

DRDO says debris from Mission Shakti A-SAT test poses no danger to space station

There was a temporary risk for 10 days, but we have crossed that period, an official told reporters

Agence France Presse: India's Defense Research and Development Organisation insisted Saturday that debris from its anti-satellite missile test was not a danger to the International Space Station, in a rebuff to criticism from the US space agency.

India has been on the defensive following the 27 March test that NASA branded a "terrible thing" that had created new dangers for astronauts aboard the International Space Station.

"The mission had been designed in a way that debris decays very fast and that minimal debris goes up," G Satheesh Reddy, head of India's Defence Research and Development Organisation told reporters. "There was a risk for 10 days, and we have crossed that period," he told a press conference.

"As per our simulations, there were no possibilities of hitting the International Space Station with debris from the satellite," he added.

NASA chief Jim Bridenstine last week condemned India's destruction of the satellite as a "terrible thing" that created 400 pieces of orbital debris, or "space junk".

The danger from "space junk" is not that it falls to Earth but that it collides with orbiting satellites.

Even the smallest piece of debris travelling at great speeds can put a satellite out of action.

The Indian satellite was destroyed at a relatively low altitude of 300 kilometers, 120 kilometres below the ISS and most orbiting satellites.

Bridenstine and other space experts also said the risk from the Indian debris would dissipate as much of it would burn up as it entered the atmosphere.

The US military tracks objects in space to predict the collision risk for the ISS and satellites. They are currently tracking 23,000 objects larger than 10 centimeters.

These includes about 10,000 pieces of space debris, of which nearly 3,000 were created by a Chinese anti-satellite test.

India has hailed the test as a sign that it is a space power. Only the United States, Russia and China had previously carried out successful anti-satellite missile strikes in space.

<https://www.firstpost.com/tech/science/drdo-says-debris-from-mission-shakti-asat-test-poses-no-danger-to-space-station-6406661.html>

Firepower: 6 Dhanush guns inducted into Army

First lot of 114-piece order handed over by Ordnance Factory Board

New Delhi: The first lot of six Dhanush artillery guns was today inducted into the Army. This comes close on the heels of induction of two types of foreign-origin artillery guns in the past six months.

The Dhanush, a modified version of the Bofors gun —purchased in the 1980s —had completed user trials in June 7 last year. The bulk production clearance was approved in February this year. The Dhanush has the maximum effective range of 38 km. An onboard computer and electronic suite enable real-time targeting of moving and static targets.

Developed by the Ordnance Factory Board (OFB), the first six Dhanush guns were handed over to the Army at the Gun Carriage Factory (GCF), Jabalpur, Madhya Pradesh. The OFB will make 114 indigenous 155mmX45 calibre guns. This is the first long-range artillery gun to be produced in the country. Indigenisation to the extent of 81 per cent has already been achieved. By end of the year, the indigenisation level will go up to 91 per cent, a statement of the MoD said.

The gun is the outcome of design documents running into over 12,000 pages, which were given to India as part of the first phase of Transfer of Technology (ToT) under the Bofors gun deal inked in the late 1980s.

The Swedish Bofors company could not complete the ToT for the 155mm x 39mm calibre howitzer as the deal got embroiled in a major political row over alleged kickbacks. The OFB manufactured and supplied several components and spares to keep the Bofors howitzers operational in India, but could not make the gun.

Seven years ago, the Defence Acquisition Council had decided to look for artillery guns within the country and asked the OFB to start manufacturing howitzers. In 2012, the manufacturing facility was inaugurated at the GCF.

Apart from the Dhanush, the other indigenous effort is Advance Towed Artillery Gun System (ATAGS) designed by the Defence Research and Development Organisation and manufactured by Tata and Bharat Forge. The MoD had sanctioned the ATAGS project in September 2012. A prototype was part of the Republic Day parade in 2017.

In November last year, two types of foreign-origin guns were inducted at a ceremony in Maharashtra. These are the M777 ultra-light howitzer (145 guns) produced by the BAE systems in the US and the self-propelled tracked gun K9 Vajra-T made under a joint venture between L&T and South Korea's Hanwha Techwin.

'Desi Bofors'

- The Dhanush 155X45 calibre towed gun system has been designed and developed by the Ordnance Factory Board at the Gun Carriage Factory, Jabalpur, based on the Bofors drawings
- The Dhanush, also known as 'desi' Bofors, will significantly enhance the Army's firepower. It is a 155mm, 45-calibre towed artillery gun with a range of 38 km
- It is the first long-range artillery gun to be produced in the country IANS

<https://www.tribuneindia.com/news/nation/6-dhanush-guns-inducted-into-army/755271.html>

First lot of Dhanush guns handed over to Army

Kolkata: The first six of the 114 'Dhanush' guns ordered by the Army were handed over by the Gun Carriage Factory, Jabalpur on Monday. These advanced guns will add much needed muscle to the Army, senior officials at the Ordnance Factory Board (OFB) headquarters in Kolkata said. The guns were flagged-off by Saurabh Kumar, DG, Ordnance Factories and chairman, OFB in the presence of Ajay Kumar, secretary, defence production, Lt Gen PK Srivastav, DG, Artillery, Lt Gen RS Salaria, commandant, School of Artillery and Maj Gen Manmeet Singh, MG, Artillery, HQ Western Command Chandi Mandir.

