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## **‘Make In India’ Gets a Major Push with Kalyani-DRDO Made ATAGS Breaking World Record by Firing At Over 48 Km Range At Pokhran**

Yet another world record was set at Pokhran on Friday by the indigenously manufactured 155mm/52 calibre Advanced Towed Artillery Gun System (ATAGS), jointly designed and developed by the Pune based Kalyani group along with DRDO.

Many senior officers from DRDO and Army visited Pokhran to witness the firing. Officials present at the range said they witnessed a spectacular show during the trial firings at Pokhran Ranges, where the ATAGS variant developed by Kalyani Group, registered the longest ever distance of 48.074 kms, surpassing the maximum ranges of 35-40 kms fired by any artillery gun system in this category.

This surpasses all previous records as similar artillery gun systems currently operational in the world can fire a maximum range of 40-45 kilometres.

“A steady but arduous, technically challenging journey has seen many firsts in the development of this gun, culminating with achievement of range in excess of 48 KM with HE ERFB BB and 38.5 KM with HE ERFB BT ammunition (the long range high explosive-base bleed ammunition),” said a senior official who witnessed the trial firings at Pokhran range.

The ordnance including barrel and breech mechanism, on both variants of ATAGS, is developed at Kalyani Group Advanced Artillery Manufacturing Facility.

According to defence sources, the ATAGS trials being conducted at Pokhran ranges are targeted at various distances to validate firing capacity of zone 7 with 25 litres effective chamber volume and the guns are performing as per expectations.

A special feature of ATAGS, all electric drives for laying and ammunition handling system, in any artillery system is a first. It ensures better and more reliable performance compared with earlier less reliable hydraulic systems.

It may be noted here that this artillery gun project started in 2014 with the selection of Bharat Forge Ltd, a Kalyani Group company and TATA Power SED as two major Development Partners of DRDO-ARDE’s prestigious program. The two platforms which were tested earlier in PXE Balasore in Dec 2016 were publicly showcased at 68<sup>th</sup> Republic Day Parade on 26<sup>th</sup> January 2017.

The first proof firing of the armament was conducted in 2015 with maximum record chamber pressure of over 560MPa as P2 pressure.

The barrel and breech mechanism for ATAGS is developed by Bharat Forge with specially designed metallurgy to cater for zone 7 and comes under critical technology. Both firing platforms have the ordnance systems made by Bharat Forge Ltd., flagship company of Kalyani Group.

The way the project is unfolding the gun has come up well and continues to be one of the finest gun platforms in its class in the world. The aim of the ATAGS is to provide the Indian Army with domestic artillery platform that will surpass foreign designs.

## India's Indigenous ATAGS Howitzer Creates World Record, Fires beyond 45 Kilometers

New Delhi, Sept 8: India's indigenously built howitzer created a record, firing three shells out to an unprecedented distance of approximately 47.2 kilometres in comparison to 40-45 kilometres by other such artillery gun systems currently operational in the world. The advanced towed artillery gun system (ATAGS) created the record during a user trial conducted at Pokhran Rajasthan on Wednesday. The distance (approximately 47.2 kilometres) is perceived as the longest distance covered by an artillery gun system.

According to a report of Sputnik, which quoted Defence sources, the 155-millimeter 52-calibre howitzer fired three shells at more than 47 kilometres using special, long-range ammunition called high explosive base bleed. The ATAGS is indigenously developed by state-owned Defence Research & Development Organisation (DRDO), Ordnance Factory Board, and two private defence firms Tata-SED and Bharat for the Indian Army.

The ATAGS project was started in 2013 to replace older guns in service in the Indian Army with a modern 155mm artillery gun. It took four years to build the artillery gun and conducted a successful user trial. The howitzer was first publicly showcased at 68th Republic Day parade on 26 January 2017. The first proof firing of the armament was conducted on 14 July 2016. The test was successful.

