

Arjun Main Battle Tank (MK-1A)

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In News: Prime Minister Narendra Modi handed over the indigenously developed Arjun Main Battle Tank (MK-1A) to the Indian Army at a ceremony in Chennai last week.

About Arjun Main Battle Tank

- The Arjun Main Battle Tank project was initiated by DRDO in 1972 with the Combat Vehicles Research and Development Establishment (CVRDE) as its lead laboratory.
- The objective was to create a “state-of-the-art tank with superior fire power, high mobility, and excellent protection”.
- During the development, the CVRDE achieved breakthroughs in the engine, transmission, hydropneumatic suspension, hull and turret as well as the gun control system.
- Mass production began in 1996 at the Indian Ordnance Factory’s production facility in Avadi, Tamil Nadu.

Features of the Arjun tank

- The Arjun tanks stand out for their ‘Fin Stabilised Armour Piercing Discarding Sabot (FSAPDS)’ ammunition and 120-mm calibre rifled gun.
- It also has a computer-controlled integrated fire control system with stabilised sighting that works in all lighting conditions.
- The secondary weapons include a coaxial 7.62-mm machine gun for anti-personnel and a 12.7-mm machine gun for anti-aircraft and ground targets.

How many Arjun tanks have been inducted so far?

- The Indian Army received the first batch of 16 tanks in 2004 and they were inducted as a squadron of the 43 Armoured Regiment.
- In 2009, the first Arjun regiment of the Indian Army had 45 tanks.
- By 2011, over 100 tanks had been delivered. In 2010, the Indian army ordered another 124 Arjuns.
- The Ministry of Defence ordered another 118 units of the Arjun Mk-1A.

How is the Mk-1A different?

- The Mk-1A version has 14 major upgrades on the earlier version.
- It is also supposed to have missile firing capability as per the design, but this feature will be added later as final testing of the capability is still on.
- However, the biggest achievement with the latest version is 54.3 per cent indigenous content against the 41 per cent in the earlier model.
- The army will get 118 units of the Main Battle Tank, indigenously designed, developed and manufactured by CVRDE and DRDO along with 15 academic institutions, eight labs and several MSMEs.



ON THE ROAD TO TOTAL INDIGENISATION

1. Currently, the engine and automatic transmission, together called a power pack, is imported

2. 20 per cent of Arjun MK-1A components are imported. It was 60 per cent for Mk-1

3. Gradually under Make or buy initiatives, efforts are on to indigenise a majority of imported systems

4. Several public & private industries are being roped in to produce indigenous systems of Arjun Mk-1A

5. Commander's Panoramic Sight, Advanced Gunner's Main Sight, All Electric Run Control System, Track System, Compact Diesel Engine and Automatic Transmission are all under development in CVRDE and other DRDO establishments.

6. Officials said it may take another 3-4 years to indigenise these technologies and put them to use

ARJUN MK-1A SPECIFICATIONS

 <p>Max. speed on road</p> <p>58 kmph</p>	 <p>Max. speed on cross country</p> <p>40 kmph</p>	 <p>Combat weight</p> <p>68 tonnes</p> <p>fully loaded</p>	<p>Gun</p> <p>120 mm rifled</p>	<p>Rate of fire</p> <p>6-8 rounds per minute</p>
<p>■ Ammunition: 38 rounds (12APFV/420W/18VCE)</p>	<p>■ Anti aircraft machine gun: 12.7 mm</p>	<p>■ Fire control system: Day & night stabilised sight</p>	<p>■ Night vision Thermal imager and driver's night sight</p>	<p>■ Crew: 4 (Commander, gunner, loader and driver)</p>

■ A key feature of most of the upgrades carried out in Arjun Mk-1A is they are compatible, which means that when Arjun Mk-1A enters service for overhauling the new version of Mk-1A can be retrofitted depending on the army's need. — CVRDE Director's Blogspot