

# FACT SHEET: F-35 JOINT STRIKE FIGHTER

May 2019

The F-35 Joint Strike Fighter (JSF) is being developed and purchased in different variants for the United States Air Force, Navy, and Marine Corps. Current plans call for the purchase of 2,456 F-35s. In addition, U.S. allies are expected to purchase hundreds more, and eight nations are cost-sharing partners in the program with the United States. The F-35 is the largest procurement program in Pentagon history.

## Background

The F-35 Joint Strike Fighter (also known as the "Lightning II") was originally conceived as a relatively low-cost aircraft to replace the aging fleets of Air Force F-16s and A-10s, to supplement the Navy's fleet of F/A-18s, and to replace the retired fleet of A-6 strike aircraft. In 1994, Congress required the Marine Corps to combine its efforts to replace its AV-8B "Harrier" aircraft with the JSF program in order to avoid the costs of developing an independent aircraft. The goal of the JSF program was to develop three variants of a single aircraft with a high degree of "commonality" across the different versions. For example, each would use similar or identical airframes, avionics, and engines.

The Air Force F-35A is the most basic "conventional" version of the aircraft. The Marine Corps F-35B is a short take-off and vertical landing (STOVL) variant, and the Navy F-35C is designed to operate from an aircraft carrier. As a result, each variant presents its own developmental, technological, and operational challenges. Yet the Pentagon's plans call for 70 percent to 90 percent commonality among the three versions.<sup>i</sup> The Pentagon's current plan calls for the purchase of 1,763 of the Air Force F-35A, 353 of the F-35B STOVL version for the Marine Corps, and 340 of the Navy F-35C variant. The Marine Corps will also operate 67 of the carrier-based variant of the aircraft.

A 2017 Government Accountability Office (GAO) report put the total "sustainment" cost of the F-35 program – the cost to own and operate the entire F-35 fleet over its expected 60-year lifetime – at \$1.12 trillion dollars.<sup>ii</sup> The sustainment cost grew nearly 25 percent between 2012 and 2016. Together with the Defense Department's current \$400 billion estimate<sup>iii</sup> to develop and produce the F-35, the total cost of the Joint Strike Fighter program will exceed \$1.5 trillion.

## Program History

Over the course of its development, the F-35 program has experienced numerous delays and cost overruns as the Pentagon and the main contractors – Lockheed Martin and Pratt & Whitney – have worked to meet the many technological challenges of the three variants:

- In November 2009, the Pentagon reported the F-35 program would need an extra 30 months to complete the critical System Development and Demonstration (SDD) phase. As a result, in February 2010, the then Pentagon acquisition chief announced a restructuring the F-35 program, which called for a 13-month delay in moving on to the next stage of the

fighter's development and withheld \$614 million in award fees from the contractor Lockheed-Martin for poor performance.<sup>iv</sup>

- Each of the F-35 variants has been significantly behind schedule in achieving Initial Operation Capability (IOC) – the point when a sufficient number are available to adequately perform combat operations and may deploy with fully trained personnel. The Marine Corps F-35B, which was the first to reach operational status, had an expected IOC date of March 2012, but did not deploy until July 2015. The Air Force F-35A did not achieve IOC until August 2016, 41 months behind schedule. And the Navy F-35C, with an initial IOC of March 2015, is not expected to reach operational status until the second part of 2019.<sup>v</sup>
- On March 20, 2010, the Pentagon announced the JSF program was in violation of the Nunn-McCurdy law, which limits the amount the average procurement cost of a weapon can increase to 25 percent above original estimates. Nunn-McCurdy requires the Secretary of Defense to present a plan to correct the program and certify it is essential to national security if it exceeds this limit. Failure to successfully comply with Nunn-McCurdy triggers the termination of the program. At the time of the Pentagon's announcement, the JSF program cost had grown 57 percent to 89 percent above the original program baseline cost estimate.<sup>vi</sup>
- "Per Unit Cost" of the F-35 has also grown significantly. The "Per Unit Cost" is the total cost of development, acquisition, and any associated military construction (but not the costs of operations, maintenance, additional equipment or armaments or any future upgrades) of a weapons system, divided by the total number of units (aircraft) acquired. According to Defense Department figures, the Per Unit Cost of the F-35 program has more than doubled over the life of the program, growing from an initial estimate of \$79 million per aircraft in 2001<sup>vii</sup> to more than \$164 million in 2017,<sup>viii</sup> an increase of 108 percent.

## F-35 in the Trump Administration's Fiscal Year 2020 Request

The Administration's FY20 budget request includes \$11.2 billion for the F-35 program. This would fund the procurement of 48 F-35As for the Air Force, 10 F-35Bs for the Marine Corps, 20 F-35Cs for the Navy, and continue Research & Development.<sup>ix</sup>

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<sup>i</sup> "F-35 Joint Strike Fighter (JSF) Program." Congressional Research Service report RL30563, Updated April 23, 2018. Accessed April 7, 2019.

<https://crsreports.congress.gov/product/pdf/download/RL/RL30563/RL30563.pdf/>

<sup>ii</sup> "F-35 Aircraft Sustainment: DOD Needs to Address Challenges Affecting Readiness and Cost Transparency." Government Accountability Office report GAO-18-75. October 26, 2017. Accessed April 25, 2019.

<https://www.gao.gov/assets/690/688838.pdf>

<sup>iii</sup> "Selected Acquisition Reports (SARs) – December 2017." Department of Defense. April 3, 2018. Accessed April 23, 2019. <https://media.defense.gov/2018/Apr/03/2001898705/-1/-1/1/DECEMBER-2017-SAR-PRESS-RELEASE.PDF>

<sup>iv</sup> "F-35 Joint Strike Fighter (JSF) Program." Congressional Research Service.

<sup>v</sup> Ibid.

<sup>vi</sup> Ibid.

<sup>vii</sup> "Selected Acquisition Reports (SARs) – December 2001." Department of Defense. April 5, 2002. Accessed April 23, 2019.

<https://www.acq.osd.mil/ara/am/sar/2001-Dec-SARSUMTAB.pdf>

<sup>viii</sup> "Selected Acquisition Reports (SARs) – December 2017." Department of Defense.

<sup>ix</sup> "Program Acquisition Costs by Weapons System." Department of Defense. March 2019. Accessed April 14, 2019.

[https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2020/fy2020\\_Weapons.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2020/fy2020_Weapons.pdf)