

Man-Portable Air Defence Systems (MANPADS)

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Man-Portable Air Defence Systems (MANPADS) Latest News

The Indian Army is undertaking a major strategic shift in its air defence operations, repurposing its Man-Portable Air Defence Systems (MANPADS) to specifically counter the rising threat of sub-sonic cruise missiles.

About Man-Portable Air Defence Systems (MANPADS)

- MANPADS are **surface-to-air missiles** that can be **fired by an individual or a small team** of people **against aircraft**.
- These weapon systems often are described as **shoulder-fired anti-aircraft missiles**.
- MANPADS are generally less than 2 metres in length and weigh around 20 kg.
- The **United States and the Soviet Union first deployed MANPADS**, the Redeye and Strela systems, respectively, in the **1960s** to provide their infantries with portable anti-aircraft weapons.
- The militaries of about **105 countries across the world operate MANPADS**, although only **12 countries, including India, produce them**.

- The **most famous** MANPADS system are the **US-made ‘Stinger’** and the **Soviet 9K32 Strela-2**, or simply **‘SA-7’** with the **China-made ‘FN-16’** being the latest entrant.
- **Three general types** of MANPADS exist: **command line of sight, laser guided, and infrared seekers**.
 - Command line-of-sight MANPADS are **guided** to their targets through the use of a **remote control**.
 - **Laser-guided** or laser beam rider MANPADS **follow a laser projected onto the target**.
 - The **most common** MANPADS, frequently called **heat seeking missiles**, however, are **infrared seekers** that **acquire their target by detecting the heat** of an aircraft’s engine.
- Most MANPADS consist of:
 - a missile packaged in a tube;
 - a launching mechanism (commonly known as a “gripstock”); and
 - a battery

Man-Portable Air Defence Systems Historical Background

- Developed during the 1960s amid the Cold War by the United States and the Soviet Union to provide portable air defense to ground forces.
- The U.S. introduced the early **Redeye system**, while the Soviet Union deployed the **Strela series**, marking the first generation of MANPADS.
- Designed to counter **low-flying aircraft and helicopters**, especially in battlefield conditions where larger air defense systems were not practical.
- Rapid technological improvements led to better **target tracking, accuracy, and ease of use** over time.
- Widely proliferated during late 20th century conflicts, making them a common feature in modern warfare.
- Today, about **105 countries** operate MANPADS, but only a limited number, including India, have indigenous production capability.

Source: DEF

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