, opposed, supercharged
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	440 hp at 2400 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	900 ft-lb at 2100 rpm
Gross Torque: (max)	960 ft-lb at 2400 rpm
Weight:	approx. 1900 pounds, dry
Fuel: 80 octane gasoline	140 gallons
Engine Oil:	44 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-3, 2 ranges forward, 1 reverse w/automatic lock-up in high
Single stage hydraulic torque converter
Stall Multiplication: 4:1
Overall Usable Ratios: low 14.7:1 direct 1:1
high 3.9:1 reverse 14.7:1
Steering Control: Mechanical, T-bar
Steering Rate: 6.8 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.25:1
Drive Sprocket: At rear of vehicle with 12 teeth
Pitch Diameter: 23.422 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
6 dual track return rollers (3/track)
Dual Compensating idler at front of each track
Idler Size: 22.5 x 4.5 inches, steel, no tire (early)
Idler Tire Size: 25.5 x 4.5 inches (late)
Shock absorbers fitted on first 2 and last road wheels on each side
Tracks: Center guide T91E3
Type: (T91E3) Single pin, 21 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 150 (75/track)
Ground Contact Length: 127 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 150 amperes, driven by main engine
Auxiliary Generator: (1) 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

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	45 miles/hour
Maximum Tractive Effort: TE at stall	44,000 pounds
Per Cent of Vehicle Weight: TE/W (M41)	86 per cent
(M41A1)	85 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	28 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 100 miles

76mm GUN TANKS M41A2 AND M41A3

GENERAL DATA

Crew:	4	men
Length: Gun forward	319.8	inches
Length: Gun in travel position	276.8	inches
Length: Without gun	229.1	inches
Gun Overhang: Gun forward	90.7	inches
Width: Over fenders	125.9	inches
Height: Over AA MG	118.8	inches
Tread:	102.5	inches
Ground Clearance:	17.5	inches
Fire Height:	approx. 75	inches
Türret Ring Diameter: (inside)	73	inches
Weight, Combat Loaded: M41A2	51,200	pounds
M41A3	51,800	pounds
Weight, Unstowed: M41A2 and M41A3	44,700	pounds
Power to Weight Ratio: Net, M41A2	16.3	hp/ton
M41A3	16.1	hp/ton
Gross, M41A2	20.5	hp/ton
M41A3	20.3	hp/ton
Ground Pressure: Zero penetration, M41A2	9.6	psi
M41A3	9.7	psi

ARMOR

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

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.0 inches (25mm)	60 degrees
Lower	1.25 inches (32mm)	45 degrees
Sides, Upper Front	1.0 inches (25mm)	0 degrees
Upper Rear	0.75 inches (19mm)	0 degrees
Lower by driver	1.0 inches (25mm)	45 degrees
Lower not by driver	0.5 inches (13mm)	60 degrees
Rear, Upper (doors)	0.5 inches (13mm)	56 degrees
Lower	0.75 inches (19mm)	40 degrees
Top	0.75 inches (19mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Gun Shield	1.25 inches (32mm)	50 degrees
Front	1.0 inches (25mm)	18 degrees
Sides	1.0 inches (25mm)	10 and 30 degrees
Rear	1.0 inches (25mm)	0 degrees
Top, Front	0.75 inches (19mm)	73 degrees
Rear	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: 76mm Gun M32 in Mount M76 in turret (M41A2)
76mm Gun M32 in Mount M76A1 in turret (M41A3)

Traverse: Electric-hydraulic and manual	360 degrees
Traverse Rate: (max)	10 seconds/360 degrees
Elevation: Manual (M41A2)	+20 to -10 degrees
Electric-hydraulic and manual (M41A3)	+20 to -10 degrees
Elevation Rate: (max) (M41A3)	4 degrees/second
Firing Rate: (max)	12 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:
(1) .50 caliber MG HB M2 flexible AA mount on turret
(1) .30 caliber MG M1919A4E1 coaxial w/76mm gun in turret
Provision for (1) .45 caliber SMG M3A1
Provision for (1) .30 caliber Carbine M2

AMMUNITION

57 rounds 76mm (M41A2)
65 rounds 76mm (M41A3)
600 rounds .50 caliber
5225 rounds .30 caliber (M41A2)
4900 rounds .30 caliber (M41A3)
180 rounds .45 caliber
90 rounds .30 caliber (carbine)
8 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscope M20 or M20A1	Azimuth Indicator M31
	Telescope M97	Elevation Quadrant M9
	Ballistic Drive M4	Gunner's Quadrant M1A1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4) and Periscope M19 (infrared) (1)
Commander	Vision blocks (5) in cupola, hatch	Periscope M20 or M20A1 (1)
Gunner	None	Periscope M20 or M20A1 (1)
Loader	Hatch	Periscope M13 or M13B1 (1)

Total Periscopes: M13 or M13B1 (1), M17 (4), M19 (infrared) (1), M20 or M20A1 (2)
Total Vision Blocks: (5) in cupola on turret top

ENGINE

Make and Model: Continental AOSI-895-5
Type: 6 cylinder, 4 cycle, opposed, supercharged, fuel injection
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	440 hp at 2400 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	900 ft-lb at 2100 rpm
Gross Torque: (max)	960 ft-lb at 2400 rpm
Weight:	approx. 1900 pounds, dry
Fuel: 80 octane gasoline	140 gallons
Engine Oil:	44 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-3, 2 ranges forward, 1 reverse w/automatic lock-up in high
Single stage hydraulic torque converter
Stall Multiplication: 4:1
Overall Usable Ratios: low 14.7:1 direct 1:1
high 3.9:1 reverse 14.7:1
Steering Control: Mechanical, T-bar
Steering Rate: 6.8 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.25:1
Drive Sprocket: At rear of vehicle with 12 teeth
Pitch Diameter: 23.422 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
6 dual track return rollers (3/track)
Dual compensating idler at front of each track
Idler Size: 22.5 x 4.5 inches, steel, no tire (early)
Idler Tire Size: 25.5 x 4.5 inches (late)
Shock absorbers fitted on first 2 and last road wheels on each side
Tracks: Center guide T91E3
Type: (T91E3) Single pin, 21 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 150 (75/track)
Ground Contact Length: 127 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 150 amperes, driven by main engine
Auxiliary Generator: (1) 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

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	45	miles/hour
Maximum Tractive Effort: TE at stall	44,000	pounds
Per Cent of Vehicle Weight: TE/W (M41A2)	86	per cent
(M41A3)	85	per cent
Maximum Grade:	60	per cent
Maximum Trench:	6	feet
Maximum Vertical Wall:	28	inches
Maximum Fording Depth:	48	inches
Minimum Turning Circle: (diameter)	pivot	
Cruising Range: Roads	approx. 110	miles
w/jettison tanks	approx. 280	miles

90mm GUN TANK T49

GENERAL DATA

Crew:	4 men
Length: Gun forward	313.0 inches
Length: Gun in travel position	274.5 inches
Length: Without gun	223.4 inches
Gun Overhang: Gun forward	89.6 inches
Width: Over fenders	128.9 inches
Height: Over AA MG	127.3 inches
Tread:	102.5 inches
Ground Clearance:	17.5 inches
Fire Height:	approx. 75 inches
Turret Ring Diameter: (inside)	73 inches
Weight, Combat Loaded:	53,200 pounds
Weight, Unstowed:	46,650 pounds
Power to Weight Ratio: Net	16.8 hp/ton
Gross	18.8 hp/ton
Ground Pressure: Zero penetration	10.0 psi

ARMOR

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

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.0 inches (25mm)	60 degrees
Lower	1.25 inches (32mm)	45 degrees
Sides, Upper Front	1.0 inches (25mm)	0 degrees
Upper Rear	0.75 inches (19mm)	0 degrees
Lower by driver	1.0 inches (25mm)	45 degrees
Lower not by driver	0.5 inches (13mm)	60 degrees
Rear, Upper (doors)	0.5 inches (13mm)	56 degrees
Lower	0.75 inches (19mm)	40 degrees
Top	0.75 inches (19mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Gun Shield	1.25 inches (32mm)	50 degrees
Front	1.0 inches (25mm)	18 degrees
Sides, Upper 6 1/2 inches	1.0 inches (25mm)	0 degrees
Lower	1.0 inches (25mm)	10 and 30 degrees
Rear	1.0 inches (25mm)	0 degrees
Top, Front	0.75 inches (19mm)	73 degrees
Rear	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: 90mm Gun T132E3 in Mount T145 in turret

Traverse: Amplidyne and manual	360 degrees
Traverse Rate: (max)	13 seconds/360 degrees
Elevation: Amplidyne and manual	+19.5 to -9.5 degrees
Elevation Rate: (max)	4 degrees/second
Firing Rate: (max)	10 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

(1) -.50 caliber MG HB M2 flexible AA mount on turret
(1) .30 caliber MG M1919A4E1 coaxial w/90mm gun in turret
Provision for (1) .45 caliber SMG M3A1
Provision for (1) .30 caliber Carbine M2

AMMUNITION

46 rounds 90mm	180 rounds .45 caliber
600 rounds .50 caliber	90 rounds .30 caliber (carbine)
6225 rounds .30 caliber	8 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Range Finder T41E3	Azimuth Indicator M31
	Periscope M20	Elevation Quadrant M13
	Telescope T156E1	Gunner's Quadrant M1A1
	Ballistic Computer T23E3	

Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4) and Periscope M19 (infrared) (1)
Commander	Vision blocks (5) in cupola, hatch	Periscope M20 (1)
Gunner	None	Periscope M20 (1)
Loader	Hatch	Periscope M13 (1)

Total Periscopes: M13 (1), M17 (4), M19 (infrared) (1), M20 (2)
Total Vision Blocks: (5) in cupola on turret top

ENGINE

Make and Model: Continental AOS-895-3
Type: 6 cylinder, 4 cycle, opposed, supercharged
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	440 hp at 2400 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	900 ft-lb at 2100 rpm
Gross Torque: (max)	960 ft-lb at 2400 rpm
Weight:	approx. 1900 pounds, dry
Fuel: 80 octane gasoline	140 gallons
Engine Oil:	44 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-3, 2 ranges forward, 1 reverse w/automatic lock-up in high
Single stage hydraulic torque converter
Stall Multiplication: 4:1
Overall Usable Ratios: low 14.7:1 direct 1:1
high 3.9:1 reverse 14.7:1
Steering Control: Mechanical, T-bar
Steering Rate: 6.8 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.25:1
Drive Sprocket: At rear of vehicle with 12 teeth
Pitch Diameter: 23.422 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
6 dual track return rollers (3/track)
Dual compensating idler at front of each track
Idler Size: 22.5 x 4.5 inches, steel, no tire
Shock absorbers fitted on first 2 and last road wheels on each side
Tracks: Center guide T91E3
Type: (T91E3) Single pin, 21 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 150 (75/track)
Ground Contact Length: 127 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 150 amperes, driven by main engine
Auxiliary Generator: (1) 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

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	45 miles/hour
Maximum Tractive Effort: TE at stall	44,000 pounds
Per Cent of Vehicle Weight: TE/W	83 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	28 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 100 miles

90mm GUN TANK T49

GENERAL DATA

Crew:	4 men
Length: Gun forward	313.0 inches
Length: Gun in travel position	274.5 inches
Length: Without gun	223.4 inches
Gun Overhang: Gun forward	89.6 inches
Width: Over fenders	128.9 inches
Height: Over AA MG	127.3 inches
Tread:	102.5 inches
Ground Clearance:	17.5 inches
Fire Height:	approx. 75 inches
Turret Ring Diameter: (inside)	73 inches
Weight, Combat Loaded:	53,200 pounds
Weight, Unstowed:	46,650 pounds
Power to Weight Ratio: Net	16.8 hp/ton
Gross	18.8 hp/ton
Ground Pressure: Zero penetration	10.0 psi

ARMOR

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

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.0 inches (25mm)	60 degrees
Lower	1.25 inches (32mm)	45 degrees
Sides, Upper Front	1.0 inches (25mm)	0 degrees
Upper Rear	0.75 inches (19mm)	0 degrees
Lower by driver	1.0 inches (25mm)	45 degrees
Lower not by driver	0.5 inches (13mm)	60 degrees
Rear, Upper (doors)	0.5 inches (13mm)	56 degrees
Lower	0.75 inches (19mm)	40 degrees
Top	0.75 inches (19mm)	90 degrees
Floor, Front	1.5 inches (38mm)	90 degrees
Rear	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Gun Shield	1.25 inches (32mm)	50 degrees
Front	1.0 inches (25mm)	18 degrees
Sides, Upper 6 1/2 inches	1.0 inches (25mm)	0 degrees
Lower	1.0 inches (25mm)	10 and 30 degrees
Rear	1.0 inches (25mm)	0 degrees
Top, Front	0.75 inches (19mm)	73 degrees
Rear	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: 90mm Gun T132E3 in Mount T145 in turret

Traverse: Amplidyne and manual	360 degrees
Traverse Rate: (max)	13 seconds/360 degrees
Elevation: Amplidyne and manual	+19.5 to —9.5 degrees
Elevation Rate: (max)	4 degrees/second
Firing Rate: (max)	10 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret
(1) .30 caliber MG M1919A4E1 coaxial w/90mm gun in turret
Provision for (1) .45 caliber SMG M3A1
Provision for (1) .30 caliber Carbine M2

AMMUNITION

46 rounds 90mm	180 rounds .45 caliber
600 rounds .50 caliber	90 rounds .30 caliber (carbine)
6225 rounds .30 caliber	8 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Range Finder T41E3	Azimuth Indicator M31
	Periscope M20	Elevation Quadrant M13
	Telescope T156E1	Gunner's Quadrant M1A1
	Ballistic Computer T23E3	

Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4) and Periscope M19 (infrared) (1)
Commander	Vision blocks (5) in cupola, hatch	Periscope M20 (1)
Gunner	None	Periscope M20 (1)
Loader	Hatch	Periscope M13 (1)

Total Periscopes: M13 (1), M17 (4), M19 (infrared) (1), M20 (2)
Total Vision Blocks: (5) in cupola on turret top

ENGINE

Make and Model: Continental AOS-895-3
Type: 6 cylinder, 4 cycle, opposed, supercharged
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	440 hp at 2400 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	900 ft-lb at 2100 rpm
Gross Torque: (max)	960 ft-lb at 2400 rpm
Weight:	approx. 1900 pounds, dry
Fuel: 80 octane gasoline	140 gallons
Engine Oil:	44 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-3, 2 ranges forward, 1 reverse w/automatic lock-up in high
Single stage hydraulic torque converter
Stall Multiplication: 4:1

Overall Usable Ratios:	low 14.7:1	direct	1:1
	high 3.9:1	reverse	14.7:1

Steering Control: Mechanical, T-bar
Steering Rate: 6.8 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.25:1
Drive Sprocket: At rear of vehicle with 12 teeth
Pitch Diameter: 23.422 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
6 dual track return rollers (3/track)
Dual compensating idler at front of each track
Idler Size: 22.5 x 4.5 inches, steel, no tire
Shock absorbers fitted on first 2 and last road wheels on each side
Tracks: Center guide T91E3
Type: (T91E3) Single pin, 21 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 150 (75/track)
Ground Contact Length: 127 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 150 amperes, driven by main engine
Auxiliary Generator: (1) 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

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	45 miles/hour
Maximum Tractive Effort: TE at stall	44,000 pounds
Per Cent of Vehicle Weight: TE/W	83 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	28 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 100 miles

76mm GUN TANK T71

GENERAL DATA

Crew:	4 men
Length: Gun forward	271.0 inches
Length: Gun to rear	283.5 inches
Length: Without gun	182.5 inches
Gun Overhang: Gun forward	88.5 inches
Width: Over tracks	109.75 inches
Height: Over cupola	98.75 inches
Tread:	85.75 inches
Ground Clearance:	17.5 inches
Fire Height:	approx. 69 inches
Turret Ring Diameter: (inside)	73.75 inches
Weight, Combat Loaded:	37,400 pounds
Weight, Unstowed:	33,150 pounds
Power to Weight Ratio: Net	15.8 hp/ton
Gross	18.2 hp/ton
Ground Pressure: Zero penetration	11.7 psi

ARMOR

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

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.0 inches (25mm)	60 degrees
Lower	1.0 inches (25mm)	40 degrees
Sides	0.875 inches (22mm)	0 degrees
Rear, Upper	0.75 inches (19mm)	15 degrees
Lower	0.75 inches (19mm)	45 degrees
Top	0.5 inches (13mm)	90 degrees
Floor, Front	1.0 inches (25mm)	90 degrees
Rear	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Gun Shield	1.0 inches (25mm)	60 degrees
Front	0.875 inches (22mm)	60 degrees
Sides	0.875 inches (22mm)	7 and 28 degrees
Rear	0.875 inches (22mm)	15 degrees
Top, Front	0.5 inches (13mm)	75 degrees
Rear	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: 76mm Gun T185 in Mount T138E2 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)	12 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

(1) .50 caliber MG HB M2 in cupola on turret
(1) .30 caliber MG M1919A4E1 coaxial w/76mm gun in turret
(1) .30 caliber MG M1919A4 on turret roof
Provision for (1) .45 caliber SMG M3A1
Provision for (1) .30 caliber Carbine M2

AMMUNITION

60 rounds 76mm	180 rounds .45 caliber
600 rounds .50 caliber	90 rounds .30 caliber (carbine)
5000 rounds .30 caliber	8 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscopic sight Telescope	Azimuth Indicator Elevation Quadrant M9 Gunner's Quadrant M1A1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4) and Periscope M19 (infrared) (1)
Commander	Vision blocks (6) in cupola, hatch	None
Gunner	None	Periscopic sight (1)
Loader	Vision blocks (1) hatch	None

Total Periscopes: M17 (4), M19 (infrared) (1), periscopic sight (1)
Total Vision Blocks: (7)

ENGINE

Make and Model: Continental AOI-628-1
Type: 8 cylinder, 4 cycle, opposed, fuel injection
Cooling System: Air Ignition: Magneto

Displacement:	628.3 cubic inches
Bore and Stroke:	5 x 4 inches
Compression Ratio:	6.7:1
Net Horsepower: (max)	280 hp at 3200 rpm
Gross Horsepower: (max)	340 hp at 3200 rpm
Net Torque: (max)	503 ft-lb at 2500 rpm
Gross Torque: (max)	587 ft-lb at 2500 rpm
Weight:	1098 pounds, dry
Fuel: 80-86 octane gasoline	150 gallons
Engine Oil:	16 quarts

