



## Tejas Adds Python-5 Air to Air Missile Capability

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### Why in News

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Recently, India's Indigenous **Light Combat Aircraft Tejas** has added capability of firing **Israeli-origin Python-5 air-to-air missile (AAM)** after concluding successful tests.

- The same set of tests were also aimed to validate the enhanced capability of the already integrated Israeli-origin **Derby beyond visual range AAM** on Tejas.
- The tests were conducted by **Defence Research and Development Organisation (DRDO)**.

### Key Points

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- **Python-5 Missile:**
  - It has been **developed by the Israeli defence company Rafael Advanced Defense Systems**. It is the **newest member of the Python family**.
  - This **fifth generation air-to-air missile** provides the pilot engaging an enemy aircraft with a revolutionary full sphere launch capability.
  - It can be **launched from very short to beyond-visual ranges** with greater kill probability, excellent resistance to countermeasures, irrespective of evasive target manoeuvres or deployment of countermeasures.
  - It is a **dual use missile suitable for air-to-air and surface-to-air missions**.
  - It is powered by a solid propellant **rocket engine**. The propulsion system provides a **speed of Mach 4** and an operational **range of more than 20 km**.
  - It is also equipped with **lock-on-before launch (LOBL)** and **lock-on-after launch (LOAL)** capabilities.

- **Light Combat Aircraft Tejas:**

- **Tejas** is a **single engined, light weight, highly agile, multi-role supersonic fighter.**
- The **indigenously-developed aircraft** has been **manufactured at the Hindustan Aeronautics Limited (HAL)** and **designed by the Aeronautical Development Agency (ADA)** for the Indian Air Force and the Indian Navy.
- It is **designed to carry** a range of air-to-air, air-to-surface, precision-guided, weapons.

### **Beyond Visual Range AAM**

- A beyond-visual-range missile (BVR) is an air-to-air missile (BVRAAM) that is **capable of engaging at ranges of 37 km or beyond.** This range has been achieved using dual pulse rocket motors or booster rocket motors and ramjet sustainer motors.
- In addition to the range capability, the missile is also capable of tracking its target at this range or of acquiring the target in flight.
- Beyond Visual Range Air-to-Air Missile (BVRAAM) technology enables the fighter-pilots to shoot precisely at the enemy targets which are beyond their visual range.  
**Astra missile** works on BVRAAM.

**Source: PIB**