



Tue, 03 April, 2018

Can MBT Arjun be called 'truly' indigenous?

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Indian Army heavily relies on Russian made T-90 tanks despite the availability of 'Made in India' MBT Arjun. The reason why the Indian Army relies heavily on T-90s is that of considerable delays and other problems in Arjun's development from the 1990s to the 2000s.

The fact that the sanction to develop MBT Arjun was cleared in 1974 and several prototypes developed since were rejected by the Army makes it amply clear that Arjun will not be replacing T-90's anytime soon. The Indian Army placed initial orders for 124 tanks in March 2000. The first batch of five tanks was delivered in August 2004 and a total of 45 had been delivered by May 2009. The army received all 124 tanks by 2011.

In March and April 2010, comparative trials on the maneuverability of the Arjun MBT and the Russian T-90 tank in Rajasthan deserts resulted in a better performance from the Arjun tank. This is what prompted the Indian Army to order 124 advanced tanks in May 2010, this time Mk-II.

All this is fine and even efforts of the DRDO to constantly improve Arjun ought to be appreciated. The question here is that can Arjun be truly called indigenously made? A TOI report published in 2014 said that 55% of the tank is still made of imported parts. By 2015 it was having quality problems with the fleet. The Army faced major technical issues with its 'indigenous' Arjun tanks, as a significant proportion of its fleet became inoperable and was non-serviceable due to continued maintenance problems associated with foreign components.

Arjun's foreign parts:

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The tank incorporates GPS-based navigation systems and sophisticated frequency hopping radios. The state-of-the-art Battlefield Management System, co-developed by DRDO and Ebit Israel, allows it to network with other fighting units.

The engine and transmission are provided by German companies MTU and Renk respectively. The water-cooled engine generates 1,400 hp and is integrated with an Indian turbocharger and epicyclical train gearbox with four forward and 2 reverse gears.

A local transmission is under trials and it is envisioned to ultimately replace the Renk-supplied unit. The tracks which were being supplied by German company Diehl are now being manufactured by L&T. The cooling pack has been designed for desert operations. At the time of induction, 69 per cent components were imported. Due to delay in indigenizing the required components, the supply of spares has stopped. In the absence of spare support, MBT Arjun was not operational for sometime during 2013.

Arjun vs T-90:

If we compare specifications of Arjun and T-90, then we can see that Arjun is far heavier than T-90. But, at the same time, Arjun has a 1400 hp engine as compared to 950 hp engine of T-90, which explains why the top speed of Arjun is 72 km/h, whereas that of T-90 is 60 km/h. Arjun requires a crew of four to operate - commander, gunner, loader and driver. T-90 needs a crew of three to operate. It was also reported that T-90s have had performance issues in extremely hot weather. Recent comments from Army sources indicate that the Russian T-90S will form the mainstay of its future force, despite that tank's performance issues in hot weather. [MBT Arjun is a formidable tank, but can it replace Russian made T-90?] Although a formidable tank, Arjun (the original version) has had issues. The Arjun faced persistent problems of

overheating and that tank's main subsystems, the fire control system (FCS), the suspension system, integrated gunner's main sight, which includes a thermal imager and laser range-finder, which were rendered erratic and useless by the abnormally high peak internal temperature of beyond 55 °C in Indian deserts.

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