POWER TRAIN

Transmission: XT-300, 3 ranges forward, 1 reverse
Single stage hydraulic torque converter
Stall Multiplication: 3.8:1
Overall Usable Ratios: low 19.65:1 direct 1.21:1
high 4.71:1 reverse 22:1
Steering Control: Clutch-brake, control handles
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 5.08:1
Drive Sprocket: At front of vehicle with 12 teeth
Pitch Diameter: 21.492 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
8 individually sprung dual road wheels (4/track)
Tire Size: 34 x 5 inches
Rear road wheel serves as trailing idler
Shock absorbers fitted on first and last road wheels on each side
Tracks: Center guide
Type: Single pin, 14 inch width
Pitch: 5.5 inches
Shoes per Vehicle: 130 (65/track)
Ground Contact Length: 114 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 100 amperes, driven by main engine
Auxiliary Generator: None
Battery: (2) 12 volts, in series

COMMUNICATIONS

Radio: AN/GRC-3 thru 8 series on turret floor
Interphone: AN/UIC-1, 3 stations plus external head set w/plug connection

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	35 miles/hour
Maximum Tractive Effort: TE at stall	42,300 pounds
Per Cent of Vehicle Weight: TE/W	113 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	36 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 165 miles

76mm GUN TANK T92

GENERAL DATA

Crew:	4	men
Length: Gun forward	247.50	inches
Length: Gun to rear	300.75	inches
Length: Without gun	189.75	inches
Gun Overhang: Gun forward	57.75	inches
Width: Over tracks	124.0	inches
Height: Over periscopes	89.1	inches
Tread:	108.0	inches
Ground Clearance:	17.0	inches
Fire Height:	67.4	inches
Turret Ring Diameter: (inside)	89	inches
Weight, Combat Loaded:	37,160	pounds
Weight, Unstowed:	33,204	pounds
Power to Weight Ratio: Net	15.1	hp/ton
Gross	18.3	hp/ton
Ground Pressure: Zero penetration, T110 track	9.6	psi
T85E1 track	10.9	psi

ARMOR

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

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	0.5 inches (13mm)	65 to 83 degrees
Doors (aluminum)	1.0 inches (25mm)	65 degrees
Lower (inner)	0.5 inches (13mm)	35 degrees
Lower (outer)	0.5 inches (13mm)	50 degrees
Right Side, by final drive	0.375 inches (10mm)	0 degrees
by engine	0.75 inches 19mm)	0 degrees
by turret	0.675-1.0 inches (17-25mm)	0 degrees
by fuel	0.375-0.75 inches (10-19mm)	0 degrees
Left Side, by final drive	0.375 inches (10mm)	0 degrees
by driver	1.0 inches (25mm)	0 degrees
by turret	1.0 inches (25mm)	0 degrees
by fuel	0.75 inches (19mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees
Floor, under driver	1.0 inches (25mm)	90 degrees
remainder	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Front, Cradle	1.25 inches (32mm)	0 degrees
Sides	0.5 inches (13mm)	45 degrees
Sides, Cradle	0.75 inches (19mm)	0 degrees
Rear	1.25 inches (32mm)	0 degrees
Rear, Cradle	0.75 inches (19mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees
Cupola Sides	1.125 inches (29mm)	0 degrees

ARMAMENT

Primary: 76mm Gun T185E1 in cradle mount in turret

Traverse: Hydraulic and manual	360 degrees
Traverse Rate: (max)	15 seconds/360 degrees
Elevation: Hydraulic and manual	+20 to -10 degrees
Elevation Rate: (max)	4 degrees/second
Firing Rate: (max)	12 rounds/minute
Loading System:	Semiautomatic loader
Stabilizer System:	None

Secondary:

(1) .50 caliber MG HB M2 in right cupola
(1) .30 caliber MG M37 in left cupola
(1) .30 caliber MG M37 coaxial w/76mm gun in cradle
Provision for (1) .45 caliber SMG M3A1
Provision for (1) .30 caliber Carbine M2

AMMUNITION

60 rounds 76mm	180 rounds .45 caliber
700 rounds .50 caliber	90 rounds .30 caliber (carbine)
5000 rounds .30 caliber	8 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscope M16E2	Azimuth Indicator T24 mod.
	Elbow Telescope	Elevation Quadrant M9
	Ballistic drive	Gunner's Quadrant M1A1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4) and Periscope M19 (infrared) (1)
Commander	Vision blocks (10) in turret and cupola, hatch	Periscope M16E2 (1) Periscope T42 mod. (1) over cradle periscope (2)
Gunner	Vision blocks (10) in turret and cupola hatch	Periscope M16E2 (1) Periscope T42 mod. (1) over cradle periscope (2)
Loader	Vision blocks (2)	None

Total Periscopes: M16E2 (2), M17 (4), M19 (infrared) (1), T42 mod. (2) over cradle periscopes (4)
Total Vision Blocks: Turret (20), Hull (2)

ENGINE

Make and Model: Continental AOI-628-1
Type: 8 cylinder, 4 cycle, opposed, fuel injection
Cooling System: Air Ignition: Magneto

Displacement:	628.3 cubic inches
Bore and Stroke:	5 x 4 inches
Compression Ratio:	6.7:1
Net Horsepower: (max)	280 hp at 3200 rpm
Gross Horsepower: (max)	340 hp at 3200 rpm
Net Torque: (max)	503 ft-lb at 2500 rpm
Gross Torque: (max)	587 ft-lb at 2500 rpm
Weight:	1098 pounds, dry
Fuel: 80-86 octane gasoline	150 gallons
Engine Oil:	16 quarts

POWER TRAIN

Transmission: XT-300, 3 ranges forward, 1 reverse
Single stage hydraulic torque converter
Stall Multiplication: 3.8:1
Overall Usable Ratios: low 19.65:1 direct 1.21:1
high 4.71:1 reverse 22:1
Steering Control: Clutch-brake, control handles
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 6.17:1
Drive Sprocket: At front of vehicle with 11 teeth (T110 tracks)
At front of vehicle with 13 teeth (T85E1 tracks)
Pitch Diameter: 21.80 inches (T110 tracks), 22.979 inches (T85E1 tracks)

RUNNING GEAR

Suspension: Torsilastic
8 individually sprung dual road wheels (4/track)
Tire Size: 21.75 x 4.25 inches
4 dual track return rollers (2/track)
Rear road wheel serves as trailing idler
Double shock absorbers fitted on first and last road wheels on each side
Tracks: Center guide T110 and T85E1
Type: (T110) Band type, 16 inch width, each section 43.365 inches long
(T85E1) Double pin, 14 inch width, rubber chevron
Pitch: Cross bar (T110) 6.195 inches
(T85E1) 5.5 inches
Track Sections: (T110) 18 (9/track)
Cross Bars: (T110) 126 (63/track)
Shoes per Vehicle: (T85E1) 134 (67/track)
Ground Contact Length: 121.5 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 300 amperes, driven by main engine
Auxiliary Generator: (1) 24 volts, 72 amperes, driven by auxiliary engine
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/GRC-3, AN/VRC-24 in turret
Interphone: 4 stations plus external extension kit AN/VIA-4

FIRE PROTECTION

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

PERFORMANCE

Maximum Speed: Level road	35 miles/hour
Maximum Tractive Effort: TE at stall	60,000 pounds
Per Cent of Vehicle Weight: TE/W	161 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	30 inches
Maximum Fording Depth:	40 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 210 miles

152mm GUN-LAUNCHER AR/AAV XM551, Pilots 1-3

GENERAL DATA

Crew:	4 men
Length:	258 inches
Width: Over hull	110 inches
Height:	108 inches
Tread:	92.5 inches
Ground Clearance:	19 inches
Fire Height:	approx. 76 inches
Turret Ring Diameter: (inside)	76 inches
Weight, Combat Loaded:	33,247 pounds
Weight, Unstowed:	28,632 pounds
Power to Weight Ratio: Net	12.6 hp/ton
Gross	17.1 hp/ton
Ground Pressure: Zero penetration	6.7 psi

ARMOR

Type: Turret, rolled and cast homogeneous steel; Hull, rolled 7039 aluminum alloy; Welded assembly. Highly sloped hull armor surrounded by lightweight flotation cells filled with polystyrene foam.

ARMAMENT

Primary: 152mm Gun-Launcher XM81E3 in turret mount

Traverse: Electric and manual	360 degrees
Traverse Rate: (max)	15 seconds/360 degrees
Elevation: Electric and manual	+20 to -10 degrees
Elevation Rate: (max)	4 degrees/second
Firing Rate: (max)	4 rounds/minute
Loading System:	Manual
Stabilizer System:	Azimuth and elevation

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret
(1) .50 caliber spotting rifle XM121 coaxial w/152mm gun-launcher
(1) 7.62mm MG M73 coaxial w/152mm gun-launcher in turret
Provision for (2) .45 caliber SMG M3A1

AMMUNITION

20 rounds 152mm	360 rounds .45 caliber
1000 rounds .50 caliber	8 hand grenades
100 rounds .50 caliber (spotting rifle)	
3000 rounds 7.62mm	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Periscope (infrared) XM38	Azimuth Indicator
	Telescope XM112	Elevation Quadrant
	Spotting Rifle XM121	Gunner's Quadrant M1A1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M27 (3) and Periscope M24 (infrared) (1)
Commander	Vision blocks (10), hatch	None
Gunner	None	Periscope XM38 (infrared) (1)
Loader	Hatch	Periscope M13 (1)

Total Periscopes: M13 (1), M24 (infrared) (1), M27 (3), XM38 (infrared) (1)
Total Vision Blocks: (10) around commander's hatch

ENGINE

Make and Model: General Motors 6V53T
Type: 6 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	318.4 cubic inches
Bore and Stroke:	63.875 x 4.5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	210 hp at 2800 rpm
Gross Horsepower: (max)	285 hp at 2800 rpm
Gross Torque: (max)	435 ft-lb at 1900 rpm
Weight: (aluminum block)	1092 pounds
Fuel: 40 cetane diesel oil	148 gallons
Engine Oil:	24 quarts

POWER TRAIN

Transmission: XTG-250, 4 ranges forward, 1 reverse with power take-off for water propulsion unit
Single stage hydraulic torque converter
Stall Multiplication: 2.5:1

Overall Usable Ratios:			
1st	8.92:1	4th	1.44:1
2nd	6.04:1	reverse 1	12.60:1
3rd	3.24:1	reverse 2	5.75:1

Steering Control: Mechanical, T-bar (land), steering levers (water)
Brakes: Multiple disc
Final Drive: Integral w/XTG-250 Gear Ratio: 2.22:1
Drive Sprocket: At rear of vehicle with 8 teeth
Pitch Diameter: approx. 10.5 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 24 x 2.75 inches
Dual adjustable idler at front of each track
Idler Size: 14 x 2.75 inches
Shock absorbers on first and last road wheels on each side
Tracks: Double center guide, band type
Type: Band type 19 inch width
Pitch: Crossbar, 4 inches
Sections per Vehicle: 24 (12/track)
Ground Contact Length: 130 inches, estimated

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 300 amperes, driven by main engine
Auxiliary Generator: None
Battery: (2) 12 volts, in series

COMMUNICATIONS

Radio: RT-246-VRC in turret
Interphone: 4 stations plus external extension

FIRE PROTECTION

(1) 2.5 pound Halon, fixed
(1) 5 pound Halon, portable

PERFORMANCE

Maximum Speed: Level road	35 miles/hour
Maximum Grade:	60 per cent
Maximum Trench:	5 feet
Maximum Vertical Wall:	18 inches
Maximum Fording Depth:	floats
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 300 miles

152mm GUN-LAUNCHER AR/AAV M551

GENERAL DATA

Crew:	4 men
Length:	248.3 inches
Width: Over tracks	110 inches
Height: Over AA MG	116 inches
Tread:	92.5 inches
Ground Clearance:	19 inches
Fire Height:	approx. 76 inches
Turret Ring Diameter: (inside)	76 inches
Weight, Combat Loaded:	33,460 pounds
Weight, Unstowed:	28,525 pounds
Power to Weight Ratio: Net	15.2 hp/ton
Gross	17.9 hp/ton
Ground Pressure: Zero penetration	6.8 psi

ARMOR

Type: Turret, rolled and cast homogeneous steel; Hull, rolled 7039 aluminum alloy; Welded assembly. Highly sloped hull armor surrounded by lightweight flotation cells filled with polystyrene foam.

ARMAMENT

Primary: 152mm Gun-Launcher M81 (XM81E12) Modified or M81E1 in turret mount

Traverse: Electric and manual	360 degrees
Traverse Rate: (max) w/o stabilizer	10 seconds/360 degrees
Elevation: Electric and manual	+19.5 to -8 degrees
Elevation Rate: (max)	4 degrees/second
Firing Rate: (max)	4 rounds/minute
Loading System:	Manual
Stabilizer System:	Azimuth and elevation

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret
(1) 7.62mm MG M73 or M219 coaxial w/152mm gun-launcher in turret
(8) grenade launchers (smoke)
Provision for (2) .45 caliber SMG M3A1

AMMUNITION

* 10 missiles MGM-51A, MGM-51B, or MGM-51C	360 rounds .45 caliber
*20 rounds 152mm	8 XM19 smoke grenades
1000 rounds .50 caliber	8 hand grenades
3000 rounds 7.62mm	

* Total of missiles plus 152mm later reduced to 29 when CBSS installed

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope M119 or M127	Azimuth Indicator M31A1
	Periscope M44 (passive night vision)	Elevation Quadrant M13A1C
		Gunner's Quadrant M1A1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M47 (3) and Periscope M48 (infrared) (1)
Commander	Vision blocks (10) in cupola, hatch	Night vision sight (1)
Gunner	None	Periscope M44 (passive night vision)
Loader	Hatch	Periscope M37 (1)

Total Periscopes: M37 (1), M44 (passive night vision) (1), M47 (3), M48 (infrared) (1)
Total Vision Blocks: (10) around cupola

ENGINE

Make and Model: General Motors 6V53T
Type: 6 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	318.4 cubic inches
Bore and Stroke:	3.875 x 4.5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	255 hp at 2800 rpm
Gross Horsepower: (max)	300 hp at 2800 rpm
Net Torque: (max)	520 ft-lb at 2100 rpm
Gross Torque: (max)	615 ft-lb at 2100 rpm
Weight: (aluminum block)	1092 pounds, dry
Fuel: 40 cetane diesel oil	158 gallons
Engine Oil:	21 quarts

POWER TRAIN

Transmission: XTG-250-1A, 4 ranges forward, 2 reverse
Single stage hydraulic torque converter
Stall Multiplication: 2.5:1

Overall Usable Ratios:			
1st	8.92:1	4th	1.44:1
2nd	6.04:1	reverse 1	12.60:1
3rd	3.24:1	reverse 2	5.75:1

Steering Controls: Mechanical, T-bar
Brakes: Multiple disc
Final Drive: Integral w/XTG-250-1A Gear Ratio: 2.22:1
Drive Sprocket: At rear of vehicle with 11 teeth
Pitch Diameter: 16.732 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 28 x 2.75 inches
Dual adjustable idler at front of each track
Idler Size: 14.5 x 2.75 inches
Shock absorbers fitted on first and last road wheels on each side
Tracks: Double center guide T138
Type: (T138) Single pin, 17.5 inch width, cast steel w/rubber pads
Pitch: 4.7 inches
Shoes per Vehicle: 204 (102/track)
Ground Contact Length: 140 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 300 amperes, driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/VRC-12, 46, 47, or 53 in turret bustle
Interphone: 4 stations plus external extension C2296/VRC

FIRE PROTECTION

(1) 3.25 pound Halon, fixed
(1) 2.75 pound Halon, portable

PERFORMANCE

Maximum Speed: Level road	43 miles/hour
Maximum Speed: Water	3.6 miles/hour
Maximum Tractive Effort: TE at stall	19,150 pounds
Per Cent of Vehicle Weight: TE/W	57 per cent
Maximum Grade:	60 per cent
Maximum Trench:	8 feet
Maximum Vertical Wall:	33 inches
Maximum Fording Depth:	floats
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 350 miles

152mm GUN-LAUNCHER AR/AAV M551A1(TTS)

GENERAL DATA

Crew:	4 men
Length:	248.3 inches
Width: Over tracks	110 inches
Height: Over AA MG	116 inches
Tread:	92.5 inches
Ground Clearance:	19 inches
Fire Height:	approx. 76 inches
Turret Ring Diameter: (inside)	76 inches
Weight, Combat Loaded:	33,600 pounds
Weight, Unstowed:	28,970 pounds
Power to Weight Ratio: Net	15.2 hp/ton
Gross	17.9 hp/ton
Ground Pressure: Zero penetration	6.9 psi

ARMOR

Type: Turret, rolled and cast homogeneous steel; Hull, rolled 7039 aluminum alloy; Welded assembly. Highly sloped hull armor surrounded by lightweight flotation cells filled with polystyrene foam.

