

# WebMemo



Published by The Heritage Foundation

No. 2539  
July 13, 2009

## U.S. Air Force Fifth-Generation Fighter: The F-22A Raptor Requirements Retreat

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Without congressional intervention, the Air Force's ability to conduct air superiority missions will be increasingly at risk over the next three decades. President Obama's fiscal year (FY) 2010 defense budget request would stop production of the F-22A Raptor at just 187 aircraft and permanently shut down this production line.

In reality, the F-22A program would actually end production at 186 fighters and not 187, because the March 2009 crash of an F-22 at Edwards Air Force Base involved a test aircraft not part of the official program of record. President Obama's decision to cap F-22A production at 186 fighters would in actuality yield only about 127 combat-ready aircraft, because some fighters will also be used for training and testing. This reduced number will also ensure that the aircraft's service life expires more quickly than planned.<sup>1</sup>

**The Air Force Strike Fighter Gap.** The greatest factor threatening America's half-century dominance of the air is the pending gap in Air Force strike fighters that will emerge in only a few years. The rate at which fourth-generation F-15s and F-16s are set to meet their retirement age will now far exceed the rate at which the Air Force is able to replace these platforms with fifth-generation F-22A Raptors and F-35A Joint Strike Fighters. The development of fifth-generation fighters by both Russia and China—and the potential for the proliferation of these platforms and capabilities to states that remain hostile to U.S. interests—will also contribute to this disturbing trend.

For now, the Obama Administration and Congress remain committed to a long-term buy of 2,443 F-35s for the Air Force, Navy, and Marine Corps. But, contrary to popular perception, the F-35 is not a replacement for the F-22A. Buying more F-35s does not alleviate the need for additional F-22s. These platforms were designed to operate in tandem and perform complementary missions: The F-35 needs sufficient numbers of F-22s to clear the skies before it may operate unencumbered. Yet there is an ongoing dispute about the need for more F-22s even though Secretary of Defense Robert Gates has determined that 187 F-22As are sufficient. Congress is rightly skeptical and asking the obvious question: "187 F-22s are sufficient for what, exactly?"

Gates has insisted repeatedly that there is no "military requirement" for more than 187 F-22s and that that level is sufficient to meet foreseeable threats. However, numerous air power studies, senior Air Force leaders, the chairman of the Joint Chiefs, and independent analysts have all documented a military requirement of at least 243 F-22As. The military has sized its force on the assumption that it must be prepared to conduct two nearly simultaneous major combat operations.

This paper, in its entirety, can be found at:  
[www.heritage.org/Research/NationalSecurity/wm2539.cfm](http://www.heritage.org/Research/NationalSecurity/wm2539.cfm)

Produced by the Douglas and Sarah Allison  
Center for Foreign Policy Studies

Published by The Heritage Foundation  
214 Massachusetts Avenue, NE  
Washington, DC 20002-4999  
(202) 546-4400 • [heritage.org](http://heritage.org)

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This standard has been maintained through numerous Quadrennial Defense Reviews (QDR) and is the basis for gauging the level of risk found within the F-22 fleet and the analytical assumptions used to construct requirements. Gates has expressed his desire to use the 2009 QDR to jettison the two-war standard.<sup>2</sup> Until this strategy review is completed, however, Congress must not approve a 2010 budget request that would terminate production of the F-22A when today's fleet size is inadequate to meet current requirements.

If Congress does not provide funding for additional F-22As in the pending defense bills, the production line will begin shutting down, likely never to operate again. Therefore, Members of Congress should increase the number of F-22As to be built in FY 2010—overriding the President's inadequate budget request in order to guarantee the Air Force's ability to achieve air superiority for the next generation.

**The Air Force in 2025.** The Air Force has a stated requirement of 2,200 strike fighters that is expected to be maintained until 2035. This level is based on requirements determined by the Clinton Administration in 1992 at the onset of the post-Cold War era. It has remained remarkably consistent across the span of three defense strategies and both Democratic and Republican presidential Administrations.

