

India's Fighter Jet Crisis: MiG-21 Retirement, LCA Delays, and IAF's Modernisation Challenges

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IAF Fighter Jet Shortage



IAF Fighter Jet Shortage Latest News

- The Indian Air Force (IAF) will retire its MiG-21 fighter jets in September 2025, marking the end of their six-decade service.
- This will reduce IAF's fighter strength to 29 squadrons, well below the sanctioned 42.
- The IAF is awaiting delayed deliveries of the Light Combat Aircraft (LCA)-Mk1A to replenish its fleet.
- Meanwhile, China has significantly bolstered its air power with 1,300 fourth-generation aircraft and two fifth-generation jets (J-20 and J-31), highlighting the urgency for India to induct 400-450 advanced combat jets to maintain strategic parity.

About MiG-21

- The MiG-21 is a single-engine, single-seater multi-role fighter and ground attack aircraft that has served as the backbone of the Indian Air Force (IAF) for decades.

- First inducted in 1963 as an interceptor, the aircraft was progressively upgraded for various combat roles, including ground attacks.
- India has procured over 700 MiG-21s across different variants such as Type-77, Type-96, and BIS, with the latest being the Bison, upgraded with advanced avionics, missiles, and radars.

Legacy of MiG-21s: From Supersonic Pioneers to ‘Flying Coffins’

- Inducted after the 1962 war with China, the MiG-21s marked the Indian Air Force’s (IAF) entry into supersonic aviation and were its first non-western fighters.
- License-produced by HAL, they served as the IAF’s backbone for decades.
- However, a series of crashes in the 2000s—**partly due to the lack of Advanced Jet Trainers**—earned them the infamous tag of “flying coffins,” with nearly 500 accidents and over 450 fatalities since 1965.
- Notably, during the 2019 aerial skirmish with Pakistan post-Balakot strikes, a MiG-21 flown by Wing Commander Abhinandan Varthaman was shot down.
- Advanced variants like the MiG-21 Bison are now being phased out, with the final two squadrons set to retire by September 2025.
- The IAF’s fighter strength currently stands at 29 squadrons, far below the sanctioned 42, relying heavily on Su-30MKIs, MiG-29s, Mirage-2000s, Jaguars, and LCA Tejas for operational capability.

IAF’s Fighter Strength Faces Critical Challenges

- IAF faces a significant depletion in its combat fleet with the impending retirement of MiG-21s and Jaguars by 2030, potentially reducing its strength by around 16 squadrons.
- Without fresh inductions, the IAF’s squadron count could fall below 30 in the coming years, far short of the sanctioned 42.
- While future projects like the Medium Role Fighter Aircraft (MRFA) and the indigenous Advanced Medium Combat Aircraft (AMCA) are in development, their timelines remain uncertain.
- Currently, the IAF operates only two squadrons of the LCA Mk1, with the more advanced Mk1A variant facing manufacturing delays.
- Despite a contract for 83 Mk1As signed in 2021, the expected deliveries starting March 2024 have been postponed, further straining the IAF’s modernization efforts.

Delays in LCA Mk1A Deliveries

- Under a \$6.5 billion deal, Hindustan Aeronautics Limited (HAL) was to deliver 83 Tejas Mk1A jets—including 73 fighters and 10 trainers—starting March 2024, but not a single aircraft has been delivered yet.
- Production has now been expedited, with eight jets expected this fiscal year and the rest by 2028.
- To address these delays, an Empowered Committee for Capability Enhancement (CECE) identified key vendor ecosystem improvements.
- The Mk1A, designed to replace ageing MiG-21s, is critical for the IAF’s fleet, which also includes older MiG-29s and Jaguars from the 1980s.
- Additionally, HAL is working on LCA Mk2 and is set to receive 99 engines from GE Aerospace for ongoing production.

- Meanwhile, India has procured 272 Su-30MKIs from Russia, of which around 200 are operational.
- To replace losses, the Ministry of Defence signed a ₹1,300 crore deal in December for 12 new Su-30MKIs, with the engines licence-produced by HAL.

The Way Forward

- IAF has charted an ambitious plan to induct over 600 fighter jets in the next two decades, with a significant focus on indigenous LCA variants.
 - This includes 180 LCA-Mk1A, over 120 LCA-Mk2, 114 Medium Role Fighter Aircraft (MRFA), and at least 120 Advanced Medium Combat Aircraft (AMCA).
- A Twin-Engine Deck Based Fighter for the Navy is also on the drawing board. However, these plans depend on timely production and deliveries.
- As an interim measure, India is exploring the limited import of fifth-generation fighters, considering options like the Russian Su-57 and American F-35.
- The AMCA, envisaged in two phases—Mk1 with GE414 engines and Mk2 with a co-developed 110KN engine—is central to India's future air combat capability.
- The Aeronautical Development Agency (ADA) has invited private sector participation for AMCA production, marking a shift from past practices.
- However, the MRFA program, for which an RFI was issued in 2019, remains stalled due to its high cost and competing priorities.
- The IAF's modernisation drive now hinges on the successful execution of these parallel programs and strategic collaborations.

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