ARMAMENT

Primary: 152mm Gun-Launcher M81E1 in turret mount

Traverse: Electric and manual	360 degrees
Traverse Rate: (max) w/o stabilizer	10 seconds/360 degrees
Elevation: Electric and manual	+19.5 to -8 degrees
Elevation Rate: (max)	4 degrees/second
Firing Rate: (max)	4 rounds/minute
Loading System:	Manual
Stabilizer System:	Azimuth and elevation

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret
(1) 7.62mm MG M240 coaxial w/152mm gun-launcher in turret
(8) M176 grenade launchers (smoke)
Provision for (1) .45 caliber SMG M3A1
Provision for (1) 40mm M79 grenade launcher

AMMUNITION

9 missiles MGM-51A, MGM-51B, or MGM-51C	180 rounds .45 caliber
20 rounds 152mm	8 smoke grenades
1000 rounds .50 caliber	12 grenades 40mm
3000 rounds 7.62mm	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope M127A1	Azimuth Indicator M31A1C
	Tank thermal sight	Elevation Quadrant M13A1C
	Laser range finder AN/VVG-1	Gunner's Quadrant M1A1

Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M47 (3) and Periscope M48 (infrared) (1)
Commander	Vision blocks (10) in cupola, hatch	Tank thermal sight extension
Gunner	None	Tank thermal sight
Loader	Hatch	Periscope M37 (1)

Total Periscopes: M37 (1), M47 (3), M48 (infrared) (1), tank thermal sight (1)
Total Vision Blocks: (10) around cupola

ENGINE

Make and Model: General Motors 6V53T
Type: 6 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	318.4 cubic inches
Bore and Stroke:	3.875 x 4.5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	255 hp at 2800 rpm
Gross Horsepower: (max)	300 hp at 2800 rpm
Net Torque: (max)	520 ft-lb at 2100 rpm
Gross Torque: (max)	615 ft-lb at 2100 rpm
Weight: (cast iron block)	1325 pounds, dry
Fuel: 40 cetane diesel oil	158 gallons
Engine Oil:	21 quarts

POWER TRAIN

Transmission: XTG-250-1A, 4 ranges forward, 2 reverse
Single stage hydraulic torque converter
Stall Multiplication: 2.5:1

Overall Usable Ratios:			
1st	8.92:1	4th	1.44:1
2nd	6.04:1	reverse 1	12.60:1
3rd	3.24:1	reverse 2	5.75:1

Steering Controls: Mechanical, T-bar
Brakes: Multiple disc
Final Drive: Integral w/XTG-250-lA Gear Ratio: 2.22:1
Drive Sprocket: At rear of vehicle with 11 teeth
Pitch Diameter: 16.732 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 28 x 2.75 inches
Dual adjustable idler at front of each track
Idler Size: 14.5 x 2.75 inches
Shock absorbers fitted on first and last road wheels on each side
Tracks: Double center guide T138
Type: (T138) Single pin, 17.5 inch width, cast steel w/rubber pads
Pitch: 4.7 inches
Shoes per Vehicle: 204 (102/track)
Ground Contact Length: 140 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 300 amperes, driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/VRC-12, 46, 47, or 53 in turret bustle
Interphone: 4 stations plus external extension C2296/VRC

FIRE PROTECTION

(1) 3.25 pound Halon, fixed
(1) 2.75 pound Halon, portable

PERFORMANCE

Maximum Speed: Level road	43 miles/hour
Maximum Speed: Water	3.6 miles hour
Maximum Tractive Effort: TE at stall	19,150 pounds
Per Cent of Vehicle Weight: TE/W	57 per cent
Maximum Grade:	60 per cent
Maximum Trench:	8 feet
Maximum Vertical Wall:	33 inches
Maximum Fording Depth:	floats
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 350 miles

105mm ARMORED GUN SYSTEM XM8

GENERAL DATA

Crew:	3 men
Length: Gun forward, level 1 armor	361.4 inches
level 2 and 3 armor	365.2 inches
Length: Gun to rear level 1, 2, and 3 armor	354.6 inches
Length: Without gun, level 1 armor	241.9 inches
level 2 and 3 armor	246.6 inches
Gun Overhang: Gun forward, level 1, 2, and 3 armor	121.4 inches
Width: Over fenders, level 1 armor	104.0 inches
Over tracks	100.0 inches
Height: Over cupola, level 1 armor	100.6 inches
level 2 armor	99.6 inches
level 3 armor	98.6 inches
Tread:	85 inches
Ground Clearance: level 1 armor	17.0 inches
level 2 armor	16.0 inches
level 3 armor	15.0 inches
Fire Height: level 1 armor	75.9 inches
level 2 armor	74.9 inches
level 3 armor	73.9 inches
Turret Ring Diameter: (inside)	78.0 inches
Weight: Air drop, level 1	36,900 pounds
Combat, level 1	38,800 pounds
Roll on-roll off, level 2	44,000 pounds
Combat, level 3	52,000 pounds
Power to Weight Ratio: Combat, level 1, gross	28.3 hp/ton
Combat, level 2, gross	25.0 hp/ton
Combat, level 3, gross	21.2 hp/ton
Ground Pressure: Zero penetration, Combat, level 1	9.1 psi
Combat, level 2	10.3 psi
Combat, level 3	12.2 psi

ARMOR

The welded 5083 aluminum alloy structure of the hull and turret is reinforced with ceramic and applique armor to achieve three levels of protection.

ARMAMENT

Primary: 105mm Gun XM35 in soft recoil mount in turret

Traverse: Hydraulic and manual	360 degrees
Traverse Rate: (max)	8.5 seconds/360 degrees
Elevation: Hydraulic and manual	+20 to -10 degrees
Elevation Rate: (max)	11 degrees/second
Firing Rate: (max)	12 rounds/minute
Loading System:	Automatic
Stabilizer System:	Azimuth and elevation

Secondary:

(1) .50 caliber MG HB M2 or (1) 40mm Mark 19 automatic grenade launcher or (1) 7.62mm M240 machine gun flexible mount on turret roof

(1) 7.62mm M240 machine gun coaxial w/105mm gun in turret

(16) smoke grenade launchers on turret

AMMUNITION

30 rounds 105mm (21 in automatic loader)

600 rounds .50 caliber

4500 rounds 7.62mm

32 smoke grenades (16 in launchers)

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon: Laser range finder
Day/night tank thermal sight
Telescope w/fiber optics
Digital fire control computer

Vision Devices:	Direct	Indirect
Driver	Hatch	5 wide angle periscopes
Commander	Hatch	7 wide angle periscopes
Gunner	Hatch	Day/night sight

Total Periscopes: (12)

ENGINE

Make and Model: Detroit Diesel 6V92TA

Type: 6 cylinder, 2 cycle, vee, supercharged

Cooling System: Liquid Ignition: Compression

Displacement:	552 cubic inches
Bore and Stroke:	4.84 x 5 inches
Compression Ratio:	17:1
Gross Horsepower: (max)	550 hp at 2400 rpm
Gross Torque: (max)	1446 ft-lb at 1500 rpm
Weight:	1900 pounds, dry
Fuel: Diesel or JP-8 150	gallons
Engine Oil:	20 quarts, 16 at refill

POWER TRAIN

Transmission: General Electric HMPT 500-3EC, 3 ranges forward, 1 reverse
Hydromechanical, infinitely variable ratio
Hydrostatic steering

Steering Control: T-bar

Brakes: Multiple disc

Final Drive: Spur gear Gear Ratio: 4.4:1

Drive Sprocket: At rear of vehicle with 11 teeth
Pitch Diameter: 21.29 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
12 individually sprung dual road wheels (6/track)
Tire Size: 3.38 x 24 inches
Dual adjustable idler at front of each track
Idler Size: 2.41 x 17.25 inches
Shock absorbers on 1st, 2nd, 3rd, 5th, and 6th road wheels on each side

Tracks: Center guide, T150 modified
Type: Double pin, 15 inch width, steel w/detachable rubber pads
Pitch: 6 inches
Shoes per Vehicle: 154 (77/track), new 156 (78/track)
Ground Contact Length: 142.2 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC

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

Auxiliary Generator: None

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

COMMUNICATIONS

Radio: SINCGARS, AN/VCR-87A, 89A, or 92A

Interphone: 3 stations AN/VIC-1

FIRE AND NBC PROTECTION

Automatic Halon fire extinguisher system in crew compartment
Dry powder fire extinguisher system in engine compartment
Individual masks for NBC protection

PERFORMANCE

Maximum Speed: Level road	45 miles/hour
Maximum Tractive Effort: TE at stall	54,500 pounds
Per Cent of Vehicle Weight: TE/W, level 1 armor	140 per cent
Maximum Grade:	60 per cent
Maximum Trench:	7 feet
Maximum Vertical Wall:	32 inches
Maximum Fording Depth:	40 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 300 miles

106mm MULTIPLE SELF-PROPELLED RIFLES M50 (T165E2) AND M50A1

GENERAL DATA

Crew:	3 men
Length:	150.8 inches
Width: Over fenders	102.3 inches
Height:	83.9 inches
Tread:	73.0 inches
Ground Clearance:	14.6 inches
Fire Height: Top rifles only	approx. 78 inches
Turret Ring Diameter: (inside)	31.7 inches
Weight, Combat Loaded: M50	19,050 pounds
Weight, Unstowed: M50	16,450 pounds
Power to Weight Ratio: Net, M50	13.0 hp/ton
Gross, M50	15.2 hp/ton
M50A1	18.9 hp/ton
Ground Pressure: Zero penetration	5.1 psi

ARMOR

Type: Turret, rolled homogeneous steel; Hull, rolled homogeneous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	0.5 inches (13mm)	71 degrees
Lower	0.5 inches (13mm)	45 degrees
Sides, Upper	0.5 inches (13mm)	42 degrees
Lower	0.5 inches (13mm)	0 degrees
Rear, Upper	0.5 inches (13mm)	27 degrees
Lower	0.5 inches (13mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees
Floor	0.25 inches (6mm)	90 degrees
Turret Thickness:		
Front	0.5 inches (13mm)	30 degrees
Sides	0.5 inches (13mm)	30 degrees
Rear	0.5 inches (13mm)	30 degrees
Top	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: (6) 106mm Recoilless Rifle M40A1C on turret Mount T149E5

Traverse: Manual	80 degrees (40 degrees left or right)
Elevation: Manual	+20 to -10 degrees
Firing Rate: (max)	6 round salvo
Loading System:	Manual
Stabilizer System:	None

Secondary:

(4) .50 caliber Spotting Rifle M8C on top of 106mm rifles
(1) .30 caliber MG M1919A4 flexible or fixed on turret
Provision for (1) .45 caliber SMG M3A1

AMMUNITION

18 rounds 106mm
80 rounds .50 caliber
180 rounds .45 caliber
1000 rounds .30 caliber

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	(M50) Periscopic Sight M20A3C (M50A1)	(M50A1) Elevation Quadrant M13A1C
	(M50A1) Periscopic Sight M20A3G	(M50) Gunner's Quadrant M1A1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M13 (1)
Gunner	Hatch	Periscopic Sight
Loader	None	None

Total Periscopes: M13 (1)

ENGINE

Make and Model: M50, General Motors Model 302
M50A1, Chrysler HT-361-318
Type: M50, 6 cylinder, 4 cycle , in-line
M50A1, 8 cylinder, 4 cycle, vee
Cooling System: Liquid Ignition: Battery

Displacement: M50	301.6 cubic inches
M50A1	360.8 cubic inches
Bore and Stroke: M50	4.0 x 4.0 inches
M50A1	4.125 x 3.375 inches
Compression Ratio: M50	7.5:1
M50A1	7.8:1
Net Horsepower: (max) M50	124 hp at 2400 rpm
Gross Horsepower: (max) M50	145 hp at 3400 rpm
M50A1	180 hp at 3450 rpm
Net Torque: (max) M50	252 ft-lb at 1400 rpm
Gross Torque: (max) M50	255 ft-lb at 2000 rpm
M50A1	283 ft-lb at 2400 rpm
Weight: M50	630 pounds, dry
M50A1	710 pounds, dry
Fuel: 80 octane gasoline	47 gallons
Engine Oil: M50	11 quarts
M50A1	7 quarts

POWER TRAIN

Transmission: M50, Allison X-drive XT-90-2, 3 ranges forward, 1 reverse
M50A1, Allison X-drive XT-90-5, 3 ranges forward, 1 reverse
Single stage hydraulic torque converter w/lock-up clutch
Stall Multiplication: 3.8:1

Overall Usable Ratios:			
low	27.0:1	high	6.4:1
intermediate	14.4:1	reverse	19.3:1

Steering Controls: Mechanical, steering levers
Steering System: Clutch-brake
Steering Rate: Variable
Brakes: Multiple disc
Final Drive: Integral w/transmission Gear Ratio: 5.075:1
Drive Sprocket: At front of vehicle with 15 teeth
Pitch Diameter: 19.223 inches

RUNNING GEAR

Suspension: Torsilastic
8 individually sprung dual road wheels (4/track)
Tire Size: 20 x 4.5 inches
8 track skid bumpers (4/track)
The rear road wheels serve as adjustable trailing idlers
Shock absorbers fitted on road wheels 1, 2, and 3 on each side
Tracks: Center and outside guide, T123
Type: (T123) Band type, 20 inch width, each section 60 inches long
Pitch: Cross bar, 4 inches
Cross Bars: 150 (75/track)
Track Sections: 10 (5/track)
Ground Contact Length: 94.2 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: M50, (1) 24 volts, 25 amperes, driven by main engine
M50A1 (alternator), (1) 28 volts, 60 amperes, driven by main engine
Auxiliary Generator: None
Battery: (2) 12 volts, in series

COMMUNICATIONS

Radio: AN/PRC-10 in left sponson
Interphone: M50, none
M50A1, AN/UIC-1

FIRE PROTECTION

(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	30 miles/hour
Maximum Tractive Effort: TE at stall, M50	15,000 pounds
Per Cent of Vehicle Weight: TE/W, M50	79 per cent
Maximum Grade:	60 per cent
Maximum Trench:	4.5 feet
Maximum Vertical Wall:	28 inches
Maximum Fording Depth: w/o fording kit	24 inches
w/fording kit	60 inches
Minimum Turning Circle: (diameter)	18 feet
Cruising Range: Roads, M50	approx. 115 miles
M50A1	approx. 100 miles

90mm SELF-PROPELLED GUN M56 (T101)

GENERAL DATA

Crew:	4	men
Length: Gun in travel position	229.8	inches
Length: w/o gun	179.4	inches
Gun Overhang: Gun in travel position	50.4	inches
Width: Over fenders	101.3	inches
Over tracks	98.0	inches
Height: Over blast shield	78.9	inches
Tread:	78.0	inches
Ground Clearance:	12.8	inches
Fire Height:	66.0	inches
Weight, Combat Loaded:	15,750	pounds
Weight, Unstowed:	12,500	pounds
Power to Weight Ratio: Net	21.0	hp/ton
Gross	25.4	hp/ton
Ground Pressure: Zero penetration	4.2	psi

ARMOR

None

ARMAMENT

Primary: 90 mm Gun M54 (T125) in Mount M88 (T170E1)

Traverse: Manual	60 degrees (30 degrees left or right)
Elevation: Manual	+15 to -10 degrees
Firing Rate: (max)	10 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

Provision for (4) .30 caliber Carbine M2

AMMUNITION

29 rounds 90mm
240 rounds .30 caliber (carbine)
8 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope T186	Gunner's Quadrant M1A1 Fuze Setter M27

Vision Devices:	Direct	Indirect
Driver	Open vehicle	None
Commander	Open vehicle	None
Gunner	Open vehicle	None
Loader	Open vehicle	None

ENGINE

Make and Model: Continental AOI-402-5
Type: 6 cylinder, 4 cycle, opposed, fuel injection
Cooling System: Air Ignition: Magneto

Displacement:	403.2 cubic inches
Bore and Stroke:	4.625 x 4.0 inches
Compression Ratio:	6.9:1
Net Horsepower: (max)	165 hp at 3000 rpm
Gross Horsepower: (max)	200 hp at 3000 rpm
Net Torque: (max)	325 ft-lb at 2200 rpm
Gross Torque: (max)	347 ft-lb at 2800 rpm
Weight:	746 pounds, dry
Fuel: 80 octane gasoline	55 gallons
Engine Oil:	13 quarts, 12 quarts at refill

POWER TRAIN

Transmission: Cross-drive, CD-150-4, 2 ranges forward, 1 reverse
Single stage hydraulic torque converter w/lock-up clutch
Stall Multiplication: 4.0:1
Overall Usable Ratios: low 13.95:1 reverse 13.95:1
high 6.08:1
Steering Controls: Mechanical, steering wheel
Brakes: Multiple disc
Final Drive: Planetary gear Gear Ratio: 4.8:1
Drive Sprocket: At front of vehicle with 15 teeth
Pitch Diameter: 19.09 inches

RUNNING GEAR

Suspension: Flat track, torsion tube over bar at stations 1 and 4, torsion bar at stations 2 and 3
8 individually sprung road wheels (4/track) w/pneumatic tires
Rim Size: 12 x 6 inches
Tire Size: 7.50 x 12.00
Tire Air Pressure: 75 psi
Compensating idler at rear of each track
Idler Tire Size: 15.25 x 8.0 inches
Shock absorbers fitted on first and last road wheels on each side
Tracks: Outside guide
Type: Band type, 20 inch width, each section 44 inches long
Pitch: Cross bar, 4 inches
Cross Bars: 176 (88/track)
Ground Contact Length: 94 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 25 amperes, driven by main engine
Auxiliary Generator: None
Battery: (2) 12 volts, in series

COMMUNICATIONS

Radio: AN/PRC-8, 9, or 10 on left side behind driver
Interphone: None

FIRE PROTECTION

(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	28	miles/hour
Maximum Tractive Effort: TE at stall	14,500	pounds
Per Cent of Vehicle Weight: TE/W	92	per cent
Maximum Grade:	60	per cent
Maximum Trench:	4	feet
Maximum Vertical Wall:	30	inches
Maximum Fording Depth: w/o fording kit	42	inches
w/fording kit	60	inches
Minimum Turning Circle: (diameter)	pivot	
Cruising Range: Roads	approx. 140	miles

TWIN 40mm SELF-PROPELLED GUNS M42 AND M42A1

GENERAL DATA

Crew:	6 men
Length: Gun forward	250.3 inches
Length: Gun to rear	229.1 inches
Length: Without gun	229.1 inches
Gun Overhang: Gun forward	21.2 inches
Width: Over fenders	126.9 inches
Height: Over gun shield	112.1 inches
Tread:	102.5 inches
Ground Clearance:	17.3 inches
Fire Height:	82.5 inches
Weight, Combat Loaded:	49,800 pounds
Weight, Unstowed:	44,300 pounds
Power to Weight Ratio: Net	17.9 hp/ton
Gross	20.1 hp/ton
Ground Pressure: Zero penetration	9.3 psi

ARMOR

Type: Turret, rolled homogeneous steel; Hull, rolled homogeneous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	0.5 inches (13mm)	33 degrees
Lower	1.0 inches (25mm)	39 degrees
Sides, Upper	0.5 inches (13mm)	0 degrees
Lower left front	0.5 inches (13mm)	45 degrees
Lower, remainder	0.5 inches (13mm)	60 degrees
Rear, Upper	0.5 inches (13mm)	56 degrees
Lower	0.75 inches (19mm)	41 degrees
Top	0.5 inches (13mm)	90 degrees
Floor, Front	1.25 inches (32mm)	90 degrees
Rear	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Gun Shields:	0.5 inches (13mm)	0 to 47 degrees
Sides 0.30 inches (8mm)	0 degrees	
Rear	0.30 inches (8mm)	0 degrees
Top	Open	

ARMAMENT

Primary: 40mm Dual Automatic Gun M2A1 in Mount M4E1 in center of chassis

Traverse: Hydraulic and manual	360 degrees
Traverse Rate: (max)	9 seconds/360 degrees
Elevation: Hydraulic	+85 to -3 degrees
Manual	+87 to -5 degrees
Elevation Rate: (hydraulic max)	25 degrees/second
Firing Rate: (max)	240 rounds/minute (120 rounds/gun)
Loading System:	Automatic
Stabilizer System:	None

Secondary:

(1) .30 caliber MG M1919A4 on front or rear of gun mount
Provision for (1) .45 caliber SMG M3A1
Provision for (5) .30 caliber Carbine M2
Provision for (1) 3.5 inch Rocket Launcher M20

AMMUNITION

480 rounds 40mm
180 rounds .45 caliber
1750 rounds .30 caliber
900 rounds .30 caliber (carbine)
8 hand grenades
4 3.5 inch rockets

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Computing Sight M38 w/Reflex Sight M24C Ring Sight	Azimuth Indicator M27 Gunner's Quadrant M1A1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M13 or M13B1 (1) and Periscope M19 (infrared) (1)
Commander	Hatch	Periscope M13 or M13B1 (1)
Gunner	Open top	None
Sight Setter	Open top	None
Loaders	Open top	None

Total Periscopes: M13 or M13B1 (2), M19 (infrared) (1)

