

Russia's Nightmare: F-35 Comes in a Terrifying Beast Mode
Harrison Kass - 1945

*The Elegant F-35 has a “Beast Mode” - The F-35 is commonly perceived as an elegant, sophisticated fighter, designed with futuristic features emphasizing stealth and surgical precision. The perception is accurate to a point. Yes, the F-35 is a **fifth-generation stealth fighter**, built around a supercomputer that enables advanced network connectivity and data sharing.*



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*But, the F-35 is a versatile, multi-role fighter after all, and when needed, can convert to a simple, brutish “**bomb truck**,” – in a configuration informally **known** as “Beast Mode.”*

The F-35 was designed as a stealth fighter, capable of penetrating contested air space and attacking ground and air targets, without being detected, for the purpose of establishing air superiority. To operate in stealth mode, one of the features the F-35 relies on is an internal weapons bay.

An internal weapons bay allows an aircraft to carry weapons without mounting them externally, where they would increase an air-frame's radar cross-section and degrade stealthiness.

Said another way, attaching harshly angular bombs and missiles under your wings and fuselage will ping enemy radar. So, the F-35 (and F-22) typically carry their weapons load internally, within their smooth, radar-evading fuselage.

Of course, only so much weaponry can be packed into an internal weapons bay. In stealth mode, the F-35 can carry a very limited quantity of weapons.

The F-35 is limited to just 5,700 pounds of internal ordinance in stealth mode. For air-to-air missions, that's just four AIM 120 AMRAAM missiles. And for air-to-air

and air-to-surface hybrid missions, that's just two AMRAAM missiles, plus two GBU-31 JDAM bombs.

Not much.

But at times, its necessary to evade detection.

Yet, as a conflict progresses, and an enemy's anti-air systems (i.e. sensors, air defense missiles, gun systems, and enemy aircraft) are destroyed, stealth mode loses relevance. And when stealth is no longer required, the F-35 reconfigure into "Beast Mode," to maximize its firepower.

In Beast Mode, the F-35 can carry roughly four times more ordinance than in stealth mode. Using the internal weapons bay, plus external mounts, the F-35 can handle 22,000 pounds of weaponry. For air-to-air missions, that's 14 AIM-120 AMRAAMs and two AIM-3x Sidewinder missiles.

The F-35 can pack two AMRAAMs, two Sidewinders, and six JDAM 2,000-pounders for hybrid missions. Beast Mode, indeed. Of course, when packed to the gills, the F-35s operational range is halved from about 2,800 kilometers to 1,400 kilometers.

For an air-frame designed around stealth technology to sacrifice its stealthiness and serve as a bomb truck – a role clunkier aircraft like the F-15 or the B-1 are entirely capable of handling – may seem counter-intuitive.

But that scenario makes more sense than only using the F-35, a program estimated to cost taxpayers \$1.7 trillion, in just the first few days of a conflict before air superiority is established – or alternatively, send the F-35 on bombing runs with just 5,700 pounds of ordinance.

For the US, which has a habit of both invading and then sticking around for long-term occupations, the F-35 needs to be able to contribute to the entire range of missions across the tactical spectrum.



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F-35 Stealth Fighter. Image Credit: U.S. Military.*



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A U.S. Air Force F-35 Lightning II aircraft, assigned to the 34th Expeditionary Fighter Squadron, flies over the U.S. Central Command area of responsibility, Jan. 07, 2019. The Lightning II is a fifth-generation fighter, combining advanced stealth with fighter speed and agility that provides U.S. Air Forces Central Command lethal war-winning air-power. (U.S. Air Force photo by Senior Airman Brandon Cribelar)



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