However, in April 2008, Lieutenant General Daniel Darnell testified before the Senate Armed

Services Committee that, by 2024, the Air Force could be facing a requirement gap of over 800 fighters.<sup>3</sup> Several factors have contributed to this dilemma:

- Aging legacy fighters—like the F-15 and F-16—that are approaching retirement or have been worn out by the increased tempo of current operations;
- The reduced rate at which the Air Force has been able to buy new fighters over the past 15 years; and
- The reduced rate of future production.

While President Obama's FY 2010 defense budget request remains committed to the F-35 Joint Strike Fighter program, it proposes ending production of the F-22A and the early retirement of 250 legacy fighters.<sup>4</sup> This level of commitment to the Air Force's air superiority mission falls well short of the requirements stated by numerous air power studies and senior military and civilian leaders.

**Conviction v. Analysis.** Gates has argued that his decision to end production of the F-22A at 187 was based on three reasons.

1. Since 2005, the F-22A program of record has been 183 aircraft, so ending production at 187 will complete the program of record<sup>5</sup>;
2. The 2006 QDR confirmed that 187 F-22As, together with the planned growth of the F-35 fleet, will meet Pentagon requirements to maintain air superiority<sup>6</sup>; and
3. According to military advice received by Gates, there is no military requirement for F-22As beyond 187.<sup>7</sup>

1. Jim Talent and Mackenzie M. Eaglen, "Obama's 2010 Defense Budget: Top Five Worst Choices for National Security," Heritage Foundation *WebMemo* No. 2486, June 15, 2009, at <http://www.heritage.org/Research/NationalSecurity/wm2486.cfm>.
2. Press conference, Robert M. Gates and Admiral Michael Mullen, Office of the Assistant Secretary of Defense (Public Affairs), U.S. Department of Defense news transcript, June 18, 2009, at [http://www.airforce-magazine.com/SiteCollectionDocuments/Reports/2009/June%202009/Day19/DODtnx061809gates\\_mullen.pdf](http://www.airforce-magazine.com/SiteCollectionDocuments/Reports/2009/June%202009/Day19/DODtnx061809gates_mullen.pdf) (July 7, 2009).
3. "Hearing to Receive Testimony on Navy and Air Force Aviation in Review of the Defense Authorization Request for Fiscal Year 2009 and the Future Years Defense Program," testimony before Subcommittee on AirLand, Committee on Armed Services, U.S. Senate, p. 16, at [http://www.senate.gov/~armed\\_services/Transcripts/2008/04%20April/Airland/08-36%20-%204-9-08.pdf](http://www.senate.gov/~armed_services/Transcripts/2008/04%20April/Airland/08-36%20-%204-9-08.pdf) (June 4, 2009).
4. Robert M. Gates, "Defense Budget Recommendation Statement," U.S. Department of Defense April 6, 2009, at <http://www.defenselink.mil/speeches/speech.aspx?speechid=1341> (June 25, 2009).
5. *Ibid.*
6. "Terminations, Reductions, and Savings: Budget of the U.S. Government Fiscal Year 2010," Office of Management and Budget.
7. Gates, "Defense Budget Recommendation Statement."

The public record over the course of the past five years undermines Gates's rationale by clearly demonstrating that the decision to build 183–187 F-22As is not supported by any analytical underpinnings. Rather, the decision to end production of the F-22A at 187 is driven purely by budget considerations. Consider the following statements:

- From 2005 to 2008, Michael Wynne, the secretary of the Air Force, and General Michael Moseley, the Air Force Chief of Staff, maintained that 381 F-22As were required to “provide adequate capability to meet national security objectives.”<sup>8</sup>
- In 2008, shortly after being confirmed as Air Force Chief of Staff, General Norton Schwartz stated that a level of 381 Raptors was “too high.” On at least three subsequent occasions, General Schwartz and Air Force Secretary Michael Donley have noted publicly that 243 F-22As is the “the military requirement.”<sup>9</sup> However, in a *Washington Post* op-ed, released just a week after Gates announced his intention to end production of the F-22A, they argued that the Air Force can afford only 187 because of a lack of funds.<sup>10</sup>
- Earlier this year, Admiral Michael Mullen, chairman of the Joint Chiefs of Staff, stated that the Air Force would like 243 F-22As, approximately 60 more than currently budgeted.<sup>11</sup>
- Last month, General John Corley, commander of the Air Force's Air Combat Command, wrote in