ENGINE

Make and Model: Continental AOS-895-3 (M42)
Continental AOSI-895-5 (M42A1)
Type: 6 cylinder, 4 cycle, opposed, supercharged (M42)
6 cylinder, 4 cycle, opposed, supercharged, fuel injection (M42A1)
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	446 hp at 2400 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	890 ft-lb at 2200 rpm
Gross Torque: (max)	955 ft-lb at 2400 rpm
Weight:	approx. 1900 pounds, dry
Fuel: 80 octane gasoline	140 gallons
Engine Oil:	44 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-3, 2 ranges forward, 1 reverse w/automatic lock-up in high
Single stage hydraulic torque converter
Stall Multiplication: 4:1
Overall Usable Ratios: low 14.7:1 direct 1:1
high 3.9:1 reverse 14.7:1
Steering Control: Mechanical, T-bar
Steering Rate: 6.8 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.25:1
Drive Sprocket: At rear of vehicle with 12 teeth
Pitch Diameter: 23.422 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
6 dual track return rollers (3/track)
Dual compensating idler at front of each track
Idler Size: 22.5 x 4.5 inches, steel, no tire (early vehicles)
Idler Tire Size: 25.5 x 4.5 inches (late vehicles)
Shock absorbers fitted on first 2 and last road wheels on each side
Tracks: Center guide T91E3
Type: (T91E3) Single pin, 21 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 150 (75/track)
Ground Contact Length: 127 inches

ELECTRICAL SYSTEM

Main Generator: (1) 24 volts, 150 amperes, driven by main engine
Auxiliary Generator: (1) 24 volts, 300 amperes, driven by auxiliary engine
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/VRC-7 thru 10 series in right front hull
AN/GRR-5 in right front hull
Interphone: AN/UIC-1, 3 stations plus external outlet C981-U

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	45 miles/hour
Maximum Tractive Effort: TE at stall	44,000 pounds
Per Cent of Vehicle Weight: TE/W	88 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	28 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads, M42	approx. 100 miles
M42A1	approx. 120 miles

105mm SELF-PROPELLED HOWITZERS M52 AND M52A1

GENERAL DATA

Crew:	5 men
Length:	228.4 inches
Width:	123.9 inches
Height: Over MG	130.6 inches
Tread:	102.5 inches
Ground Clearance:	19.3 inches
Fire Height:	83.5 inches
Turret Ring Diameter:	73 inches
Weight, Combat Loaded:	54,100 pounds
Weight, Unstowed:	49,800 pounds
Power to Weight Ratio: Net	16.3 hp/ton
Gross	18.5 hp/ton
Ground Pressure: Zero penetration	8.6 psi

ARMOR

Type: Turret, rolled homogeneous steel; Hull, rolled homogeneous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	0.5 inches (13mm)	52 and 81 degrees
Lower	0.5 inches (13mm)	40 and 66 degrees
Sides	0.5 inches (13mm)	0 degrees
Rear	0.5 inches (13mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees
Floor	0.375 inches (10mm)	90 degrees
Turret Thickness:		
Howitzer Shield (casting)	0.5 inches (13mm)	0 to 90 degrees
Front	0.5 inches (13mm)	30 degrees
Sides	0.5 inches (13mm)	0 degrees
Rear	0.5 inches (13mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees

ARMAMENT

Primary: 105mm Howitzer M49 (T96E1) in Mount M85 (T67E1) in turret

Traverse: Manual	120 degrees (60 degrees left or right)
Elevation: Manual	+65 to -10 degrees
Firing Rate: (max)	3 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret cupola
Provision for (1) .45 caliber SMG M3A1
Provision for (4) .30 caliber Carbine M2

AMMUNITION

102 rounds 105mm	8 hand grenades
900 rounds .50 caliber	
180 rounds .45 caliber	
720 rounds .30 caliber (carbine)	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope M101 (T150E1) w/Periscope M23 (T38)	Panoramic Telescope M100 (T149E1) Azimuth Indicator T24E1 (early M52)
	Panoramic Telescope M100	Gunner's Quadrant M1A1
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (4)
Commander	Vision blocks (6) in cupola, hatch	Periscope M15A1 (1)
Gunner	None	Periscope M13 (1)
Loaders	None	None

Total Periscopes: M13 (1), M15A1 (1), M17 (4)
Total Vision Blocks: 6 in cupola on turret roof

ENGINE

Make and Model: Continental AOS-895-3 (M52)
Continental AOSI-895-5 (M52A1)
Type: 6 cylinder, 4 cycle, opposed, supercharged (M52)
6 cylinder, 4 cycle, opposed, supercharged, fuel injection (M52A1)
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	446 hp at 2400 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	890 ft-lb at 2200 rpm
Gross Torque: (max)	955 ft-lb at 2400 rpm
Weight:	approx. 1900 pounds, dry
Fuel: 80 octane gasoline	174 gallons
Engine Oil:	44 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-3, 2 ranges forward, 1 reverse w/automatic lock-up in high
Single stage hydraulic torque converter
Stall Multiplication: 3.9:1
Overall usable Ratios: low 14.9:1 direct 1:1
high 3.9:1 reverse 14.9:1
Steering Control: Mechanical T-bar
Steering Rate: 13.2 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.75:1
Drive Sprocket: At front of vehicle with 12 teeth
Pitch Diameter: 23.422 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
8 dual track return rollers (4/track)
Trailing idler at rear of each track
Idler Tire Size: 28 x 4.5 inches
Shock absorbers fitted on road wheels 1, 2, and 5 on each side
Tracks: Center guide T91E3
Type: (T91E3) Single pin, 21 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 149 (74 left, 75 right)
Ground Contact Length: 149.4 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 150 amperes, driven by main engine
Auxiliary Generator: None, but space provided for installation
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/PRC 8, 9, or 10 in turret
Interphone: AN/VIC-1, 3 stations plus external extension kit C-980U

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	35 miles/hour
Maximum Tractive Effort: TE at stall	41,000 pounds
Per Cent of Vehicle Weight: TE/W	76 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	30 inches
Maximum Fording Depth:	48 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads, M52	approx. 90 miles
M52A1	approx. 100 miles

155mm SELF-PROPELLED HOWITZERS M44 (T194) AND M44A1

GENERAL DATA

Crew:	5 men
Length:	242.5 inches
Width:	127.5 inches
Height: Over canvas top	122.5 inches
Tread:	102.5 inches
Ground Clearance:	18.8 inches
Fire Height:	approx. 84 inches
Weight, Combat Loaded:	64,000 pounds
Weight, Unstowed:	58,000 pounds
Power to Weight Ratio: Net	13.9 hp/ton
Gross	15.6 hp/ton
Ground Pressure: Zero penetration	10.2 psi

ARMOR

Type: Rolled homogeneous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	0.5 inches (13mm)	52 and 81 degrees
Lower	0.5 inches (13mm)	40 and 66 degrees
Sides	0.5 inches (13mm)	0 degrees
Rear	0.5 inches (13mm)	0 degrees
Top	Open	
Floor	0.375 inches (10mm)	90 degrees
Gun Shield Thickness:	0.5 inches (13mm)	0 degrees

ARMAMENT

Primary: 155mm Howitzer M45 (T186E1) in Mount M80 (T167)

Traverse: Hydraulic and manual	60 degrees (30 degrees left or right)
Traverse Rate: (max)	10 degrees/second
Elevation: Hydraulic and manual	+65 to —5 degrees
Elevation Rate: (max)	15 degrees/second
Firing Rate: (max)	3 rounds/minute
Loading System:	Manual
Stabilizer System:	None

Secondary:

(1) .50 caliber MG HB M2 on ring mount behind driver
Provision for (1) .45 caliber SMG M3A1
Provision for (4) .30 caliber Carbine M2

AMMUNITION

24 rounds 155mm	720 rounds .30 caliber (carbine)
900 rounds .50 caliber	8 hand grenades
180 rounds .45 caliber	

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope M93 (T153)	Panoramic Telescope M12A7K (M12A7E4)
		Gunner's Quadrant Ml or M1A1
		Fuze Setter M14, M22, M23, M26, or M27

Vision Devices:	Direct	Indirect
Driver	Open top	None
Commander	Open top	None
Gunner	Open top	None
Loaders	Open top	None

ENGINE

Make and Model: Continental AOS-895-3 (M44)
Continental AOSI-895-5 (M44A1)
Type: 6 cylinder, 4 cycle, opposed, supercharged (M44)
6 cylinder, 4 cycle, opposed, supercharged, fuel injection (M44A1)
Cooling System: Air Ignition: Magneto

Displacement:	895.9 cubic inches
Bore and Stroke:	5.75 x 5.75 inches
Compression Ratio:	5.5:1
Net Horsepower: (max)	446 hp at 2400 rpm
Gross Horsepower: (max)	500 hp at 2800 rpm
Net Torque: (max)	890 ft-lb at 2200 rpm
Gross Torque: (max)	955 ft-lb at 2400 rpm
Weight:	approx. 1900 pounds, dry
Fuel: 80 octane gasoline	150 gallons
Engine Oil:	44 quarts

POWER TRAIN

Transmission: Cross-drive CD-500-3, 2 ranges forward, 1 reverse w/automatic lock-up in high
Single stage hydraulic torque converter
Stall Multiplication: 3.9:1
Overall Usable Ratios: low 14.9:1 direct 1:1
high 3.9:1 reverse 14.9:1
Steering Control: Mechanical T-bar
Steering Rate: 13.2 rpm
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.69:1
Drive Sprocket: At front of vehicle with 12 teeth
Pitch Diameter: 23.422 inches

RUNNING GEAR

Suspension: Torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 25.5 x 4.5 inches
8 dual track return rollers (4/track)
Trailing idler at rear of each track
Idler Tire Size: 28 x 4.5 inches
Shock absorbers fitted on road wheels 1, 2, and 5 on each side
Tracks: Center guide T91E3
Type: (T91E3) Single pin, 21 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 149 (74 left, 75 right)
Ground Contact Length: 149.4 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 150 amperes, driven by main engine
Auxiliary Generator: (1) 24 volts, 300 amperes, driven by auxiliary engine
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/PRC 8, 9, or 10
Interphone: AN/VIC-1, 5 stations plus external extension kit C-980U

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	35 miles/hour
Maximum Tractive Effort: TE at stall	53,000 pounds
Per Cent of Vehicle Weight: TE/W	83 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	30 inches
Maximum Fording Depth:	42 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads, M44	approx. 75 miles
M44A1	approx. 82 miles

105mm SELF-PROPELLED HOWITZER M108 AND 155mm SELF-PROPELLED HOWITZER M109

GENERAL DATA

Crew: M108	5	men
M109	6	men
Length: M108	240.7	inches
M109	260.4	inches
Length: Without howitzer	240.7	inches
Cannon Overhang: M108	0.0	inches
M109	19.7	inches
Width: w/o fenders	124.0	inches
Height: Over MG	129.1	inches
Tread:	109.0	inches
Ground Clearance:	17.7	inches
Fire Height:	approx. 78	inches
Turret Ring Diameter: (inside)	100	inches
Weight, Combat Loaded: M108	46,221	pounds
M109	52,461	pounds
Weight, Unstowed: M108	36,000	pounds
M109	44,723	pounds
Power to Weight Ratio: Net, M108	14.9	hp/ton
M109	13.2	hp/ton
Gross, M108	17.5	hp/ton
M109	15.5	hp/ton
Ground Pressure: Zero penetration, M108	9.9	psi
M109	11.2	psi

ARMOR

Type: Turret, rolled 5083 aluminum alloy; Hull, rolled 5083 aluminum alloy; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.25 inches (32mm)	75 degrees
Lower	1.25 inches (32mm)	19 and 60 degrees
Sides	1.25 inches (32mm)	0 degrees
Rear	1.25 inches (32mm)	0 degrees
Top	1.25 inches (32mm)	90 degrees
Floor	1.25 inches (32mm)	90 degrees
Turret Thickness:		
Front	1.25 inches (32mm)	22 degrees
Sides	1.25 inches (32mm)	22 degrees
Rear	1.25 inches (32mm)	0 degrees
Top	1.25 inches (32mm)	90 degrees

ARMAMENT

Primary: (M108) 105mm Howitzer M103 (XM103) in Mount M139 (XM139)
(M109) 155mm Howitzer M126 (T255E3) or M126A1 in Mount M127 (XM127)

Traverse: (M108) Manual	360 degrees
(M109) Hydraulic and manual	360 degrees
Traverse Rate: (max M109)	11 degrees/second
Elevation: (M108) Manual	+75 to -6 degrees
(M109) Hydraulic and manual	+75 to —3 degrees
Elevation Rate: (max M109)	7 degrees/second
Firing Rate: (max M108)	10 rounds/minute
(max M109)	4 rounds/minute
Loading System: (M108)	Manual
(M109)	Semiautomatic
Stabilizer System:	None

Secondary:
- (1) .50 caliber MG HB M2 flexible AA mount on turret hatch
- Provision for (5) 7.62mm Rifle M14 (M108)
- Provision for (6) 7.62mm Rifle M14 (M109)
- Provision for (1) 3.5 inch Rocket Launcher M20 series

AMMUNITION

- 86 rounds 105mm (M108)
- 28 rounds 155mm (M109)
- 500 rounds .50 caliber
- 750 rounds 7.62mm (M108)
- 900 rounds 7.62mm (M109)
- 6 3.5 inch rockets
- 12 hand grenades

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	(M108) Telescope M118	Panoramic Telescope M117
	(M109) Telescope M118C w/ Periscope M42	Elevation Quadrant M15

Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M45 (3)
Commander	Hatch	Periscope M27 (1)
Gunner	None	None
Asst. Gunner	None	None
Loaders	None	None

Total Periscopes: M27 (1), M45 (3)

ENGINE

Make and Model: General Motors 8V71T
Type: 8 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	567.4 cubic inches
Bore and Stroke:	4.25 x 5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	345 hp at 2300 rpm
Gross Horsepower: (max)	405 hp at 2300 rpm
Net Torque: (max)	895 ft-lb at 1600 rpm
Gross Torque: (max)	980 ft-lb at 1700 rpm
Weight:	2442 pounds, dry
Fuel: 40 cetane diesel oil	135 gallons
Engine Oil:	36 quarts, 28 quarts at refill

POWER TRAIN

Transmission: X-drive, XTG-411-2A, 4 ranges forward, 2 reverse
- Single stage hydraulic torque converter w/lock-up clutch
- Stall Multiplication: 3.3:1
- Overall Usable Ratios: 1st 4.69:1, 2nd 3.18:1, 3rd 1.58:1, 4th 0.79:1, reverse 1 5.60:1, reverse 2 3.79:1

Steering Controls: Mechanical, steering wheel
- Steering System: Clutch-brake (1st, 2nd, and 1st reverse)
  Geared steer (3rd, 4th, and 2nd reverse)
- Steering Ratio: 1.477:1

Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.36:1
Drive Sprocket: At front of vehicle with 10 teeth
- Pitch Diameter: 19.624 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
- 14 individually sprung dual road wheels (7/track)
- Tire Size: 24 x 4 inches
- Dual adjustable idler at rear of each track
- Idler Size: 18 x 4 inches
- Shock absorbers fitted on first and last road wheels on each side

Tracks: Center guide T136 and T137
- Type: (T136) Double pin, 15 inch width, steel w/detachable rubber pad
  (T137) Single pin, 15 inch width, steel w/detachable rubber pad
- Pitch: 6 inches
- Shoes per Vehicle: 158 (79/track)
- Ground Contact Length: 156 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (Alternator) (1) 24 volts, 100 amperes, driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: None
Interphone: AN/UIC-1, 5 stations w/extension kit C-980/U

FIRE PROTECTION

- (2) 10 pound carbon dioxide, fixed
- (1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	35 miles/hour
Maximum Tractive Effort: TE at stall	53,750 pounds
Per Cent of Vehicle Weight: TE/W, M108	116 per cent
M109	102 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	21 inches
Maximum Fording Depth:	Amphibious w/flotation device
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 220 miles

155mm SELF-PROPELLED HOWITZERS M109A2 AND M109A3

GENERAL DATA

Crew:	6 men
Length: Howitzer forward	359.4 inches
Length: Without howitzer	243.8 inches
Howitzer Overhang: Howitzer forward	115.6 inches
Width:	124.0 inches
Height: Over MG	129.1 inches
Tread:	109.0 inches
Ground Clearance:	17.7 inches
Fire Height:	approx. 78 inches
Turret Ring Diameter: (inside)	100 inches
Weight, Combat Loaded:	55,000 pounds
Weight, Unstowed:	46,500 pounds
Power to Weight Ratio: Net	12.5 hp/ton
Gross	14.7 hp/ton
Ground Pressure: Zero penetration	11.8 psi

ARMOR

Type: Turret, rolled 5083 aluminum alloy; Hull rolled 5083 aluminum alloy; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.25 inches (32mm)	75 degrees
Lower	1.25 inches (32mm)	19 and 60 degrees
Sides	1.25 inches (32mm)	0 degrees
Rear	1.25 inches (32mm)	0 degrees
Top	1.25 inches (32mm)	90 degrees
Floor	1.25 inches (32mm)	90 degrees
Turret Thickness:		
Front	1.25 inches (32mm)	22 degrees
Sides	1.25 inches (32mm)	22 degrees
Rear	1.25 inches (32mm)	0 degrees
Top	1.25 inches (32mm)	90 degrees

ARMAMENT

Primary: 155mm Howitzer M185 in Mount M178

Traverse: Hydraulic and manual	360 degrees
Traverse Rate: (max)	11 degrees/second
Elevation: Hydraulic and manual	+75 to -3 degrees
Elevation Rate: (max)	7 degrees/second
Firing Rate: (max)	4 rounds/minute
Loading System:	Semiautomatic
Stabilizer System:	None

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret hatch
Provision for (6) 5.56mm Rifle M16A1

AMMUNITION

36 rounds 155mm including 2 CLGP M712 (Copperhead)
12 hand grenades
500 rounds .50 caliber
1200 rounds 5.56mm

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Telescope M118CA1 w/Periscope M42	Panoramic Telescope M145 Elevation Quadrant M15
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M45 (3)
Commander	Hatch	Periscope M27 (1)
Gunner	None	None
Asst. Gunner	None	None
Loaders	None	None

Total Periscopes: M27 (1), M45 (3)

ENGINE

Make and Model: General Motors 8V71T
Type: 8 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	567.4 cubic inches
Bore and Stroke:	4.25 x 5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	345 hp at 2300 rpm
Gross Horsepower: (max)	405 hp at 2300 rpm
Net Torque: (max)	895 ft-lb at 1600 rpm
Gross Torque: (max)	980 ft-lb at 1700 rpm
Weight:	2442 pounds, dry
Fuel: 40 cetane diesel oil	135 gallons
Engine Oil:	36 quarts, 28 quarts at refill

POWER TRAIN

Transmission: X-drive, XTG-411-2A, 4 ranges forward, 2 reverse
Single stage hydraulic torque converter w/lock-up clutch
Stall Multiplication: 3.3:1

