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Abrams M1A2

The American M1A2 Abrams main battle tank is rated by experts as among the best in the world.

Along with Germany's Leopard 2A5 and the French Leclerc, it marks the highest current standard in MBT technology, with good firepower, excellent armour protection, and high mobility, and thousands have been produced. They were:

M1 – 3,273 for the US Army.

M1A1 – 4,796 for the US Army and 221 for the Marines. 555 were co-produced for Egypt, which ordered another 200. The Australian Army has ordered 59.

M1A2 – 77 for the US Army, 315 for Saudi Arabia and 218 for Kuwait.

Main armament of the Abrams is the German 120mm smoothbore gun, developed by Rheinmetall. It fires training rounds, HEAT and APFSDS-T with a depleted uranium penetrator. The M1A1 also has depleted uranium incorporated in its armour. Some M1A2s have been upgraded with it.

An M1A2 system enhancement package includes a new Raytheon Commander's Independent Thermal Viewer with second generation thermal imager, which gives day and night vision round 360 degrees; a commander's digital colour map display; thermal imaging gunner's sight with increased range, and a driver's display and thermal management system.

The fire control computer automatically gives ballistic information based on several measurements, including wind, temperature, and air pressure

A new engine is to be developed for the M1A2 which will be lighter and smaller yet give greater acceleration, run more quietly, and give no visible exhaust.

Both the M1A1 and M1A2 can be fitted with a dozer blade and mine clearing equipment.

Variants are the M1 AVLB (Armoured Vehicle Launched Bridge), a recovery vehicle, and an M1A1 with a Multi-sensor Target Acquisition System.

PRODUCTION

1971
XM803, a follow-on project from the troubled MBT 70, cancelled

1973
Chrysler (now General Dynamics Land Systems) and Detroit Diesel Allison Division awarded development contracts

1976
Two prototypes delivered. Chrysler version accepted

1980
Production begins at Lima Army Tank Plant in Ohio and (two years later) Detroit Arsenal Tank Plant in Michigan

1984
Production of IMP (Improved) M1

1985
M1A1 produced

1992
M1A2 produced

1993
Last M1A1 for US Army produced

1995
Development of M1A2 SEP (System Enhancement Package)

1996
Last of the new M1A2 models produced

1998
Start of M1A2 SEP upgrade

SPECIFICATIONS

Designation: M1A2 Abrams MBT
Length: 9.83m
Hull length: 7.92m
Height: 2.375m (to turret roof)
Width: 3.657m
Ground clearance: 0.483**m**
Ground pressure: 0.96kg/cm²
Power-to-weight ratio: 23.77hp/tonne
Combat weight: 57.15mt
Crew: 4
Engine: AGT 1500 gas turbine
Gearbox: Auto torque converter epicyclical with 4 forward and two reverse gears
Range: 426km
Speed: 67.6km/h max road
Fording depth: 1.219m, 1.98 with preparation
Vertical obstacle: 1.067m
Gradient: 60 per cent
Armament:
Stabilised 120mm M256 smoothbore with integrated day/night (thermal) sight and ND–YAG laser rangefinder; digital fire control computer; integrated commander's sight; second generation FLIR (forward-looking infra-red); Kollmorgen auxilliary gunner's sight
Ammunition:
40 mixed APFSDS with depleted uranium penetrator, and HEAT.
Auxiliary weapons:
7.62mm co-axial mg
12.7mm air defence mg (manned by commander)
7.62mm air defence mg (manned by loader)
2 x 6 smoke grenade dischargers. The Abrams can also create smoke via the engine.
It carries 1,000 runds of 12.7mm and 12,400 rounds of 7.62mm
Protection:
The Abrams M1A2 has laminate/steel armour which gives excellent protection. Details are classified. It also has nuclear, biological and chemical protection.

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