The ATAGS howitzer is equipped with advanced features like high mobility, quick deployability, auxiliary power mode, advanced communication system, automatic command and control system with night capability in direct fire mode. The artillery gun consists of a barrel, breech mechanism, muzzle brake and recoil mechanism to fire 155 mm calibre ammunitions.



## India Successfully Tests 500kg Locally Developed Precision Guided HSLD Bomb

*The development is significant as India continues to heavily rely on imports for air armaments. The Israel-manufactured SPICE bomb is the biggest conventional bomb that can be delivered by the Indian Air Force.*

New Delhi (Sputnik) – India has successfully tested a precision guided high speed low drag (HSLD) bomb weighing 500 kg, which is the largest bomb locally developed by the country so far. During the flight trial in the western state of Rajasthan, the 500 kg general purpose bomb was released from Indian Air Force's (IAF) Su 30 MK1 aircraft. The bomb has been developed by the Armament Research and Development Establishment (ARDE) of the state-owned Defense Research and Development Organization (DRDO).

The trial covered ground adaptation, carriage and handling, limited separation and release of the bomb. Sukhoi-30MKI released PGHSLD-500 fitted on station 05/06 from an altitude of 5 km at 900 km to verify separation performance and to estimate stability.

*“During the carriage trials, the aircraft touched the carriage limits of 0.85 at 150 m altitude and completed 6.5 ‘g’ and full roll maneuvers. The structural integrity of the bomb was found satisfactory after the trials,” DRDO said.*

According to an official document, these bombs are effective against ground targets like railway yards/bridges, major installations, bunkers, runways and hardened targets. The bomb can be carried on various in-service aircraft like Jaguar, MiG and other advanced combat aircraft of the Indian Air Force. Such bombs play a very important role for strike missions where aircraft are tasked to destroy ground installation and enemy runways.

Indian scientists are presently working on different types of non-nuclear bombs like glide bombs and HSLD bombs. In the locally developed HSLD category, 250 kg and 450 kg variants were already in service. The successful trial of the 500 kg variant has paved the way for its early induction.

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## **India Ups Its Indigenous Weapons Game and Sets a World Record in the Process**

So there's a lot going on in the Indian Defence Sector (no, we are not talking about the Bofors case reopening) and it looks like our defence system is expanding its weapons base by home-growing and internationally acquiring weaponry that is meant to intimidate troublemakers and keep them at bay. Three recent developments that caught our eye, and we'll lead with Finance Minister, Arun Jaitley, unveiling a long-range surface-to-air missile (LRSAM) and beyond visual range (BVR) missile systems, earlier this week.

The LRSAM, is one product of a \$2 billion missile deal between Indian Ministry of Defence and Israel Aerospace Industries. You can expect medium-range surface-to-air missiles (MRSAM) and other missile defence systems to come out of this deal in the future. The missiles are being developed at facilities Bharat Dynamic Ltd., under the supervision of the Defence Research and Development Organisation (DRDO). But what can this LRSAM do?

According to a report, the LRSAM can be loaded on to "INS Vikrant, Visakhapatnam-class guided missile destroyers, Kolkata-class destroyers, Kamorta-class anti-submarine warfare corvettes, and the still to be constructed future Project 17A class of stealth frigates" and on being deployed, combat any kind of airborne threat, from aircrafts to ballistic missiles, and conduct both, land and air, surveillance.

ASTRA, another missile system developed by the DRDO, was inaugurated by Mr. Jaitley. The ASTRA system is a state of the air-to-air BVR missile with a short and long target engagement ranges of 20-110km.

Hang on, there's more to be proud of. India's very own howitzer gun system, Advanced Towed Artillery Gun System (ATAGS), set a new world record by firing three shells at a long target range of 47.2km, at Pokhran, Rajasthan. Designed and developed by the DRDO in collaboration with Tata Power and Bharat Forge, this 155mm, 52 calibre gun system has a 25 litre chamber that gives it competitive edge over other howitzer guns. Great work, DRDO!