Overall Usable Ratios:			
1st	4.69:1	4th	0.79:1
2nd	3.18:1	reverse 1	5.60:1
3rd	1.58:1	reverse 2	3.79:1

Steering Controls: Mechanical, steering wheel
Steering System: Clutch-brake (1st, 2nd, and 1st reverse)
Geared steer (3rd, 4th, and 2nd reverse)
Steering Ratio: 1.477:1
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.36:1
Drive Sprocket: At front of vehicle with 10 teeth
Pitch Diameter: 19.624 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
14 individually sprung dual road wheels (7/track)
Tire Size: 24 x 4 inches
Dual adjustable idler at rear of each track
Idler Size: 18 x 4 inches
Shock absorbers fitted on first and last road wheels on each side
Tracks: Center guide T136 and T137
Type: (T136) Double pin, 15 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 158 (79/track)
Ground Contact Length: 156 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (Alternator) (1) 24 volts, 100 amperes, driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: None
Interphone: AN/VIC-1, 6 stations w/extension kit C-988/U

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	35 miles/hour
Maximum Tractive Effort: TE at stall	53,750 pounds
Per Cent of Vehicle Weight: TE/W	98 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	21 inches
Maximum Fording Depth:	42 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx 220 miles

155mm SELF-PROPELLED HOWITZER M109A6

GENERAL DATA

Crew:	4 men
Length:	384.0 inches
Length: Without howitzer	271.4 inches
Howitzer Overhang: Howitzer in travel position	112.6 inches
Width: Over turret stowage racks	154.4 inches
Height: Over MG mount	127.4 inches
Tread:	109.0 inches
Ground Clearance:	17.1 inches
Fire Height:	approx. 78 inches
Turret Ring Diameter: (inside)	100 inches
Weight, Combat Loaded:	63,600 pounds
Weight, Unstowed:	56,400 pounds
Power to Weight Ratio: Net	10.8 hp/ton
Gross	12.7 hp/ton
Ground Pressure: Zero penetration	13.6 psi

ARMOR

Type: Turret, rolled 5083 aluminum alloy; Hull, rolled 5083 aluminum alloy; Welded assembly; Aramid spall liners and steel applique armor on turret bustle

Hull Thickness:	Actual	Angle w/Vertical
Front, Upper	1.25 inches (32mm)	75 degrees
Lower	1.25 inches (32mm)	19 and 60 degrees
Sides	1.25 inches (32mm)	0 degrees
Rear	1.25 inches (32mm)	0 degrees
Top	1.25 inches (32mm)	90 degrees
Floor	1.25 inches (32mm)	90 degrees
Turret Thickness		
Front	1.25 inches (32mm)	22 degrees
Sides plus steel applique armor on bustle sides	1.25 inches (32mm)	22 degrees
Rear	1.25 inches (32mm)	0 degrees
Top	1.25 inches (32mm)	90 degrees

ARMAMENT

Primary: 155mm Howitzer M284 in Mount M182A1

Traverse: Hydraulic and manual	360 degrees
Traverse Rate: (max)	11 degrees/second
Elevation: Hydraulic and manual	+75 to -3 degrees
Elevation Rate: (max)	7 degrees/second
Firing Rate: (max) 3 rounds/15 seconds,	6 rounds/minute
Loading System:	Semiautomatic
Stabilizer System:	None

Secondary:

(1) .50 caliber MG HB M2 flexible AA mount on turret hatch
Provision for (4) 5.56mm Rifles M16A1

AMMUNITION

39 rounds 155mm including CLGP M712 (Copperhead)
500 rounds .50 caliber
800 rounds 5.56mm

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	Elbow Telescope	Panoramic Telescope Elevation Quadrant Automatic Fire Control w/inertial navigation and positioning
Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M45 (3)
Commander	Hatch	Periscope M27 (1)
Gunner	None	None
Asst. Gunner	None	None

Total Priscopes: M27 (1), M45 (3)

ENGINE

Make and Model: General Motors 8V71T
Type: 8 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	567.4 cubic inches
Bore and Stroke:	4.25 x 5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	345 hp at 2300 rpm
Gross Horsepower: (max)	405 hp at 2300 rpm
Net Torque: (max)	895 ft-lb at 1600 rpm
Gross Torque: (max)	980 ft-lb at 1700 rpm
Weight:	2442 pounds, dry
Fuel: 40 cetane diesel oil	133 gallons
Engine Oil:	36 quarts, 18 quarts at refill

POWER TRAIN

Transmission: X-drive, XTG-411-4, 4 ranges forward, 2 reverse w/quick disconnect for towing
Single stage hydraulic torque converter w/lock-up clutch
Stall Multiplication: 3.3:1

Overall Usable Ratios:			
1st	4.69:1	4th	0.79:1
2nd	3.18:1	reverse 1	5.60:1
3rd	1.58:1	reverse 2	3.79:1

Steering Controls: Mechanical, steering wheel
Steering System: Clutch-brake (1st, 2nd, and 1st reverse)
Geared steer (3rd, 4th, and 2nd reverse)
Steering Ratio: 1.477:1
Brakes: Multiple disc
Final Drive: Spur gear Gear Ratio: 4.36:1
Drive Sprocket: At front of vehicle with 10 teeth
Pitch Diameter: 19.624 inches

RUNNING GEAR

Suspension: Flat track, high strength torsion bar
14 individually sprung dual road wheels (7/track)
Tire Size: 24 x 4 inches
Dual adjustable idler at rear of each track
Idler Size: 18 x 4 inches
High capacity shock absorbers on first and last road wheels on each side
Tracks: Center guide
Type: Double pin, 15 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 158 (79/track)
Ground Contact Length: 156 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (Alternator) 24 volts, 650 amperes, driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio:AN/VIC-1, AN/VRC-89 or SINCGARS
Interphone: 4 stations

FIRE AND NBC PROTECTION

Automatic Halon fire extinguisher system
NBC system w/climate control

PERFORMANCE

Maximum Speed: Level road	35 miles/hour
Maximum Tractive Effort: TE at stall	53,750 pounds
Per Cent of Vehicle Weight: TE/W	85 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	21 inches
Maximum Fording Depth:	42 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 215 miles

175mm SELF-PROPELLED GUN M107 AND 8 inch SELF-PROPELLED HOWITZER M110

GENERAL DATA

Crew:		5	men
Length: Cannon in travel position,	M107	444.8	inches
	M110	294.4	inches
Length: Without cannon		254.3	inches
Cannon Overhang:	M107	190.5	inches
	M110	40.1	inches
Width:		124.0	inches
Height: Cannon in travel position,	M107	136.8	inches
	M110	115.6	inches
Tread:		106.0	inches
Ground Clearance:		17.4	inches
Fire Height:		approx. 80	inches
Weight, Combat Loaded:	M107	62,100	pounds
	M110	58,500	pounds
Weight, Unstowed:	M107	57,600	pounds
	M110	53,500	pounds
Power to Weight Ratio: Net,	M107	13.5	hp/ton
	M110	14.4	hp/ton
Gross,	M107	14.5	hp/ton
	M110	15.4	hp/ton
Ground Pressure: Zero penetration,	M107	11.7	psi
	M110	11.0	psi

ARMOR

Type: Rolled homogeneous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front	0.5 inches (13mm)	0 degrees
Driver's Compartment		
Sides and Rear	0.5 inches (13mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees
Remainder of Hull	Unarmored	

ARMAMENT

Primary: (M107) 175mm Gun M113 (T256E3) in Mount M158 (T185)
(M110) 8 inch Howitzer M2A2 (M2A1E1) in Mount M158 (T185)

Traverse: Hydraulic and manual	60 degrees (30 degrees left or right)
Traverse Rate: (max)	8 degrees/second
Elevation: Hydraulic and manual	+65 to —2 degrees
Elevation Rate: (max)	6 degrees/second
Firing Rate: (max)	1.5 rounds/minute
Loading System:	Semiautomatic
Stabilizer System:	None

Secondary:
- Provision for (1) .45 caliber SMG M3A1
- Provision for (4) 7.62mm Rifle M14

AMMUNITION
- 2 rounds 175mm (M107) 8 hand grenades
- 2 rounds 8 inch (M110)
- 180 rounds .45 caliber
- 720 rounds 7.62mm

FIRE CONTROL AND VISION EQUIPMENT

Primary Weapon:	Direct	Indirect
	(M107) Telescope M116C	Panoramic Telescope M115
	(M110) Telescope M116	Elevation Quadrant M15
		Gunner's Quadrant M1A1

Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (3)
Commander	Open vehicle	None
Gunner	Open vehicle	None
Loaders	Open vehicle	None

Total Periscopes: M17 (3)

ENGINE

Make and Model: General Motors 8V71T
Type: 8 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	567.4 cubic inches
Bore and Stroke:	4.25 x 5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	345 hp at 2300 rpm
Gross Horsepower: (max)	405 hp at 2300 rpm
Net Torque: (max)	895 ft-lb at 1600 rpm
Gross Torque: (max)	980 ft-lb at 1700 rpm
Weight:	2442 pounds, dry
Fuel: 40 cetane diesel oil	300 gallons
Engine Oil:	36 quarts, 28 quarts at refill

POWER TRAIN

Transmission: X-drive, XTG-411-2A, 4 ranges forward, 2 reverse
Single stage hydraulic torque converter w/lock-up clutch
Stall Multiplication: 3.3:1

Overall Usable Ratios:			
1st	4.69:1	4th	0.79:1
2nd	3.18:1	reverse 1	5.60:1
3rd	1.58:1	reverse 2	3.79:1

Steering Control: Mechanical, steering bar
Steering System: Clutch-brake (1st, 2nd, and 1st reverse)
Geared steer (3rd, 4th, and 2nd reverse)
Steering Ratio: 1.477:1
Brakes: Multiple disc
Final Drive: Planetary gear Gear Ratio: 5.35:1
Drive Sprocket: At front of vehicle with 11 teeth
Pitch Diameter: 21.297 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 32 x 4 inches
All road wheels fitted with hydraulic lock-out cylinders which serve as shock absorbers when the vehicle is moving. The rear road wheels also serve as adjustable trailing idlers.
Tracks: Center guide T132
Type: (T132) Single pin, 18 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 151 (76 right, 75 left)
Ground Contact Length: 148 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 300 amperes, driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: None
Interphone: AN/UIC-1, 3 stations

FIRE PROTECTION
- (2) 10 pound carbon dioxide, fixed
- (1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road		34	miles/hour
Maximum Tractive Effort: TE at stall		49,200	pounds
Per Cent of Vehicle Weight: TE/W,	M107	79	per cent
	M110	84	per cent
Maximum Grade:		60	per cent
Maximum Trench:		7	feet
Maximum Vertical Wall:		40	inches
Maximum Fording Depth:		42	inches
Minimum Turning Circle: (diameter)		pivot	
Cruising Range: Roads		approx. 450	miles

8 inch SELF-PROPELLED HOWITZER M110A2

GENERAL DATA

Crew:	5 men
Length: Howitzer in travel position	422.5 inches
Length: Without howitzer	254.3 inches
Howitzer Overhang:	168.2 inches
Width:	124.0 inches
Height: Howitzer in travel position	123.8 inches
Tread:	106.0 inches
Ground Clearance:	17.4 inches
Fire Height:	approx. 80 inches
Weight, Combat Loaded:	62,500 pounds
Weight, Unstowed:	57,500 pounds
Power to Weight Ratio: Net	11.0 hp/ton
Gross	13.0 hp/ton
Ground Pressure: Zero penetration	11.7 psi

ARMOR

Type: Rolled homogeneous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front	0.5 inches (13mm)	0 degrees
Driver's Compartment		
Sides and Rear	0.5 inches	(13mm) 0 degrees
Top	0.5 inches (13mm)	90 degrees
Remainder of Hull	Unarmored	

ARMAMENT

Primary: 8 inch Howitzer M201A1 in Mount M158

Traverse: Hydraulic and manual	60 degrees (30 degrees left or right)
Traverse Rate: (max)	8 degrees/second
Elevation: Hydraulic and manual	+65 to —2 degrees
Elevation Rate: (max)	6 degrees/second
Firing Rate: (max)	1.5 rounds/minute
Loading System:	Semiautomatic
Stabilizer System:	None

Secondary:

Provision for (5) 5.56mm Rifle M16A1

AMMUNITION

2 rounds 8 inch 8 hand grenades
750 rounds 5.56mm

FIRE CONTROL AND VISION EQUIPMENT

Primary	Direct	Indirect Weapon:
	Telescope M116	Panoramic Telescope M115
		Elevation Quadrant M15
		Gunner's Quadrant M1A1

Vision Devices:	Direct	Indirect
Driver	Hatch	Periscope M17 (3)
Commander	Open vehicle	None
Gunner	Open vehicle	None
Loaders	Open vehicle	None

Total Periscopes: M17 (3)

ENGINE

Make and Model: General Motors 8V71T
Type: 8 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	567.4 cubic inches
Bore and Stroke:	4.25 x 5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	345 hp at 2300 rpm
Gross Horsepower: (max)	405 hp at 2300 rpm
Net Torque: (max)	895 ft-lb at 1600 rpm
Gross Torque: (max)	980 ft-lb at 1700 rpm
Weight:	2442 pounds, dry
Fuel: 40 cetane diesel oil	260 gallons
Engine Oil:	36 quarts, 28 quarts at refill

POWER TRAIN

Transmission: X-drive, XTG-411-2A, 4 ranges forward, 2 reverse
Single stage hydraulic torque converter w/lock-up clutch
Stall Multiplication: 3.3:1

Overall Usable Ratios:			
1st	4.69:1	4th	0.79:1
2nd	3.18:1	reverse 1	5.60:1
3rd	1.58:1	reverse 2	3.79:1

Steering Control: Mechanical, steering bar
Steering System: Clutch-brake (1st, 2nd, and 1st reverse)
Geared steer (3rd, 4th, and 2nd reverse)
Steering Ratio: 1.477:1
Brakes: Multiple disc
Final Drive: Planetary gear Gear Ratio: 5.35:1
Drive Sprocket: At front of vehicle with 11 teeth
Pitch Diameter: 21.297 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 32 x 4 inches
All road wheels fitted with hydraulic lock-out cylinders which serve as shock absorbers when the vehicle is moving. The rear road wheels also serve as adjustable trailing idlers.
Tracks: Center guide, T132
Type: (T132) Single pin, 18 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 151 (76 right, 75 left)
Ground Contact Length: 148 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 300 amperes, driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: None
Interphone: AN/UIC-1, 3 stations

FIRE PROTECTION

(2) 10 pound carbon dioxide, fixed
(1) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	34 miles/hour
Maximum Tractive Effort: TE at stall	49,200 pounds
Per Cent of Vehicle Weight: TE/W	79 per cent
Maximum Grade:	60 per cent
Maximum Trench:	6 feet
Maximum Vertical Wall:	40 inches
Maximum Fording Depth:	42 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 325 miles

LIGHT RECOVERY VEHICLE M578 (T120E1)

GENERAL DATA

Crew:	3	men
Length: Crane in travel position	250.3	inches
Length: Without crane	219.8	inches
Crane Overhang: Crane in travel position	30.5	inches
Width:	124.0	inches
Height: Over MG, crane in travel position	130.5	inches
Tread:	106.0	inches
Ground Clearance:	17.4	inches
Weight, Combat Loaded:	54,000	pounds
Weight, Unstowed: For air transport	47,000	pounds
Power to Weight Ratio: Net	12.8	hp/ton
Gross	15.0	hp/ton
Ground Pressure: Zero penetration	10.1	psi

ARMOR

Type: Rolled homogeneous steel; Welded assembly

Hull Thickness:	Actual	Angle w/Vertical
Front	0.5 inches (13mm)	0 degrees
Driver's Compartment		
Sides and Rear	0.5 inches (13mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees
Remainder of Hull	Unarmored	
Cab Thickness:		
Front	0.5 inches (13mm)	20 degrees
Sides	0.5 inches (13mm)	0 degrees
Rear	0.5 inches (13mm)	0 degrees
Top	0.5 inches (13mm)	90 degrees

ARMAMENT

(1) .50 Caliber MG HB M2 flexible AA mount on rigger's cupola
Provision for (3) 7.62mm Rifle M14

AMMUNITION

500 rounds .50 caliber
450 rounds 7.62mm

RECOVERY EQUIPMENT

Spade: Hydraulically operated, on rear of vehicle
Tow Winch: 60,000 pound capacity, hydraulically operated, located in cab front w/225 feet of 1 inch diameter cable
Boom: Hydraulically operated box boom pivoted on upper cab front
Boom Length: 171 inches
Boom Traverse: 360 degrees
Boom Turning Radius: (around cab center) 98.4 inches
Boom Winch: 30,000 pound capacity, hydraulically operated, located in cab front w/350 feet of 5/8 inch diameter cable

VISION EQUIPMENT

	Direct	Indirect
Driver	Hatch	Periscope M17 (3)
Crane Operator	Hatch	Periscope M17 (6)
Rigger	Hatch	Periscope M17 (6)

Total Periscopes: M17 (15)

ENGINE

Make and Model: General Motors 8V71T
Type: 8 cylinder, 2 cycle, vee, supercharged
Cooling System: Liquid Ignition: Compression

Displacement:	567.4 cubic inches
Bore and Stroke:	4.25 x 5 inches
Compression Ratio:	17:1
Net Horsepower: (max)	345 hp at 2300 rpm
Gross Horsepower: (max)	405 hp at 2300 rpm
Net Torque: (max)	895 ft-lb at 1600 rpm
Gross Torque: (max)	980 ft-lb at 1700 rpm
Weight:	2442 pounds, dry
Fuel: 40 cetane diesel oil	300 gallons
Engine Oil:	36 quarts, 28 quarts at refill

POWER TRAIN

Transmission: X-drive, XTG-411-2A, 4 ranges forward, 2 reverse
Single stage hydraulic torque converter w/lock-up clutch
Stall Multiplication: 3.3:1

Overall Usable Ratios:			
1st	4.69:1	4th	0.79:1
2nd	3.18:1	reverse 1	5.60:1
3rd	1.58:1	reverse 2	3.79:1

Steering Controls: Mechanical, steering bar
Steering System: Clutch-brake (1st, 2nd, and 1st reverse)
Geared steer (3rd, 4th, and 2nd reverse)
Steering Ratio: 1.477:1
Brakes: Multiple disc
Final Drive: Planetary gear Gear Ratio: 5.35:1
Drive Sprocket: At front of vehicle with 11 teeth
Pitch Diameter: 21.297 inches

RUNNING GEAR

Suspension: Flat track, torsion bar
10 individually sprung dual road wheels (5/track)
Tire Size: 32 x 4 inches
All road wheels fitted with hydraulic lock-out cylinders which serve as shock absorbers when vehicle is moving. The rear road wheels also serve as adjustable trailing idlers
Tracks: Center guide, T132
Type: (T132) Single pin, 18 inch width, steel w/detachable rubber pad
Pitch: 6 inches
Shoes per Vehicle: 151 (76 right, 75 left)
Ground Contact Length: 148 inches

ELECTRICAL SYSTEM

Nominal Voltage: 24 volts DC
Main Generator: (1) 24 volts, 300 amperes, driven by main engine
Auxiliary Generator: None
Battery: (4) 12 volts, 2 sets of 2 in series connected in parallel

COMMUNICATIONS

Radio: AN/VRC-46 at rear of cab
Interphone: C-2298/VRC, 3 stations

FIRE PROTECTION

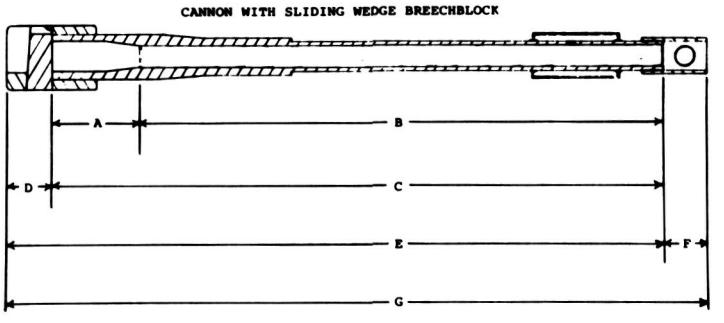
(2) 10 pound carbon dioxide, fixed
(2) 5 pound carbon dioxide, portable

PERFORMANCE

Maximum Speed: Level road	37 miles/hour
Maximum Tractive Effort: TE at stall	49,200 pounds
Per Cent of Vehicle Weight: TE/W	91 per cent
Maximum Grade:	60 per cent
Maximum Trench:	7 feet
Maximum Vertical Wall:	40 inches
Maximum Fording Depth:	42 inches
Minimum Turning Circle: (diameter)	pivot
Cruising Range: Roads	approx. 450 miles

WEAPON DATA SHEETS

The primary light tank weapon after World War II was the high velocity 76mm gun. During the 1960s, it was replaced by the 152mm gun-launcher either firing combustible case conventional ammunition or launching a guided missile. Both types of ammunition depended upon an explosive shaped charge warhead to destroy the target. With the development of the new XM8 Armored Gun System, the main armament is once again a high velocity gun using a kinetic energy projectile. These weapons, as well as many of those employed as self-propelled artillery on lightweight chassis, are included in these data sheets. The dimensions of the various cannon have been simplified and are defined as indicated in the sketches below. For example, the forcing cone and the muzzle counterbore have been neglected. Shot travel is defined as the distance from the projectile base in the chamber to the muzzle.