The 155mm x 45 Calibre 'Dhanush' modern artillery gun system, developed jointly with the Army, received bulk production clearance in February and the initial order of 114 guns was placed. Significant contributions were made by DRDO, public sector units such as SAIL and BEL and several private sector firms.

"Dhanush incorporates the latest features such as an inertial navigation system, on-board ballistic computer, direct day and night firing system, modern target acquisition system and communication system that makes the weapon compatible with the Army's project "Shakti" . Weighing less than 13 tonnes, with a high ground clearance of 400 mm, a range of elevation from -3° to 70 ° and an arc of traverse of 60° , Dhanush is the most maneuverable artillery system and can be deployed in any terrain, " a senior OFB official said.

Dhanush weighs 700 kg more than the 155mm/39 Calibre Bofors and its barrel is 877mm longer and has a larger chamber volume of 23 litres. The Bofors has a chamber volume of 19 litres. The new barrel design and modified double baffle muzzle brake (MDBMB) system has allowed an enhancement of range from 27 Km to 38 Km. The MDBMB limits the stress on the structure to 155/39 levels.

"Modification in the loading trough and loading tray enables Dhanush to accommodate the large diameter of the bi-modular charge system (BMCS).

Dhanush also has an auto laying system based on the Fire Control Computer System as compared to the manual system of the Bofors Gun. The system has Advanced Gun Sighting System with a day camera (CCD), night camera, laser range finder (LRF) and NFOV and WFOV. The Bofors only has optical day and night sight of Bofors, " the official added. Dhanush also has an on-board Advanced Tactical Computer as distinct as compared to the Bofors where ballistic calculations had to be done at the command post. It also has an Inertial Navigation System (INS) and a GPS as against as compared to the theodolite-based one in the older guns.

<https://timesofindia.indiatimes.com/india/first-lot-of-dhanush-guns-handed-over-to-army/articleshowprint/68779858.cms>

सेना को मिली 'देसी' बोफोर्स धनुष तोप, 114 का ऑर्डर

के-9 वज्र और एम-777 अल्ट्रा-लाइट हॉवित्जर तोप के बाद धनुष के सेना में शामिल होने से भारतीय सेना की ताकत काफी बढ़ गई है। सोमवार को जबलपुर में एक कार्यक्रम के दौरान ऑर्डिनेंस फैक्ट्री बोर्ड ने 6 धनुष तोपें सेना को सौंपीं।

नई दिल्ली : देश में बनी धनुष तोप के सोमवार को शामिल होते ही भारतीय सेना को 'देसी' बोफोर्स मिल गई। जी हां, 'देसी' बोफोर्स के रूप में प्रसिद्ध 155 एमएम x 45 कैलिबर गन प्रणाली वाली बहुप्रतीक्षित धनुष की मारक क्षमता 38 किमी है। ऑर्डिनेंस फैक्ट्री बोर्ड के चेयरमैन सौरभ कुमार ने कहा कि धनुष तोप का निर्माण 'मेक इन इंडिया' पहल की सफलता का उदाहरण है। इस तोप के सेना में शामिल होने से युद्धक क्षमता काफी बढ़ जाएगी। गौरतलब है कि धनुष की प्रणाली 1980 में प्राप्त बोफोर्स पर आधारित है, जिसकी खरीद में कथित भ्रष्टाचार के कारण विवाद हुआ था।

के-9 वज्र और एम-777 अल्ट्रा-लाइट हॉवित्जर तोप के बाद धनुष के सेना में शामिल होने से भारतीय सेना की ताकत काफी बढ़ गई है। ऑटोमेटेड टेक्नॉलजी के कारण सिंगल टारगेट पर एक समय में 3 से 6 गन एकसाथ फायर किए जा सकते हैं। हर गन की क्षमता एक घंटे में 42 राउंड फायर करने की है। गन का वजन करीब 13 टन है जो इसे पहाड़ी और सुदूर इलाकों में आसानी से ले जाने में सक्षम बनाता है।

आपको बता दें कि के-9 वज्र एक स्वचालित दक्षिण कोरियाई हॉवित्जर और एम-777 अमेरिका से प्राप्त अल्ट्रा-लाइट हॉवित्जर तोप है। धनुष को बोफोर्स की तर्ज पर जबलपुर स्थित गन कैरिज फैक्ट्री में ऑर्डिनेंस फैक्ट्री बोर्ड द्वारा डिजाइन और विकसित किया गया है।



सेना ने स्वदेशी बंदूक उत्पादन परियोजना का सक्रिय रूप से समर्थन किया है और 114 धनुष तोपों का ऑर्डर दिया है। धनुष के सेना में प्रवेश को एक महत्वपूर्ण मील का पत्थर माना जा रहा है क्योंकि यह भारत में निर्मित होने वाली लंबी रेंज की पहली तोप है। धनुष को सौंपने के लिए आयोजित समारोह सोमवार को आयोजित किया गया। गन कैरिज फैक्ट्री में छह बंदूक प्रणालियों को पेश किया गया।