a letter to Senator Saxby Chambliss (R-GA) that “a fleet of 187 F-22s puts execution of our current national military strategy at high risk in the near to mid-term.”<sup>12</sup> He continued, “To my knowledge, there are no studies that demonstrate 187 F-22s are adequate to support our national military strategy. Air Combat Command analysis, done in concert with Headquarters Air Force, shows a moderate risk force can be obtained with an F-22 fleet of approximately 250 aircraft.”<sup>13</sup>

- During a hearing before the Senate Armed Services Airland subcommittee on April 30, 2009, General Richard Hawley, former Commander of Air Force Air Combat Command, testified that analysis he took part in showed that “the number required to conduct operations in two major regional contingencies against adversaries who are capable of contesting our control of the air is 381.” General Hawley also testified that a fleet level of 187 was based on “no analysis whatsoever” and that the lowest figure that was produced through serious analysis was 260 F-22As.<sup>14</sup>
- Also during the same April 2009 subcommittee hearing, Barry Watts, senior fellow with the Center for Strategic and Budgetary Assessments, testified that the figure of 183 F-22As was “purely budget driven.” He continued, “The Air Force was essentially told, ‘Given the cap on the pro-

8. Michael Wynne, “F-22 Multi Year Procurement,” statement before the Subcommittee on Airland, Committee on Armed Services, U.S. Senate, July 25, 2006, at [http://www.globalsecurity.org/military/library/congress/2006\\_hr/060725-wynne.pdf](http://www.globalsecurity.org/military/library/congress/2006_hr/060725-wynne.pdf) (July 7, 2009).
9. John A. Tirpak, “The Military Requirement Is 243,” *Air Force Magazine Daily Report*, April 17, 2009, at <http://www.airforce-magazine.com/DRArchive/Pages/2009/April%202009/April%2017%202009/TheMilitaryRequirementIs243.aspx> (June 26, 2009); Robert M. Gates and Admiral Michael Mullen, “Defense Authorization Request for Fiscal Year 2010 and the Future Years Defense Program,” testimony before the Armed Services Committee, U.S. Senate, May 14, 2009, at <http://armed-services.senate.gov/Transcripts/2009/05%20May/09-31%20-%205-14-09.pdf> (July 7, 2009).
10. Michael Donley and Norton Schwartz, “Moving Beyond the F-22,” *The Washington Post*, April 13, 2009, at <http://www.washingtonpost.com/wp-dyn/content/article/2009/04/12/AR2009041202268.html?hpid=opinionsbox1> (July 7, 2009).
11. Jason Sherman, “Pentagon Seeks F-22A Cost Proposals to Extend Production into FY-10,” *InsideDefense.com*, March 5, 2009.
12. John D. W. Corley, letter to Senator Saxby Chambliss (R-GA), June 9, 2009, at [http://www.airforce-magazine.com/SiteCollectionDocuments/Reports/2009/June%202009/Day17/CorleyResponse\\_060909.pdf](http://www.airforce-magazine.com/SiteCollectionDocuments/Reports/2009/June%202009/Day17/CorleyResponse_060909.pdf) (July 7, 2009).
13. *Ibid.*
14. Hearings, *Hearing to Receive Testimony on the Current and Future Roles, Missions, and Capabilities of U.S. Military Air Power*, Subcommittee on Airland, Committee on Armed Services, U.S. Senate, 111th Cong., 1st Sess., April 30, 2009, at <http://armed-services.senate.gov/Transcripts/2009/04%20April/Airland/09-24%20-%204-30-09.pdf> (June 29, 2009).

gram, the total acquisition program, you can produce as many as you can under that cap.”<sup>15</sup>

- According to the Congressional Research Services, a total of 30 air campaign studies over the past 15 years have confirmed a minimum requirement for 260 Raptors, including the 2006 TACAIR Optimization Study.<sup>16</sup>

**Implications of a Reduced Fleet.** The Air Force’s original requirement, supported by repeated analysis, called for 381 F-22As to equip 10 squadrons with 24 aircraft each. If Congress allows President Obama to end the F-22A program at 187, it is important to understand the additional implications of a fleet this size.