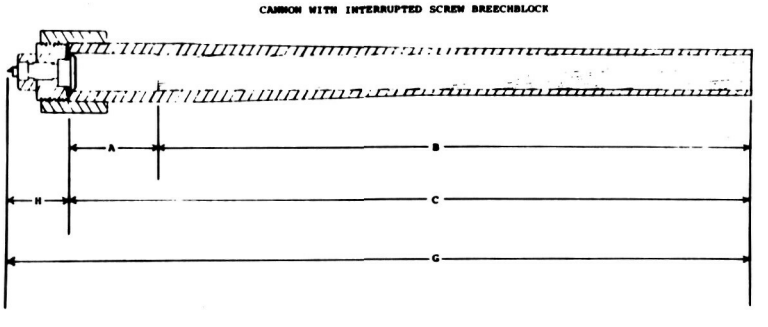
A. Length of Chamber (to rifling)
B. Length of Rifling
C. Length of Bore
D. Depth of Breech Recess
E. Length, Muzzle to Rear Face of Breech
F. Additional Length, Blast Deflector, Etc.
G. Overall Length
H. Length, Breechblock and Firing Lock
I. Length of Tube
J. Length of Separable Chamber
K. Length of Tube and Chamber

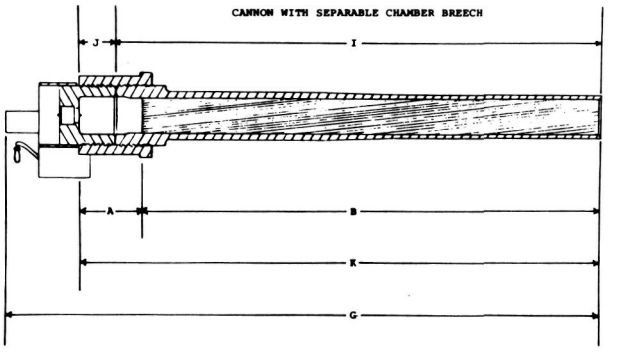
The ammunition is listed in the data sheets according to the U.S. Army nomenclature in use during its period of greatest service. Since this did change and was sometimes confusing, a standard nomenclature is added in parentheses based on the following terms.

APBC	Armor piercing with ballistic cap
APCR	Armor piercing, composite rigid
APDS	Armor piercing, discarding sabot
APFSDS	Armor piercing, fin stabilized, discarding sabot
HE	High explosive
HEAT	High explosive, antitank, shaped charge
HESH	High explosive, squash head
HERA	High explosive, rocket assisted
CLGP	Cannon launched, guided projectile
APERS	Antipersonnel
MP	Multipurpose
CP	Concrete piercing
TP	Target practice
TPBC	Target practice with ballistic cap
TPCR	Target practice, composite rigid
-T	Tracer

The penetration performance for the armor piercing rounds has been omitted from the data sheets since some of the later weapons and their ammunition are still subject to security restrictions. Other details of some types of ammunition also have been left out for the same reason.

Muzzle brakes were installed on the 76mm tank guns as well as many of the self-propelled artillery weapons to reduce the recoil force on the lightweight chassis. Except for the late version of the 152mm gun-launcher, bore evacuators were fitted on all weapons fired from enclosed turret or barbette mounts. The late gun-launchers were equipped with a closed breech, compressed air, scavenger system to remove powder gases and residue from the bore.





40mm DUAL AUTOMATIC GUN M2A1

Carriage and Mount	Twin 40mm Self-Propelled Guns M42 and M42A1 in Mount M4E1	
Length to Chamber (to rifling)	12.73 inches	
Length of Rifling	75.85 inches	
Length of Chamber	11.2 inches (square base shot AP-T M81A1)	
	9.8 inches (boat-tail shell HE-T Mk II)	
Length of Chamber (to projectile base)	77.4 inches (square base shot AP-T M81A1)	
	78.8 inches (boat-tail shell HE-T Mk II)	
Length of Bore	88.58 inches, 56.3 calibers	
Dept of Breech Recess	5.9 inches, approx.	
Length, Muzzle to Rear Face of Breech	95 inches, approx.	
Length of Flash Suppressor	10 inches, approx.	
Length of Automatic Loader Assembly	39 inches, approx.	
Overall Length	144 inches, approx.	
Diameter of Bore	1.573 inches (40mm)	
Chamber Capacity	29.9 cubic inches	
Weight of Barrel Assembly (each)	296 pounds	
Total Weight	2000 pounds, approx.	
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	16 grooves, increasing twist, one turn in 45 to 30 calibers	
Automatic Loader	Each w/7 round magazine loaded from 4 round clips	
Ammunition	Fixed	
Primer	Percussion	
Weight, Complete Round	AP-T M81A1 Shot (AP-T)	4.57 pounds (2.07 kg)
	HEI-T MkII Shell (HEI-T)	4.70 pounds (2.13 kg)
Weight, Projectile	AP-T M81A1 Shot (AP-T)	1.96 pounds (0.89 kg)
	HEI-T MkII Shell (HEI-T)	1.93 pounds (0.88 kg)
Maximum Rate of Fire	240 rounds/minute (120 rounds/gun)	
Muzzle Velocity	AP-T M81A1 Shot (AP-T)	2870 ft/sec (875 m/sec)
	HEI-T MkII Shell (HEI-T)	2870 ft/sec (875 m/sec)
Muzzle Energy of Projectile $KE=1/2MV^2$	AP-T M81A1 Shot (AP-T)	112 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HEI-T MkII Shell (HEI-T)	110 ft-tons
Maximum Range (independent of mount)	AP-T M81A1 Shot (AP-T)	9475 yards (8664 m)
	HEI-T MkII Shell (HEI-T)	10,850 yards* (9921 m)

Penetration Performance — Homogeneous steel armor at 30 degrees obliquity

	Range	500 yards	1000 yards	1500 yards	2000 yards
AP-T M81A1 Shot (AP-T)		1.9 inches (48mm)	1.6 inches (41mm)	1.2 inches (30mm)	1.0 inches (25mm)

Face-hardened steel armor at 30 degrees obliquity

	Range	500 yards	1000 yards	1500 yards	2000 yards
AP-T M81A1 Shot (AP-T)		1.8 inches (46mm)	1.5 inches (38mm)	1.2 inches (30mm)	1.0 inches (25mm)

*Actual range limited by shell destroying tracer to approximately 5200 yards horizontal and 5100 yards vertical

76mm GUNS M32 (T91E3), T185, AND T185E1

Carriage and Mount	76mm Gun Tanks M41 and M41A2 in Mount M76 (T138E1) (M32 Gun)	
	76mm Gun Tanks M41A1 and M41A3 in Mount M76A1 (T138E2) (M32 Gun)	
	76mm Gun Tank T71 in Mount T138E2 (T185 Gun)	
	76mm Gun Tank T92 in experimental mount (T185E1 Gun)	
Length of Chamber (to rifling)	23.6 inches	
Length of Rifling	156.4 inches	
Length of Chamber (to projectile base)	19.6 inches (boat-tailed projectiles)	
Travel of Projectile in Bore	160.4 inches (boat-tailed projectiles)	
Length of Bore	180.0 inches, 60.0 calibers	
Depth of Breech Recess	6.6 inches	
Length, Muzzle to Rear Face of Breech	186.6 inches, 62.2 calibers	
Additional Length	4.6 inches, w/early muzzle brake	
	5.8 inches, w/late muzzle brake	
Overall Length	191.2 inches, w/early muzzle brake	
	192.4 inches, w/late muzzle brake	
Diameter of Bore	3.000 inches	
Chamber Capacity	197 cubic inches	
Total Weight	1709 pounds, M32	
	1425 pounds, T185 and T185E1	
Type of Breechblock	Semiautomatic, vertical sliding wedge	
	T185E1 inverted, breechblock moves up to open	
Rifling	28 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Fixed	
Primer	Percussion	
Weight, Complete Round	AP-T M339 Shot (APBC-T)	*27.32 pounds (12.4 kg)
	HVAP-T M319 (T66E3) Shot (APCR-T)	* 19.33 pounds (8.8 kg)
	HVAP-DS-T M331A2 Shot (APDS-T)	** 20.72 pounds (9.4 kg)
	HEAT-T M496 Shell (HEAT-T)	†20.41 pounds (9.3 kg)
	HE M352 Shell (HE)	* 25.83 pounds (11.7 kg)
	WP M361 (T140) Shell, Smoke	* 25.82 pounds (11.7 kg)
	Canister M363 (T3E7)(909 steel balls)	*27.18 pounds (12.3 kg)
Weight, Projectile	AP-T M339 Shot (APBC-T)	14.56 pounds (6.6 kg)
	HVAP-T M319 (T66E3) Shot (APCR-T)	7.13 pounds (3.2 kg)
	HVAP-DS-T M331A2 Shot (APDS-T)	8.22 pounds (3.7 kg)
	HEAT-T M496 Shell (HEAT-T)	7.15 pounds (3.2 kg)
	HE M352 Shell (HE)	15.00 pounds (6.8 kg)
	WP M361 (T140) Shell, Smoke	15.71 pounds (7.1 kg)
	Canister M363 (T3E7)(909 steel balls)	15.00 pounds (6.8 kg)
Maximum Powder Pressure	46,000 psi	
Maximum Rate of Fire	12 rounds/minute	
Muzzle Velocity	AP-T M339 Shot (APBC-T)	3200 ft/sec (975 m/sec)
	HVAP-T M319 (T66E3) Shot (APCR-T)	4139 ft/sec (1262 m/sec)
	HVAP-DS-T M331A2 Shot (APDS-T)	4125 ft/sec (1257 m/sec)
	HEAT-T M496 Shell (HEAT-T)	3550 ft/sec (1082 m/sec)
	HE M352 Shell (HE)	2400 ft/sec (732 m/sec)
	WP M361 (T140) Shell, Smoke	2400 ft/sec (732 m/sec)
	Canister M363 (T3E7)(909 steel balls)	2900 ft/sec (884 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$	AP-T M339 Shot (APBC-T)	1034 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HVAP-T M319 (T66E3) Shot (APCR-T)	847 ft-tons
	HVAP-DS-T M331A2 Shot (APDS-T)	970 ft-tons
	HEAT-T M496 Shell (HEAT-T)	625 ft-tons
	HE M352 Shell (HE)	574 ft-tons
	WP M361 (T140) Shell, Smoke	627 ft-tons
	Canister M363 (T3E7)(909 steel balls)	875 ft-tons
Maximum Range (independent of mount)	AP-T M339 Shot (APBC-T)	16,080 yards (14,704 m)
	HVAP-T M319 (T66E3) Shot (APCR-T)	10,810 yards (9,885 m)
	HVAP-DS-T M331A2 Shot (APDS-T)	23,630 yards (21,607 m)
	HEAT-T M496 Shell (HEAT-T)	effective 2,190 yards (2,003 m)
	HE M352 Shell (HE)	15,680 yards (14,338 m)
	WP M361 (TWO) Shell, Smoke	16,070 yards (14,694 m)
	Canister M363 (T3E7)(909 steel balls)	170 yards (155 m)

* Assembled with M88 (T19E1) brass cartridge case (weight 6.66 pounds)
** Assembled with M88B1 (T19E1B1) steel cartridge case (weight 6.22 pounds)
† Assembled with M171E1 brass cartridge case

90mm GUN M54 (T125)

Carriage and Mount	90mm Self-Propelled Gun M56 (T101) in Mount M88 (T70E1)	
Length of Chamber (to rifling)	24.75 inches	
Length of Rifling	152.4 inches	
Length of Chamber (to projectile base)	20.75 inches	
Travel of Projectile in Bore	156.4 inches	
Length of Bore	177.15 inches, 50.0 calibers	
Depth of Breech Recess	9.00 inches	
Length, Muzzle to Rear Face of Breech	186.15 inches, 52.5 calibers	
Additional Length, Cylindrical Blast Deflector	6.5 inches	
Overall Length	192.7 inches	
Diameter of Bore	3.543 inches	
Chamber Capacity	300 cubic inches	
Weight, Tube	1473 pounds	
Total Weight	2440 pounds	
Type of Breechblock	Vertical sliding wedge	
Rifling	32 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Fixed	
Primer	Percussion	
Weight, Complete Round	AP-T M318 (T33E7) Shot (APBC-T)	** 43.91 pounds (19.9 kg)
	HEAT-T M431 Shell (HEAT-T)	32.25 pounds (14.6 kg)
	HE-T T91E3 Shell (HE-T)	* 36.25 pounds (16.5 kg)
	HE-T M71A1 Shell (HE-T)	†39.54 pounds (17.9 kg)
	APERS-T XM580E1 (4100 fléchettes)	41.25 pounds (18.7 kg)
	Canister M336 (1280 pellets)	* 42.50 pounds (19.3 kg)
	Canister M377 (5600 fléchettes)	** 39.30 pounds (17.8 kg)
	TP-T M353 (T225E1) Shot (TPBC-T)	** 43.91 pounds (19.9 kg)
Weight, Projectile	AP-T M318 (T33E7) Shot (APBC-T)	24.18 pounds (11.0 kg)
	HEAT-T M431 Shell (HEAT-T)	12.75 pounds (5.8 kg)
	HE-T T91E3 Shell (HE-T)	20.25 pounds (9.2 kg)
	HE-T M71A1 Shell (HE-T)	23.57 pounds (10.7 kg)
	APERS-T XM580E1 (4100 fléchettes)	approx. 20 pounds (9 kg)
	Canister M336 (1280 pellets)	23.24 pounds (10.5 kg)
	Canister M377 (5600 fléchettes)	20.44 pounds (9.3 kg)
	TP-T M353 (T225E1) Shot (TPBC-T)	24.18 pounds (11.0 kg)
Maximum Powder Pressure	47,000 psi	
Maximum Rate of Fire	10 rounds/minute	
Muzzle Velocity	AP-T M318 (T33E7) Shot (APBC-T)	3000 ft/sec (914 m/sec)
	HEAT-T M431 Shell (HEAT-T)	4000 ft/sec (1219 m/sec)
	HE-T T91E3 Shell (HE-T)	2400 ft/sec (732 m/sec)
	HE-T M71A1 Shell (HE-T)	2400 ft/sec (732 m/sec)
	APERS-T XM580E1 (4100 fléchettes)	3000 ft/sec (914 m/sec)
	Canister M336 (1280 pellets)	2870 ft/sec (875 m/sec)
	Canister M377 (5600 fléchettes)	2950 ft/sec (899 m/sec)
	TP-T M353 (T225E1) Shot (TPBC-T)	3000 ft/sec (914 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$ Rotational energy is neglected and values are based on long tons (2240 pounds)	AP-T M318 (T33E7) Shot (APBC-T)	1509 ft-tons
	HEAT-T M431 Shell (HEAT-T)	1414 ft-tons
	HE-T T91E3 Shell (HE-T)	809 ft-tons
	HE-T M71A1 Shell (HE-T)	941 ft-tons
	APERS-T XM580E1 (4100 fléchettes)	approx. 1250 ft-tons
	Canister M336 (1280 pellets)	1327 ft-tons
	Canister M377 (5600 fléchettes)	1230 ft-tons
	TP-T M353 (T225E1) Shot (TPBC-T)	1509 ft-tons
Maximum Range (independent of mount)	AP-T M318 (T33E7) Shot (APBC-T)	23,000 yards (21,031 m)
	HEAT-T M431 Shell (HEAT-T)	8,900 yards (8,138 m)
	HE-T T91E3 Shell (HE-T)	14,500 yards (13,259 m)
	HE-T M71A1 Shell (HE-T)	16,800 yards (15,362 m)
	APERS-T XM580E1 (4100 fléchettes)	4,800 yards (4,389 m)
	Canister M336 (1280 pellets)	200 yards (183 m)
	Canister M377 (5600 fléchettes)	440 yards (402 m)
	TP-T M353 (T225E1) Shot (TPBC-T)	23,000 yards (21,031 m)

* Assembled with the M108 (T24) brass cartridge case (weight 11.0 pounds)
** Assembled with the M108B (T24B1) steel cartridge case (weight 10.3 pounds)
† Assembled with the M19 brass cartridge case (weight 11.0 pounds)
The HEAT-T M431 and APERS-T XM580E1 rounds were assembled with the M114E1 and XM200 cartridge cases respectively. In addition to the ammunition assembled with the M108 or M108B1 cartridge cases, this weapon could fire any of the rounds for the lower pressure M1, M2, and M3 series of 90mm guns fitted in the M19 or M19B1 cartridge cases.

