

GAO@100 Highlights

Highlights of [GAO-21-505T](#), a testimony before the Subcommittees on Readiness and Tactical Air and Land Forces, Committee on Armed Services, House of Representatives

Why GAO Did This Study

The F-35 aircraft with its advanced capabilities represents a growing portion of DOD's tactical aviation fleet—with the Air Force, Marine Corps, and Navy currently flying about 400 of the aircraft. It is also DOD's most ambitious and costly weapon system in history, with estimated life-of-program costs exceeding \$1.7 trillion. DOD plans to procure nearly 2,500 F-35s at an estimated total acquisition cost of just under \$400 billion. The remaining \$1.3 trillion in life cycle costs is associated with operating and sustaining the aircraft.

This statement, among other things, assesses the extent to which (1) the F-35 has met warfighter-required mission capable rates; and (2) DOD has reduced the F-35's estimated life cycle sustainment costs and made progress in meeting its affordability constraints. This statement is largely based on GAO's draft report, which was provided to DOD in March for review and comment. For that report and this statement, GAO reviewed program documentation, analyzed performance and cost data, collected data from F-35 locations, and interviewed officials.

What GAO Recommends

GAO's draft report suggested that Congress should consider (1) requiring DOD to report annually on progress in achieving the affordability constraints, and (2) making F-35 aircraft procurement decisions contingent on DOD's progress in achieving these constraints. GAO also made four recommendations to DOD, including that it assess its cost reduction efforts and F-35 program requirements, and develop a plan to ensure it can afford to sustain the future F-35 fleet.

View [GAO-21-505T](#). For more information, contact Diana Maurer at (202) 512-9627 or maurerd@gao.gov.

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F-35 SUSTAINMENT

Enhanced Attention to and Oversight of F-35 Affordability Are Needed

What GAO Found

F-35 mission capable rates—a measure of the readiness of an aircraft fleet—have recently improved, but still fall short of warfighter requirements, as discussed in our draft report. Specifically, from fiscal year 2019 to fiscal year 2020, the U.S. F-35 fleet's average annual (1) mission capable rate—the percentage of time during which the aircraft can fly and perform one of its tasked missions—improved from 59 to 69 percent; and (2) full mission capable rate—the percentage of time during which the aircraft can perform all of its tasked missions—improved from 32 to 39 percent. Both metrics fall below the services' objectives. For example, in fiscal year 2020 the Air Force F-35A full mission capable rate was 54 percent, versus a 72 percent objective.

Since 2012, F-35 estimated sustainment costs over its 66-year life cycle have increased steadily, from \$1.11 trillion to \$1.27 trillion, despite efforts to reduce costs. The services face a substantial and growing gap between estimated sustainment costs and affordability constraints—i.e., costs per tail (aircraft) per year that the services project they can afford—totaling about \$6 billion in 2036 alone (see fig.). The services will collectively be confronted with tens of billions of dollars in sustainment costs that they project as unaffordable during the program.

Gap between F-35 Affordability Constraints and Estimated Sustainment Costs in 2036

Service and aircraft	2020 JPO CPTPY estimate in steady state ^a	Affordability constraint	Gap between projected cost and affordability constraint	Planned aircraft total in steady state ^a year 2036	Total cost overrun in steady state ^a year 2036
Air Force F-35A	(\$7.8)	- \$4.1)	= \$3.7	x 1,192	= \$4.4 billion
Marine Corps F-35B	(\$9.1)	- \$6.8)	= \$2.3	x 353	= \$812 million
Marine Corps F-35C	(\$7.9)	- \$6.8)	= \$1.1	x 67	= \$74 million
Navy F-35C	(\$9.9)	- \$7.5)	= \$2.4	x 273	= \$655 million
CPTPY cost per tail (aircraft) per year					Almost \$6 billion

Costs in millions unless otherwise noted

Source: GAO analysis of Joint Program Office (JPO) data. | GAO-21-505T

Note: Costs are in constant year 2012 dollars as that was the year when the F-35 program was most recently re-baselined. ^aSteady state years for the F-35 program are defined in each respective service's affordability analysis as: US Air Force/F-35A – 2036-2041; US Marine Corps/F-35B – 2033-2037; US Navy/F-35C – 2036-2043. Steady state refers to the program's peak operating point.

The Air Force needs to reduce estimated costs per tail per year by \$3.7 million (or 47 percent) by 2036 or it will incur \$4.4 billion in costs beyond what it currently projects it could afford in that year alone. Cost reductions become increasingly difficult as the program grows and matures. However, GAO found there is no agreed upon approach to achieve the constraints. Without an assessment of cost-reduction efforts and program requirements (such as number of planned aircraft), along with a plan, the Department of Defense (DOD) may continue to invest resources in a program it ultimately cannot afford. Congress requiring DOD to report on its progress in achieving affordability constraints and making F-35 procurements contingent on DOD's demonstrated progress would enhance DOD's accountability for taking the necessary and appropriate actions to afford sustaining the F-35 fleet.