

The Abrams Main Battle Tank (MBT) is a fully tracked, low-profile, land combat assault weapon system possessing armor protection, shoot-on-the-move capability, and a high degree of maneuverability and tactical agility. The four-man crew has the ability to engage the full spectrum of enemy ground targets with a variety of accurate point and area fire weapons.

The mission of an armor force on the battlefield is to close with and destroy the enemy using firepower, maneuver, and shock effect. The (MBT) with its protected, highly lethal shoot-on-the move firepower, survivability, and high degree of tactical mobility is the principal element of the armored force.

THE TANK IS A FULLY TRACKED, ARMORED, LAND COMBAT VEHICLE OPERATED BY A FOUR-MAN CREW CONSISTING OF:

- Commander
- Loader
- Gunner
- Driver

## ABRAMS M1A1

The M1A1 is powered by a 1500-horsepower turbine engine, automatic transmission, and two final drives. Transmission output is through identical left and right final drives to the track drive hub and sprocket assemblies. The governed engine speed allows a vehicle top speed of 41.5 mph on level hard surface roads. The suspension system has seven road arms and torsion bars per side. Suspension is selectively damped to provide tank mobility over cross-country terrain at speeds up to 30 miles per hour.

### The Weapons

The 120mm M256 gun is mounted on a traversable turret and is used against fortifications, moving or stationary armored vehicles, and enemy troops. The secondary weapons consist of two 7.62mm M240 machineguns and a 50 caliber M2 machinegun.

One 7.62mm M240 machinegun is coaxially mounted on the right side of the main gun mount and is for soft targets. The other 7.62mm M240 machinegun is skate mounted at the loader's station and is used against troops and aircraft.

The .50 caliber M2 machinegun mounted at the Commander's Weapon Station (CWS) is used against soft targets, lightly armored vehicles, and aircraft.

### Power

Gas Turbine engine 1500 hp  
Power to Weight Ratio 21.6 hp/ton  
Hydro Kinetic Transmission 4 Speed Full/2 Speed Rev.

### Armament

Main gun 120mm, M256  
Coax machinegun 7.62mm, M240  
Commander's machinegun .50 caliber, M2  
Commander's alternate machinegun 7.62mm, M240  
Loader's machinegun 7.62mm, M240  
Rifle 5.56mm, M16  
Smoke grenade launcher M29

### Performance

Maximum forward speed (hard level surface) 41.5 mph  
Cross-country speed up to 30 mph  
Acceleration 7.4 sec (0 to 20 mph)  
Sustained speed 60 % slope 4.1 mph  
Cruising Range 260 miles  
Vertical Obstacle 49 in.  
Trench Crossing 108 in

### Physical Characteristics

Weight, Combat Loaded (less lbs) 67.6 tons  
Ground clearance 19 inches  
Ground pressure 15.4 psi  
Height (ground to turret roof) 93.5 inches  
Length (overall main weapon forward) 387 inches  
Width (overall) 144 inches

Crew and tank survivability are enhanced by:

- Compartment storage of fuel and ammunition (reduces the likelihood of fires and explosions)
- Minimizing visual and noise signatures (reduces the probability of being detected, and being hit by mortars and missiles)
- Nuclear-hardened electronic components



## ABRAMS WEAPON STATIONS

### M1A1

#### Stabilized Commander's Weapon Station (SCWS) Modification

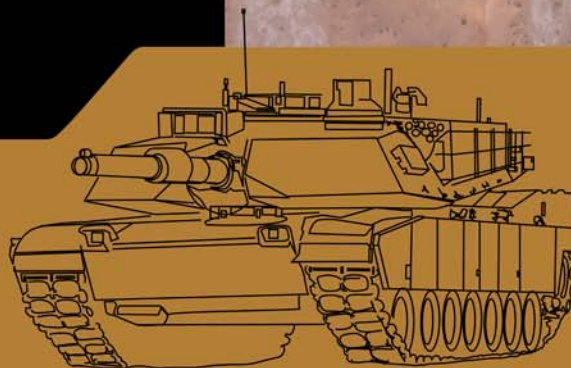
- Supported Weapons: M2 (.50 Cal) 100rds, and M240 (7.62mm) 200rds
- Traverse of Weapon station: 360 degrees
- Elevation: -10 degrees to +65 degrees
- Traverse Speed (high): 1100 Mils/Sec +
- Elevation Speed (high): 1100 Mils/Sec +
- Thermal & Day Camera
- Manual Mode with manual trigger
- Emergency Powered Mode Backup
- Weapon Station Inhibit Zones (includes combat override)
- STORM Laser Range Finder compatible