105mm GUNS M68, M68A1, AND XM35

Carriage and Mount	105mm Gun Tanks Ml, M60, M60A1, and M60A3 (M68 and M68A1 Guns), 105mm Gun Tanks M48A1E1 and M48A5 (M68 Gun), and 105mm Armored Gun System XM8 (XM35 Gun)	
Length of Chamber (to rifling)	24.9 inches	
Length of Rifling	185.557 inches (M68), 195.607 inches (XM35)	
Length of Chamber (to projectile base)	23.42 inches (APDS shot)	
Travel of Projectile in Bore	187.08 inches (APDS shot), M68	
Length of Bore	210.50 inches, 50.92 calibers (M68), 220.55 inches, 53.35 calibers (XM35)	
Depth of Breech Recess	8.00 inches (M68), 9.05 inches (XM35)	
Length, Muzzle to Rear Face of Breech	218.50 inches, 52.85 calibers (M68)	
	229.6 inches, 55.54 calibers (XM35 including integral muzzle brake)	
Diameter of Bore	4.134 inches	
Chamber Capacity	403 cubic inches	
Weight, Tube	1660 pounds (M68)	
Total Weight	2492 pounds (M68), 2080 pounds (XM35 including mount)	
Type of Breechblock	Semiautomatic, vertical sliding wedge	
Rifling	28 grooves, uniform right-hand twist, one turn in 18 calibers	
Ammunition	Fixed	
Primer	Electric	
Weight, Complete Round	APDS-T M392A2 Shot (APDS-T)	41.0 pounds (18.6 kg)
	APFSDS-T M735 Shot (APFSDS-T)	38 pounds (17 kg)
	HEP-T M393A1 Shell (HESH-T)	46.7 pounds (21.2 kg)
	HEAT-T M456 Shell (HEAT-T)	48.0 pounds (21.8 kg)
	APERS-T XM494E3 (5000 fléchettes)	55.0 pounds (25.0 kg)
	WP-T M416 Shell (Smoke)	45.5 pounds (20.7 kg)
	TP-T M393A1 Shell (TP-T)	46.7 pounds (21.2 kg)
	TP-T M490 Shell (TP-T)	48.0 pounds (21.8 kg)
Weight, Projectile	APDS-T M392A2 Shot (APDS-T)	12.75 pounds (5.8 kg)
	APFSDS-T M735 Shot (APFSDS-T)	12.78 pounds (5.8 kg)
	HEP-T M393A1 Shell (HESH-T)	24.8 pounds (11.3 kg)
	HEAT-T M456 Shell (HEAT-T)	22.4 pounds (10.2 kg)
	APERS-T XM494E3 (5000 fléchettes)	approx. 31 pounds (14 kg)
	WP-T M416 Shell (Smoke)	25.17 pounds (11.4 kg)
	TP-T M393A1 Shell (TP-T)	24.8 pounds (11.3 kg)
	TP-T M490 Shell (TP-T)	22.4 pounds (10.2 kg)
Maximum Powder Pressure	60,000 psi (M68), 83,000 psi (XM35)	
Maximum Rate of Fire	7 rounds/minute (M68), 12 rounds/minute (XM35 w/automatic loader)	
Muzzle Velocity	APDS-T M392A2 Shot (APDS-T)	4850 ft/sec (1478 m/sec)
	APFSDS-T M735 Shot (APFSDS-T)	4925 ft/sec (1501 m/sec)
	HEP-T M393A1 Shell (HESH-T)	2400 ft/sec (732 m/sec)
	HEAT-T M456 Shell (HEAT-T)	3850 ft/sec (1173 m/sec)
	APERS-T XM494E3 (5000 fléchettes)	2700 ft/sec (823 m/sec)
	WP-T M416 Shell (Smoke)	2400 ft/sec (732 m/sec)
	TP-T M393A1 Shell (TP-T)	2400 ft/sec (732 m/sec)
	TP-T M490 Shell (TP-T)	3850 ft/sec (1173 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$ Rotational energy is neglected and values are based on long tons (2240 pounds)	APDS-T M392A2 Shot (APDS-T)	2079 ft-tons
	APFSDS-T M735 Shot (APFSDS-T)	2149 ft-tons
	HEP-T M393A1 Shell (HESH-T)	990 ft-tons
	HEAT-T M456 Shell (HEAT-T)	2302 ft-tons
	APERS-T XM494E3 (5000 fléchettes)	1567 ft-tons
	WP-T M416 Shell (Smoke)	1005 ft-tons
	TP-T M393A1 Shell (TP-T)	990 ft-tons
	TP-T M490 Shell (TP-T)	2302 ft-tons
Maximum Range (independent of mount)	APDS-T M392A2 Shot (APDS-T)	40,162 yards (36,724 m)
	HEP-T M393A1 Shell (HESH-T)	10.400 yards (9510 m)
	HEAT-T M456 Shell (HEAT-T)	8,975 yards (8207 m)
	APERS-T XM494E3 (5000 fléchettes)	4,800 yards (4389 m)
	WP-T M416 Shell (Smoke)	10,400 yards (9510 m)
	TP-T M393A1 Shell (TP-T)	10,400 yards (9510 m)
	TP-T M490 Shell (TP-T)	8,975 yards (8207 m)

The M68A1 differed in only minor details from the M68 and it could be fitted with a muzzle reference system. The XM35 was a lightweight weapon designed for use with a soft recoil system and it featured an integral muzzle brake consisting of holes bored through the rifled tube near the muzzle. Ammunition for these weapons was assembled with cartridge cases M115 (brass), M150 (brass), M150B1 (steel), M148A1 (brass), and M148A1B1 (steel).

105mm HOWITZER M49 (T96E1)

Carriage and Mount	105mm Self-Propelled Howitzer M52 (T98E1) and M52A1 in Mount M85 (T67E1)	
Length of Chamber (to rifling)	15.0 inches	
Length of Rifling	78 inches	
Length of Chamber (to projectile base)	11.4 inches	
Travel of Projectile in Bore	81.6 inches	
Length of Bore	93.0 inches, 22.5 calibers	
Depth of Breech Recess	6.8 inches	
Length, Muzzle to Rear Face of Breech	99.8 inches, 24.1 calibers	
Additional Length, Counterweight etc.	None	
Overall Length	99.8 inches	
Diameter of Bore	4.134 inches	
Chamber Capacity	154 cubic inches	
Total Weight	972 pounds	
Type of Breechblock	Manually operated, vertical sliding wedge	
Rifling	36 grooves, uniform right-hand twist, one turn in 20 calibers	
Ammunition	Semifixed, variable charge except for HEAT-T M67	
Primer	Percussion	
Weight, Complete Round	HE Ml Shell (HE), Charge 7	42.07 pounds (19.1 kg)
	HEAT-T M67 Shell (HEAT-T)	36.85 pounds (16.7 kg)
	HC BE M84 Shell, Smoke, Charge 7	41.94 pounds (19.0 kg)
	WP M60 Shell, Smoke, Charge 7	43.77 pounds (19.9 kg)
Weight, Projectile	HE Ml Shell (HE)	33.00 pounds (15.0 kg)
	HEAT-T M67 Shell (HEAT-T)	29.22 pounds (13.3 kg)
	HC BE M84 Shell, Smoke	32.97 pounds (15.0 kg)
	WP M60 Shell, Smoke	34.31 pounds (15.6 kg)
Maximum Powder Pressure	32,000 psi	
Maximum Rate of Fire	8 rounds/minute	
Muzzle Velocity	HE Ml Shell (HE), Charge 7	1550 ft/sec (472 m/sec)
	HEAT-T M67 Shell (HEAT-T)	1250 ft/sec (381 m/sec)
	HC BE M84 Shell, Smoke, Charge 7	1550 ft/sec (472 m/sec)
	WP M60 Shell, Smoke, Charge 7	1550 ft/sec (472 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$	HE Ml Shell (HE), Charge 7	550 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HEAT-T M67 Shell (HEAT-T)	317 ft-tons
	HE BE M84 Shell, Smoke, Charge 7	547 ft-tons
	WP M60 Shell, Smoke, Charge 7	571 ft-tons
Maximum Range (independent of mount)	HE Ml Shell (HE), Charge 7	12,205 yards (11,160 m)
	HEAT-T M67 Shell (HEAT-T)	8,590 yards (7,855 m)
	HC BE M84 Shell, Smoke, Charge 7	12,205 yards (11,160 m)
	WP M60 Shell, Smoke, Charge 7	12,150 yards (11,110 m)

Penetration Performance

HEAT-T M67: Homogeneous steel armor at 0 degrees obliquity — 4.0 inches at any range

Concrete at 0 degrees obliquity

Range	0 yards	500 yards	1000 yards	2000 yards
HE Ml Shell, Charge 7 w/Concrete Piercing Fuze M78A1	1.5 feet	1.4 feet	1.3 feet	1.1 feet

105mm HOWITZER M103 (XM103)

Carriage and Mount	105mm Self-Propelled Howitzer M108 (T195E1) in Mount M139 (XM139) and 105mm Light Self-Propelled Howitzer XM104	
Length of Chamber (to rifling)	15.0 inches	
Length of Rifling	108.7 inches	
Muzzle Counterbore	0.5 inches	
Length of Chamber (to projectile base)	11.4 inches (boat-tailed projectiles)	
Travel of Projectile in Bore	112.8 inches (boat-tailed projectiles)	
Length of Bore	124.2 inches, 30 calibers	
Depth of Breech Recess	7.4 inches	
Length, Muzzle to Rear Face of Breech	131.6 inches (31.8 calibers)	
Additional Length	None	
Overall Length	131.6 inches	
Diameter of Bore	4.134 inches	
Chamber Capacity	153.8 cubic inches	
Total Weight	986 pounds	
Type of Breechblock	Manually operated vertical sliding wedge	
Rifling	36 grooves, increasing twist from one turn in 35 calibers at the breech to one turn in 18 calibers at the muzzle	
Ammunition	Semifixed, variable charge except for HEAT-T M67, HEP-T M327, and APERS-T M546	
Primer	Percussion	
Weight, Complete Round	HE Ml Shell (HE), Charge 7	42.07 pounds (19.1 kg)
	HEAT-T M67 Shell (HEAT-T)	36.85 pounds (16.7 kg)
	HEP-T M327 Shell (HESH-T)	33.45 pounds (15.2 kg)
	HERA M548 Shell (HERA), Charge 7 w/RA	38.49 pounds (17.5 kg)
	APERS-T M546 (8000 fléchettes)	38.25 pounds (17.3 kg)
	HE M444 Projectile (18 M39 grenades), Charge 7	42.00 pounds (19.1 kg)
	WP M60 Shell, Smoke, Charge 7	43.77 pounds (19.9 kg)
	HC M84 Shell, Smoke, Charge 7	41.94 pounds (19.0 kg)
Weight, Projectile	HE Ml Shell (HE)	33.00 pounds (15.0 kg)
	HEAT-T M67 Shell (HEAT-T)	29.22 pounds (13.3 kg)
	HEP-T M327 Shell (HESH-T)	23.28 pounds (10.6 kg)
	HERA M548 Shell (HERA)	29.34 pounds (13.3 kg)
	APERS-T M546 (8000 fléchettes)	28.50 pounds (12.9 kg)
	HE M444 Projectile (18 M39 grenades)	33.00 pounds (15.0 kg)
	WP M60 Shell, Smoke	34.31 pounds (15.6 kg)
	HC M84 Shell, Smoke	32.97 pounds (15.0 kg)
Maximum Powder Pressure	45,600 psi	
Maximum Rate of Fire	10 rounds/minute	
Muzzle Velocity	HE Ml Shell (HE), Charge 7	1621 ft/sec (494 m/sec)
	HEAT-T M67 Shell (HEAT-T)	1320 ft/sec (402 m/sec)
	HEP-T M327 Shell (HESH-T)	1970 ft/sec (600 m/sec)
	HERA M548 Shell (HERA), Charge 7	1800 ft/sec (549 m/sec)
	APERS-T M546 (8000 fléchettes)	1800 ft/sec (549 m/sec)
	HE M444 Projectile (18 M39 grenades), Charge 7	1621 ft/sec (494 m/sec)
	WP M60 Shell, Smoke, Charge 7	1621 ft/sec (494 m/sec)
	HC M84 Shell, Smoke, Charge 7	1621 ft/sec (494 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$ Rotational energy is neglected and values are based on long tons (2240 pounds)	HE Ml Shell (HE), Charge 7	601 ft-tons
	HEAT-T M67 Shell (HEAT-T)	353 ft-tons
	HEP-T M327 Shell (HESH-T)	626 ft-tons
	HERA M548 Shell (HERA), Charge 7	659 ft-tons
	APERS-T M546 (8000 fléchettes)	640 ft-tons
	HE M444 Projectile (18 M39 grenades), Charge 7	601 ft-tons
	WP M60 Shell, Smoke, Charge 7	625 ft-tons
	HC M84 Shell, Smoke, Charge 7	601 ft-tons
Maximum Range (independent of mount)	HE Ml Shell (HE), Charge 7	12,577 yards (11,500 m)
	HEAT-T M67 Shell (HEAT-T)	8,590 yards (7,855 m)
	HEP-T M327 Shell (HESH-T)	9,500 yards (8,687 m)
	HERA M548 Shell (HERA), Charge 7 w/RA	16,404 yards (15,000 m)
	APERS-T M546 (8000 fléchettes)	13,560 yards (12,400 m)
	HE M444 Projectile (18 M39 grenades), Charge 7	12,577 yards (11,500 m)
	WP M60 Shell, Smoke, Charge 7	12,577 yards (11,500 m)
	HC M84 Shell, Smoke, Charge 7	12,577 yards (11,500 m)

152mm GUN-LAUNCHERS M81 MODIFIED AND M81E1

Carriage and Mount	AR/AAV M551 and M551A1	
Length of Chamber (to rifling)	10.5 inches	
Length of Rifling	94.55 inches	
Length of Chamber (to projectile base)	9 inches	
Travel of Projectile in Bore	96 inches	
Length of Tube and Chamber	105.1 inches, 17.52 calibers	
Overall Length	116 inches	
Diameter of Bore	6.000 inches	
Chamber Capacity	285 cubic inches	
Total Weight, M81 Modified	1125 pounds (w/bore evacuator)	
M81E1	1097 pounds (w/o bore evacuator)	
Type of Breechblock	Semiautomatic, separable chamber, electrically operated	
Rifling	48 grooves, uniform right-hand twist, one turn in 41.2 calibers	
Ammunition	Fixed with combustible case or Shillelagh missile	
Primer	Electric	
Weight, Complete Round	MGM-51C Missile (as fired)	61.5 pounds (28.0 kg)
	MTM-51C Missile (as fired)	61.5 pounds (28.0 kg)
	HEAT-T-MP M409 Shell (HEAT-T-MP)	49.8 pounds (22.6 kg)
	HE-T XM657E2 Shell (HE-T)	50.0 pounds (22.7 kg)
	Canister M625 (10,000 fléchettes)	48.0 pounds (21.8 kg)
	APERS XM617 (8,200 fléchettes)	48.0 pounds (21.8 kg)
	TP-T M411A1 Shell (TP-T)	49.8 pounds (22.6 kg)
Weight, Projectile	HEAT-T-MP M409 Shell (HEAT-T-MP)	42.8 pounds (19.5 kg)
	HE-T XM657E2 Shell (HE-T)	43.1 pounds (19.6 kg)
	Canister M625 (10,000 fléchettes)	41.8 pounds (19.0 kg)
	APERS XM617 (8,200 fléchettes)	41.8 pounds (19.0 kg)
	TP-T M411A1 Shell (TP-T)	42.8 pounds (19.5 kg)
Maximum Powder Pressure	38,400 psi	
Maximum Rate of Fire	4 rounds/minute	
Muzzle Velocity	HEAT-T-MP M409 Shell (HEAT-T-MP)	2240 ft/sec (683 m/sec)
	HE-T XM657E2 Shell (HE-T)	2240 ft/sec (683 m/sec)
	Canister M625 (10,000 fléchettes)	2240 ft/sec (683 m/sec)
	APERS XM617 (8,200 fléchettes)	2000 ft/sec (610 m/sec)
	TP-T M411A1 shell (TP-T)	2240 ft/sec (683 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$	HEAT-T-MP M409 Shell (HEAT-T-MP)	1489 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HE-T XM657E2 Shell (HE-T)	1499 ft-tons
	Canister M625 (10,000 fléchettes)	1454 ft-tons
	APERS XM617 (8,200 fléchettes)	1159 ft-tons
	TP-T M411A1 Shell (TP-T)	1489 ft-tons
Maximum Range (independent of mount)	HEAT-T-MP M409 Shell (HEAT-T-MP)	9850 yards (9007 m)
	HE-T XM657E2 Shell (HE-T)	9850 yards (9007 m)
	Canister M625 (10,000 fléchettes)	437 yards (400 m)
	APERS XM617 (8,200 fléchettes)*	3280 yards (3000 m)
	TP-T M411A1 Shell (TP-T)	9850 yards (9007 m)
Penetration Performance	Homogeneous steel armor at 60 degrees obliquity	
HEAT-T-MP M409	7 inches at any range	

*Fuze Settings: Muzzle action and 100 meter increments starting at 200 meters

The M409, M625, and M411A1 rounds were assembled with the M157 combustible case and the M189 charge. The XM657E2 and the XM617 rounds were assembled with the XM157 combustible case and used the XM190 and M26 charges respectively.

