TECH 2

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(Online)

DRDO succesfully tests its third generation Anti Tank Guided Missile 'Nag'

The Defence Research and Development Organisation (DRDO) twice successfully flight tested India's indigenously developed third generation Anti Tank Guided Missile (ATGM) 'Nag' in Rajasthan on Friday. The missile hit both the targets under different ranges and conditions with very high accuracy as desired by the armed forces, an official statement said.

"With these two successful flight trials, and the flight test conducted earlier in June in the peak of summer, the complete functionality of Nag ATGM along with launcher system NAMICA has been established and marked the successful completion of development trials of Nag Missile," the release said.

India on 3 July **successfully** test-fired an indigenously developed short-range and Quick Reaction Surface to Air missile (QRSAM) from Chandipur along the Odisha coast. The missile was test-fired from Launch Complex-3 at the Integrated Test Range (ITR) around 11.30 a.m from a truck-mounted canister launcher, said official sources.

"All the technologies and subsystems incorporated in the missile have performed well, meeting all the mission requirements," an official statement said. "All the Radars, Electro Optical Systems, Telemetry Systems and other stations have tracked the Missile and monitored all the parameters. The missile test met all the objectives."

Defence Minister Arun Jaitley congratulated the DRDO (Defence Research and Development Organisation) over the successful launch. "Congratulations to DRDO for successfully test-firing Quick Reaction Surface to Air Missile. This will add to India's defence capabilities," Jaitley said in a tweet.

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DRDO Tests 500 Kg General Purpose Bomb from Su-30MKI Aircraft

India's indigenously developed precision guided high speed low drag (HSLD) bomb weighing 500 kg has been successfully tested from the Su-30MKI aircraft in the western state of Rajasthan last week.

Developed by the Armament Research and Development Establishment (ARDE) of the state-owned Defense Research and Development Organization (DRDO), India’s General Purpose Bomb 'PGHSLD-500’ underwent flight trials during May-June 2017 released from Su-30mki aircraft at Air Force Station, Jodhpur, fitted on a hard point and was released from an altitude of 5 km to validate its separation performance and to estimate stability, DRDO newsletter states.

“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.

Jane's 360

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DRDO completes development trials of Nag ATGM

India's state-owned Defence Research and Development Organisation (DRDO) announced on 9 September the completion of development trials of the Nag (Snake) anti-tank guided missile (ATGM), shortly after conducting further successful flight tests of the weapon.

The third-generation fire-and-forget ATGM was flight-tested twice on 8 September in the desert ranges of the northern Indian state of Rajasthan, said the DRDO in a statement carried by the Indian government's Press Information Bureau (PIB).

The weapon, which is equipped with advanced technologies, including an imaging infrared (IIR) seeker, hit the targets "under different ranges and conditions with very high accuracy, as desired by the armed forces", said the PIB.

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India Successfully Tests Anti-Tank Guided Missile

The successful test marks the end of development trials.

By Franz-Stefan Gady

India's Defense Research and Development Organization (DRDO) successfully conducted a flight test of the third-generation anti-tank guided missile (ATGM) Nag, the Indian Ministry of Defense (M0D), announced in a September 9 press statement.

"India's indigenously developed 3rd generation Anti-Tank Guided Missile (ATGM), Nag has been successfully flight tested twice by DRDO on 8-9-2017 against two different targets in the ranges of Rajasthan," the press release reads. "The ATGM Nag missile has successfully hit both the targets under different ranges and conditions with very high accuracy as desired by the Armed Forces."

According to the Indian MoD: "With these two successful flight trials, and the flight test conducted earlier in June in the peak of summer, the complete functionality of Nag ATGM along with launcher system NAMICA has been established and marked the successful completion of development trials of Nag Missile."

Nag is a fire-and-forget ATGM with an estimated range of 4 kilometers. The Nag Missile Carrier (NAMICA) is an Indian license-produced variant of the Soviet-era BMP-II armored infantry fighting vehicle. NAMICA can launch Nag missiles from a retractable armored launcher that contains four launch tubes (the armored vehicle can carry up to 12 missiles in total) and the guidance package including a thermal imager for target acquisition. The missile's targeting system is based on visual identification prior to its launch ('lock-on-before-launch system').

India has also been working on a more advanced air-launhced variant of the Nag, the Helina ATGM with a maximum range of up to seven kilometers. Once operational, the Helina will be part of the armaments of the

indigenously designed Light Combat Helicopter (LCH) and the Hindustan Aeronautics Limited (HAL) Dhruv advanced light helicopters (ALH).

The Indian MoD announced the official launch of full-scale production of the LCH at the end of August. The Indian Army's Army Aviation Corps (AAC) plans to induct a total of 114 LCH; the Indian Air Force placed an order for 65 helicopters. As I explained:

LCH prototypes have been undergoing extensive testing including high-altitude and weapons systems trials in 2016 and 2017. The LCH, which first took to the air in May 2010, has been developed to close a capability gap that became apparent during the 1999 Kargil War when the Indian military lacked attack helicopters capable of operating at high altitudes.

Consequently, the LCH, a derivative of the HAL Dhruv helicopter, has been primarily designed for high-altitude warfare – HAL and French engine-maker, Turbomeca jointly designed a special engine optimized for extreme altitudes – and has an operational ceiling limit of 6,000–6,500 meters (19,700–21,300 feet).

Initial operating capability for the LCH is expected by 2018. It is unclear when the Helina ATGM will become operational. As of now, the Indian military still lacks an air-launched anti-tank missile for its future fleet of combat helicopters.

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India's Most Powerful ATGM Nag Missile Passes Flight Trials

Developers claim the missile is far superior than Javelin of US and Israeli Spike missile. It assimilates advanced technologies including the imaging infrared radar (IIR) seeker with integrated avionics, a capability which is possessed by few nations in the world.

New Delhi (Sputnik) – If everything goes according to plan, the India's locally developed anti-tank guided missile 'Nag' will soon get inducted into the Indian armed forces. The third generation missile developed by the state-owned Defense Research and Development Organization (DRDO) has successfully flight tested twice against two different targets in the ranges of Rajasthan.

"Missile hit both the targets under different ranges and conditions with very high accuracy as desired by the Armed Forces," DRDO claims.

Nag, which has 'fire & forget' and 'top attack' capabilities, will be of immense support to the mechanized infantry and airborne forces of the Indian Army.

"With these two successful flight trials, and the flight test conducted earlier in June in the peak of summer, the complete functionality of Nag ATGM along with launcher system NAMICA has been established and marked the successful completion of development trials of Nag Missile," DRDO added.

"It is likely to take time ranging from 2 to 3 years as after this user trial, user exploitation trials and so on are to be conducted. Then the actual manufacturing process will start, eventually leading to the induction of the first viable lot," Rahul Bhonsle, a retired Indian Army brigadier and defense analyst explains.

The missile is claimed to be far superior to Javelin of the US and Israeli Spike missile. If this is the case, should India go ahead with the purchase of Spike missile from Israel; which is stuck due to single vendor situation?

"India will field the Spike — Israel import along with Nag or its variants in the future. Even after the Nag is successfully inducted it should be remembered that it is a third generation missile while Spike is a

fourth generation one. After Nag is developed further, hopefully Nag Mark 2 or 3 or its equivalent indigenous will eliminate need for foreign imports," Rahul Bhonsle says.

The Indian Army has a total requirement of 40,000 anti-tank guided missiles in the next 20 years and desperately needs missiles like Nag which can hit high-speed moving tanks without support of operator.