### M1A2

#### Common Remotely Operated Weapon Station (CROWS)

- Supported Weapons: M2 (.50 Cal) 400rds, and M240 (7.62mm) 1000rds
- Traverse of Weapon Station: 360 Degrees
- Elevation: -20 to +60 degrees
- Traverse Speed (high): 1700 Mils/Sec +
- Elevation Speed (high): 1700 Mils/Sec +
- Thermal & Day Camera
- Auto Focus (Day and Thermal)
- Manual Mode with manual trigger
- Weapon Station Inhibit Zones (includes combat override)
- STORM Laser Range Finder



## ABRAMS M1A2 SEPv2

### System Enhancement Package

- Monolithic & Composite Armor
- Compartmented Fuel & Ammunition
- Advanced Ammunition Capability
- Automatic Fire Detection/Suppression
- Second Generation Thermal Imaging System
- Second Generation Commander's Independent Thermal Viewer (CITV)
- Dual Axis Stabilized Sight
- Eye Safe Laser Range Finder
- Day/Night Fire on the Move Capability
- Driver's Night Viewer
- Advanced Suspension - Torsion Bars/Rotary Shock Absorbers
- Gas Turbine Engine - Multi-Fuel/High Power to Weight Ratio
- Digital Engine Controls
- Automatic Shift/Steering Transmission
- On-board Malfunction Detection System
- Nuclear, Biological and Chemical Protection System (NBC)
- Position/Navigation System
- Global Positioning System
- Color Tactical Displays
- Solid State Mass Memory Unit
- Digital Terrain Map
- Digital Command, Control and Communications Capability
- Open System Hardware and Software Architecture, US Army Standard Compatible
- Enhanced SINGARS Radios with Inter NET Control
- Enhanced Position/Location Reporting System (EPLRS) Radio Capable
- Multiple Language Capable
- Blue Force Tracker (BFT)
- Thermal Management System

The Abrams M1A2 SEPv2 embeds digitization capabilities inside the Abrams' electronic architecture, eliminating the requirement for electronic appliques. Its sights use the latest thermal imaging system, 2nd Gen FLIR, for increased lethality and survivability. Commanders Independent Thermal Viewer (CITV) provides Hunter / Killer capabilities. It has improved electronics, taking advantage of the advances in the computer / electronics industry since the introduction of the M1A2. Additional 6 batteries give the tanker an extended silent watch capability. A Thermal Management System increases electronic reliability and decreases crew fatigue.

### Performance

Maximum 42 mph (Governed)  
Cross Country 30 mph  
Acceleration 7 seconds (0 to 20 mph)  
Cruising Range 202 miles  
Vertical Obstacle 42 inches  
Trench Crossing 9 Feet  
NBC System 154 SCFM-Clean Cooled Air  
Auxiliary Power 6-Pack Battery Mod

### Power

Gas Turbine engine 1500 hp  
Power to Weight Ratio 21.6 hp/ton  
Hydro Kinetic Transmission 4 Speed Full/2 Speed Rev.

### Armament

Main Armament 120mm M256 Smooth Bore Cannon  
Coaxial Weapon 7.62 M240 Machinegun  
Loader's Weapon 7.62 M240 Machinegun on Skate Mount  
Commander's Weapon .50 Cal M2 Machinegun

### Properties

Weight 69.54 tons  
Length (gun forward) 387 inches  
Ground to Turret Roof Height 93.5 inches  
Width 144 inches  
Ground Clearance 19 inches  
Ground Pressure 15.4 psi  
Crew 4 crew