155mm HOWITZER M45 (T186E1)

Carriage and Mount	155mm Self-Propelled Howitzers M44 (T194) and M44A1 in Mount M80 (T167)	
Length of Chamber (to rifling)	28.7 inches	
Length of Rifling	113.1 inches	
Length of Chamber (to projectile base)	21.1 inches	
Travel of Projectile in Bore	120.7 inches	
Length of Bore	141.8 inches	
Length, Breechblock and Firing Lock	14.8 inches	
Length, Muzzle to Rear of Firing Lock	156.6 inches	
Additional Length, Muzzle Brake, Etc.	None	
Overall Length	156.6 inches	
Diameter of Bore	6.102 inches (155mm)	
Chamber Capacity	795 cubic inches	
Weight, Tube	2140 pounds	
Total Weight	2970 pounds	
Type of Breechblock	Stepped thread, interrupted screw, horizontal swing	
Rifling	48 grooves, uniform right-hand twist, one turn in 25 calibers	
Ammunition	Separate loading	
Primer	Percussion and electric	
Weight, Complete Round	HE M107 Shell (HE), Charge M4A1	108.91 pounds (49.40 kg)
	HC BE M116 Shell, Smoke, Charge M4A1	109.01 pounds (49.45 kg)
	H M110 Shell, Chemical, Charge M4A1	109.11 pounds (49.49 kg)
Weight, Projectile	HE M107 Shell (HE)	95.00 pounds (43.09 kg)
	HC BE M116 Shell, Smoke	95.10 pounds (43.14 kg)
	H M110 Shell, Chemical	95.20 pounds (43.18 kg)
Maximum Powder Pressure	32,000 psi	
Maximum Rate of Fire	4 rounds/minute	
Muzzle Velocity	HE M107 Shell (HE), Charge M4A1	1850 ft/sec (564 m/sec)
	HC BE M116 Shell, Smoke, Charge M4A1	1850 ft/sec (564 m/sec)
	H M110 Shell, Chemical, Charge M4A1	1850 ft/sec (564 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$ Rotational energy is neglected and values are based on long tons (2240 pounds)	HE M107 Shell (HE), Charge M4A1	2254 ft-tons
	HC BE M116 Shell, Smoke, Charge M4A1	2256 ft-tons
	H M110 Shell, Chemical, Charge M4A1	2259 ft-tons
Maximum Range (independent of mount)	HE M107 Shell (HE), Charge M4A1	16,355 yards (14,955 m)
	HC BE M116 Shell, Smoke, Charge M4A1	16,355 yards (14,955 m)
	H M110 Shell, Chemical, Charge M4A1	16,374 yards (14,972 m)

Penetration Performance — Concrete at 0 degrees obliquity

Range	0 yards	1000 yards	3000 yards	5000 yards
HE M107 Shell (HE) w/Concrete Piercing Fuze M78A1	2.9 feet	2.6 feet	2.0 feet	1.6 feet

155mm HOWITZERS M126 AND M126A1

Carriage and Mount	155mm Self-Propelled Howitzer M109 in Mount M127	
Length of Chamber (to rifling)	29.70 inches	
Length of Rifling	113.10 inches	
Length of Chamber (to base of M107 shell)	24.35 inches	
Travel of Projectile in Bore (M107 shell)	118.45 inches	
Length of Bore	142.80 inches, 23.4 calibers	
Length, Breechblock and Firing Mechanism	10.37 inches	
Length, Muzzle Brake	23.70 inches	
Overall Length	176.87 inches	
Diameter of Bore	6.100 +.002 inches	
Chamber Capacity	795 cubic inches (M107 shell)	
Weight of Tube	2006 pounds (M126), 2069 pounds (M126A1)	
Total Weight	3137 pounds (M126), 3200 pounds (M126A1)	
Type of Breechblock	Semiautomatic, Welin-step thread	
Rifling	48 grooves, uniform right-hand twist, one turn in 20 calibers	
Ammunition	Separate loading	
Primer	Percussion, M82	
Weight, Complete Round	HE M107 Shell (HE), Charge M4A2/7	109 pounds (49.4 kg)
	HE M483A1 Projectile (88 grenades), Charge M4A2/7	116 pounds (52.6 kg)
	HERA M549A1 Shell (HERA), Charge M4A2/7	114 pounds (51.7 kg)
	WP M110A1 Shell, Smoke, Charge M4A2/7	112 pounds (50.8 kg)
	ILLUM M485A2 Shell (ILLUM), Charge M4A2/7	107 pounds (48.5 kg)
Weight, Projectile	HE M107 Shell (HE)	95.0 pounds (43.1 kg)
	HE M483A1 Projectile (88 grenades)	102.6 pounds (46.5 kg)
	HERA M549A1 Shell (HERA)	96.0 pounds (43.5 kg)
	WP M110A1 Shell, Smoke	98.5 pounds (44.7 kg)
	ILLUM M485A2 Shell (ILLUM)	93.7 pounds (42.5 kg)
Maximum Powder Pressure	42,700 psi	
Maximum Rate of Fire	4 rounds/minute	
Muzzle Velocity	HE M107 Shell (HE), Charge M4A2/7	1844 ft/sec (562 m/sec)
	HE M483A1 Projectile (88 grenades), Charge M4A2/7	1761 ft/sec (537 m/sec)
	HERA M549A1 Shell (HERA), Charge M4A2/7	1840 ft/sec (561 m/sec)
	WP M110A1 Shell, Smoke, Charge M4A2/7	1844 ft/sec (562 m/sec)
	ILLUM M485A2 Shell (ILLUM), Charge M4A2/7	1891 ft/sec (576 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$	HE M107 Shell (HE), Charge M4A2/7	2239 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HE M483A1 Projectile (88 grenades), Charge M4A2/7	2206 ft-tons
	HERA M549A1 Shell (HERA), Charge M4A2/7	2253 ft-tons
	WP M110A1 Shell, Smoke, Charge M4A2/7	2322 ft-tons
	ILLUM M485A2 Shell (ILLUM), Charge M4A2/7	2323 ft-tons
Maximum Range (independent of mount)	HE M107 Shell (HE), Charge M4A2/7	15,967 yards (14,600m)
	HE M483A1 Projectile (88 grenades), Charge M4A2/7	15,420 yards (14,100m)
	HERA M549A1 Shell (HERA), Charge M4A2/7	21,107 yards (19,300m)
	WP M110A1 Shell, Smoke, Charge M4A2/7	15,967 yards (14,600m)
	ILLUM M485A2 Shell (ILLUM), Charge M4A2/7	14,858 yards (13,586m)

The M126 and M126A1 howitzers were identical except for the tube. On the M126A1 the recoil keyway was modified and the cross section was increased in the bore evacuator area to improve the fatigue life.

155mm HOWITZERS M185 AND M284

Carriage and Mount	155mm Self-Propelled Howitzer M109A1 (M185 Howitzer in Mount M127); SP Howitzers M109A2, M109A3, and M109A4 (M185 Howitzer in Mount M178); SP Howitzers M109A5 and M109A6 (M284 Howitzer in Mount M182)	
Length of Chamber (to rifling)	39.33 inches (M185), 41.60 inches (M284)	
Length of Rifling	198.0 inches	
Length of Chamber (to base of M107 Shell)	34.4 inches (M185), 36.3 inches (M284)	
Travel of Projectile in Bore (M107 Shell)	203.65 inches (M185, 203.40 inches (M284)	
Length of Bore	238.05 inches (M185), 39.0 calibers; 240.00 inches (M284), 39.3 calibers	
Length, Breechblock and Firing Mechanism	10.3 inches	
Length, Muzzle Brake	23.7 inches	
Overall Length	272.12 inches (M185), 274.0 inches (M284)	
Diameter of Bore	6.100 +.002 inches	
Chamber Capacity	1167 cubic inches (M107 Shell)	
Weight, Tube	3166 pounds (M185)	
Total Weight	4320 pounds (M185)	
Type of Breechblock	Semiautomatic, Welin-step thread	
Rifling	48 grooves, uniform right-hand twist, one turn in 20 calibers	
Ammunition*	Separate loading	
Primer	Percussion, M82	
Weight, Complete Round	HE M107 Shell (HE), Charge M119A1/8	116 pounds (52.6 kg)
	HE M483A1 Projectile (88 grenades), Charge M119A1/8	123 pounds (55.8 kg)
	HERA M549A1 Shell (HERA) Charge M203Al/8s (M284)	117 pounds (53.1 kg)
	CLGP M712 Copperhead (CLGP, HEAT), Charge M119A1/8	160 pounds (72.6 kg)
	WP M110A2 Shell, Smoke, Charge M119A1/8	120 pounds (54.4 kg)
Weight, Projectile	HE M107 Shell (HE)	95.0 pounds (43.1 kg)
	HE M483A1 Projectile (88 grenades)	102.6 pounds (46.5 kg)
	HERA M549A1 Shell (HERA)	96.0 pounds (43.5 kg)
	CLGP M712 Copperhead (CLGP, HEAT)	138.4 pounds (62.8 kg)
	WP M110A2 Shell Smoke	98.5 pounds (44.7 kg)
Maximum Powder Pressure	39,400 psi (M185)	
Maximum Rate of Fire	4 rounds/minute	
Muzzle Velocity	HE M107 Shell (HE), Charge M119A1/8	2245 ft/sec (684 m/sec)
	HE M483A1 Projectile (88 grenades), Charge M119A1/8	2155 ft/sec (657 m/sec)
	HERA M549A1 Shell (HERA), Charge M203Al/8s (M284)	2710 ft/sec (826 m/sec)
	CLGP M712 Copperhead (CLGP, HEAT), Charge M119A1/8	1950 ft/sec (594 m/sec)
	WP M110A2 Shell, Smoke, Charge M119A1/8	2245 ft/sec (684 m/sec)
Muzzle Energy, $KE=1/2MV^2$	HE M107 Shell (HE), Charge M119A1/8	3319 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HE M483A1 Projectile (88 grenades), Charge M119A1/8	3303 ft-tons
	HERA M549A1 Shell (HERA), Charge M203Al/8s (M284)	4887 ft-tons
	CLGP M712 Copperhead (CLGP, HEAT), Charge M119A1/8	3648 ft-tons
	WP M110A1 Shell, Smoke, Charge M119A1/8	3441 ft-tons
Maximum Range (independent of mount)	HE M107 Shell (HE), Charge M119A1/8	19,794 yards (18,100m)
	HE M483A1 Projectile (88 grenades), Charge M119A1/8	19,138 yards (17,500m)
	HERA M549A1 Shell (HERA), Charge M203Al/8s (M284)	32,918 yards (30,100m)
	CLGP M712 Copperhead (CLGP, HEAT), Charge M119A1/8	15,310 yards (14,000m)
	WP M110A1 Shell, Smoke, Charge M119A1/8	19,794 yards (18,100m)

*Nuclear capability is provided by the M454NUC round with a maximum range of 14,800 meters.

175mm GUN M113 (T256E3)

Carriage and Mount	175mm Self-Propelled Gun M107 (T235E1) in Mount M158	
Length of Chamber (to rifling)	64.2 inches	
Length of Rifling	349.2 inches	
Length of Chamber (to projectile base)	52.3 inches	
Travel of Projectile in Bore	361.1 inches	
Length of Bore	413.4 inches, 60 calibers	
Length, Breechblock and Firing Mechanism	14.6 inches	
Length, Muzzle to Rear of Firing Mechanism	428 inches	
Additional Length, Muzzle Brake	None	
Overall Length	428 inches	
Diameter of Bore	6.890 inches	
Chamber Capacity	2898 cubic inches	
Weight of Tube	12,050 pounds	
Total Weight	13,800 pounds	
Type of Breechblock	Manually operated, Welin-step thread	
Rifling	48 grooves, uniform right-hand twist, one turn in 20 calibers	
Ammunition	Separate loading	
Primer	Percussion	
Weight, Complete Round	HE M437A2 Shell (HE), Charge M86A1/3	202.3 pounds (91.8 kg)
Weight, Projectile	HE M437A2 Shell (HE)	147.3 pounds (66.8 kg)
Maximum Powder Pressure	50,000 psi	
Maximum Rate of Fire	1.5 rounds/minute	
Muzzle Velocity	HE M437A2 Shell (HE), Charge M86A1/3	3000 ft/sec (914 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$ Rotational energy is neglected and values are based on long tons (2240 pounds)	HE M437A2 Shell (HE), Charge M86A1/3	9190 ft-tons
Maximum Range (independent of mount)	HE M437A2 Shell (HE), Charge M86A1/3	35,760 yards (32,700 m)

106mm RIFLE M40A1C (RECOILLESS)

Carriage and Mount	106mm Multiple Self-Propelled Rifle M50 and M50A1	
Length of Rifling	105.9 inches	
Length of Tube	112.0 inches	
Overall Length	134.0 inches	
Diameter of Bore	4.134 inches	
Weight without Spotting Rifle M8C	251 pounds	
Weight with Spotting Rifle M8C	288 pounds	
Type of Breechblock	Interrupted thread	
Rifling	36 grooves, uniform right-hand twist, one turn in 20 calibers	
Ammunition	Fixed	
Primer	Percussion	
Weight, Complete Round	HEAT M344A1 Shell (HEAT)	37.23 pounds (16.88 kg)
	HEP-T M346A1 Shell (HESH-T)	37.37 pounds (16.95 kg)
	APERS-T M581 (9500 fléchettes)	41.29 pounds (18.73 kg)
Weight, Projectile	HEAT M344A1 Shell (HEAT)	17.55 pounds (7.96 kg)
	HEP-T M346A1 Shell (HESH-T)	17.22 pounds (7.81 kg)
	APERS-T M581 (9500 fléchettes)	21.61 pounds (9.80 kg)
Muzzle Velocity	HEAT M344A1 Shell (HEAT)	1650 ft/sec (503 m/sec)
	HEP-T M346A1 Shell (HESH-T)	1635 ft/sec (498 m/sec)
	APERS-T M581 (9500 fléchettes)	1440 ft/sec (439 m/sec)
Muzzle Energy of Projectile, $KE=1/2MV^2$ Rotational energy is neglected and values are based on long tons (2240 pounds)	HEAT M344A1 Shell (HEAT)	331 ft-tons
	HEP-T M346A1 Shell (HESH-T)	319 ft-tons
	APERS-T M581 (9500 fléchettes)	311 ft-tons
Maximum Range	HEAT M344A1 Shell (HEAT) @ 118 mils	3000 yards (2740 m)
	HEP-T M346A1 Shell (HESH-T)	7515 yards (6870 m)
	APERS-T M581 (9500 fléchettes)	3600 yards (3300 m)

8 inch HOWITZER M2A2

Carriage and Mount	8 inch Self-Propelled Howitzer M110 in Mount M158	
Length of Chamber (to rifling)	37.7 inches	
Length of Rifling	164.8 inches	
Length of Chamber (to base of M106 shell)	28.2 inches	
Travel of Projectile in Bore	174.3 inches	
Length of Bore	202.5 inches, 25.3 calibers	
Length, Breechblock and Firing Mechanism	12.4 inches	
Additional Length, Muzzle Brake	214.9 inches	
Overall Length	None	
Diameter of Bore	214.9 inches	
Chamber Capacity	8.000 inches	
Weight of Tube	1545 cubic inches	
Total Weight	8490 pounds	
Type of Breechblock	10,240 pounds	
	Manually operated, stepped thread, interrupted screw	
Rifling	64 grooves, uniform right-hand twist, one turn in 20 calibers	
Ammunition	Separate loading	
Primer	Percussion	
Weight, Complete Round	HE M106 Shell (HE), Charge M2/7	228.8 pounds (103.8 kg)
	HE M404 Projectile (104 grenades), Charge M2/7	228.8 pounds (103.8 kg)
	VX M426 Shell (Gas), Charge M2/7	227.8 pounds (103.3 kg)
	OB M426 Shell (Gas), Charge M2/7	227.8 pounds (103.3 kg)
Weight, Projectile	HE M106 Shell (HE)	200.0 pounds (90.7 kg)
	HE M404 Projectile (104 grenades)	200.0 pounds (90.7 kg)
	VX M426 Shell (Gas)	199.0 pounds (90.3 kg)
	GB M426 Shell (Gas)	199.0 pounds (90.3 kg)
Maximum Powder Pressure	39,600 psi	
Maximum Rate of Fire	1.5 rounds/minute	
Muzzle Velocity	HE M106 Shell (HE), Charge M2/7	1950 ft/sec (594 m/sec)
	HE M404 Projectile (104 grenades), Charge M2/7	1903 ft/sec (580 m/sec)
	VX M426 Shell (Gas), Charge M2/7	1950 ft/sec (594 m/sec)
	GB M426 Shell (Gas), Charge M2/7	1950 ft/sec (594 m/sec)
Muzzle Energy, $KE=1/2MV^2$	HE M106 Shell (HE), Charge M2/7	5272 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HE M404 Projectile (104 grenades), Charge M2/7	5021 ft-tons
	VX M426 Shell (Gas), Charge M2/7	5246 ft-tons
	GB M426 Shell (Gas), Charge M2/7	5246 ft-tons
Maximum Range (independent of mount)	HE M106 Shell (HE), Charge M2/7	18,373 yards (16,800 m)
	HE M404 Projectile (104 grenades), Charge M2/7	18,359 yards (16,788 m)
	VX M426 Shell (Gas), Charge M2/7	18,373 yards (16,788 m)
	GB M426 Shell (Gas), Charge M2/7	18,373 yards (16,788 m)

8 inch HOWITZER M201A1

Carriage and Mount	8 inch Self-Propelled Howitzer M110A2 in Mount M158	
Length of Chamber (to rifling)	42.56 inches	
Length of Rifling	273.3 inches	
Length of Chamber (to base of M106 shell)	36.16 inches	
Travel of Projectile in Bore	279.70 inches	
Length of Bore	315.86 inches, 39.5 calibers	
Length, Breechblock and Firing Mechanism	12.4 inches	
Length, Muzzle to Rear of Firing Mechanism	328.3 inches	
Additional Length, Muzzle Brake	15.4 inches	
Overall Length	343.7 inches	
Diameter of Bore	8.000 inches	
Chamber Capacity	1950 cubic inches	
Weight of Tube	12,450 pounds	
Total Weight	14,650 pounds	
Type of Breechblock	Manually operated, stepped thread, interrupted screw	
Rifling	64 grooves, uniform right-hand twist, one turn in 20 calibers	
Ammunition*	Separate loading	
Primer	Percussion, M82	
Weight, Complete Round	HE M106 Shell (HE), Charge M188A1/9	250 pounds (113.4 kg)
	HE M509A1 Projectile (180 grenades), Charge M188A1/9	258 pounds (117.0 kg)
	HERA M650 Shell (HERA), Charge M188A1/9	250 pounds (113.4 kg)
Weight, Projectile	HE M106 Shell (HE)	200.0 pounds (90.7 kg)
	HE M509A1 Projectile (180 grenades)	207.7 pounds (94.2 kg)
	HERA M650 Shell (HERA)	200 pounds (90.7 kg)
Maximum Powder Pressure	39,600 psi	
Maximum Rate of Fire	1.5 rounds/minute	
Muzzle Velocity	HE M106 Shell (HE), Charge M188A1/9	2530 ft/sec (771 m/sec)
	HE M509A1 Projectile (180 grenades), Charge M188A1/9	2510 ft/sec (765 m/sec)
	HERA M650 Shell (HERA), Charge M188A1/9	2520 ft/sec (768 m/sec)
Muzzle Energy, $KE=1/2MV^2$	HE M106 Shell (HE), Charge M188A1/9	8874 ft-tons
Rotational energy is neglected and values are based on long tons (2240 pounds)	HE M509A1 Projectile (180 grenades), Charge M188A1/9	9071 ft-tons
	HERA M650 Shell (HERA), Charge M188A1/9 8804 ft-tons	
Maximum Range (independent of mount)	HE M106 Shell (HE), Charge M188A1/9	26,200 yards (24,000 m)
	HE M509A1 Projectile (180 grenades), Charge M188A1/9	26,250 yards (24,000 m)
	HERA M650 Shell (HERA), Charge M188A1/9	32,800 yards (30,000 m)

* Nuclear capability is provided by the M422A1NUC and the M753NUC rounds with maximum ranges of 18,100 meters and 30,000 meters respectively.