First, because it takes about 100 airplanes to field a wing of 72 operational aircraft, 187 F-22As really yield only about 125 combat-coded planes. With a normal attrition rate of one plane per year, that leaves roughly 100 operational planes in the long term. This number is reduced further—by about 75 percent—in a surge scenario when a combatant commander is facing a serious crisis.<sup>17</sup> All told, this would leave between roughly 75 and 120 F-22As available in a crisis if the entire fleet were stationed in theater.

And second, because the F-22A has a design life of 8,000 hours, which is typical for land-based fighters, a reduced fleet size of 187 will place a greater strain on each individual aircraft. A smaller fleet doing more missions will therefore burn through the aircraft’s service life more quickly than the Air Force had planned and leave less time for research and development to build a successor to the F-22A.<sup>18</sup>

**Industrial Base Considerations.** Permanently closing the F-22 production line would leave the

United States with just one, largely unproven, fifth-generation aircraft line. Yet over the past three decades, the U.S. has always maintained two or three active fighter production lines. Maintaining numerous lines generates savings for the taxpayers through competition while preserving the ability to surge production capacity if necessary. Not only would closing the F-22A line eliminate these benefits, but re-opening the line, if necessary, would come at a higher price to taxpayers.

Furthermore, because full-rate production of the F-35 is not scheduled to begin until 2012, shutting down the F-22A line now would negatively affect the suppliers who provide long-lead items like radar and electronic warfare subsystems. Because the F-22 and F-35 programs share approximately 75 percent of suppliers who have specialized in fifth-generation platforms, a two- or three-year gap in full-rate production would threaten the supply base and truncate the next generation of aerospace designers, engineers, and manufacturers.<sup>19</sup>

**Now or Never.** During the mark-up of H.R. 2647, the National Defense Authorization Act for fiscal year 2010, the House Armed Services Committee was able to provide advanced funding for 12 F-22As in FY 2011. Meanwhile, in its defense authorization bill, the Senate Armed Services Committee provided up to \$1.75 billion for 7 additional F-22As in 2010. Representative Neil Abercrombie (D-OH), chairman of the Subcommittee on Air and Land Forces, said he was confident House and Senate appropriators would support “at least” an additional 20 F-22As in this year’s bill.<sup>20</sup>

Congress should add funding for an additional allotment of 20 Raptors in the final FY 2010 defense authorization and appropriations bills. This will

15. *Ibid.*

16. Christopher Bolkcom, “F-22A Raptor,” Congressional Research Service, December 19, 2008, p. 12, at [http://assets.opencrs.com/rpts/RL31673\\_20081219.pdf](http://assets.opencrs.com/rpts/RL31673_20081219.pdf) (July 7, 2009); Gates and Mullen, “Defense Authorization Request for Fiscal Year 2010.”

17. “Hearing to Receive Testimony on the Current and Future Roles, Missions, and Capabilities of U.S. Military Air Power.”

18. Rebecca Grant, “Global Deterrence: The Role of the F-22,” Lexington Institute, February 2009, at <http://www.lexingtoninstitute.org/docs/839.pdf> (July 7, 2009).

19. Lockheed Martin documents obtained by e-mail, February 5, 2009. Also see Bolkcom, “F-22A Raptor.”

20. John Tirpak, “Make that 20 More F-22s,” Air Force Magazine Daily Report, June 18, 2009, at <http://www.airforce-magazine.com/DRArchive/Pages/2009/June%202009/June%2018%202009/MakeThat20MoreF-22s.aspx> (July 7, 2009).

allow, as Abercrombie advised, “breathing room” to make informed decisions about Air Force requirements, the fighter aircraft industrial base, and the possible development of an allied export variant before the production line is closed and Congress has no viable remaining options.

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