

Background

No. 1706
November 13, 2003



Published by The Heritage Foundation

Achieving Balance in America's Long-Range Strike Aircraft Capabilities

Jack Spencer

A modern, long-range bomber force is essential to assuring America's long-term national security. Not only can America's bombers deliver massive amounts of ordnance on targets anywhere on Earth, but they can also conduct single precision strikes on targets of opportunity with little or no warning. Further, they are not vulnerable to the political whims of indecisive allies; they do not require a \$5 billion platform to get them into the theater; and some can evade, outrun, or fly under enemy surface-to-air threats.

Dangerously, the United States does not have a plan to purchase any more of these extremely flexible and effective platforms in the immediate future. That might be acceptable if the current bomber force were modern, but it is not.

Nearly half of America's bombers are the same mid-20th century B-52s depicted in Stanley Kubrik's classic film *Dr. Strangelove*. Most of the rest are the B-1B bombers designed in the 1970s and engineered to penetrate Soviet airspace with nuclear payloads. Only 21 of the current bombers—of which 16 are battle ready—are the modern B-2 bombers. The Pentagon's current plan is to keep America's bomber force largely as is for the next 40 years, by which time the B-52 will be almost 90 years old.

On the other hand, over the next three decades, the Pentagon will invest hundreds of billions of dollars in thousands of short-range tactical aircraft. This reliance on short-range aircraft for strike operations is inappropriate. While tactical aircraft remain very important to America's national security, a better bal-

Talking Points

- America's short- and long-range strike aircraft are old and require modernization.
- Aircraft acquisition is not a zero-sum game. The United States can afford to ensure that both its long- and short-range forces are sufficiently modern.
- Both bombers and fighters remain relevant. Bombers are being used more and more with each major American conflict. However, fighters remain vital assets for battle commanders.
- Rigidity in long-term acquisition strategy for strike aircraft is unwise. Evolving technologies, changing tactics, emerging threats, and fluid politics ensure an unpredictable future, which necessitates a flexible acquisition policy.
- Tankers are essential. Both long-range or short-range aircraft often require tankers to complete their missions, and America's tanker fleet, like much of the force, is old and needs to be modernized.

This paper, in its entirety, can be found at:
www.heritage.org/nationalsecurity/bg1706.cfm

Produced by the Kathryn and Shelby Cullom Davis Institute
for International Studies

Published by The Heritage Foundation
214 Massachusetts Ave., NE
Washington, DC 20002-4999
(202) 546-4400 heritage.org

Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

ance between purchasing short-range tactical aircraft and long-range bombers should be sought. The United States should develop a comprehensive plan to achieve a balanced acquisition strategy for long-range strike aircraft.

The current strategy to invest primarily in tactical air while allowing America's bomber fleet to age is flawed. Instead of facilitating the transformation that most strategic thinkers agree is necessary, this strategy perpetuates the status quo. A successful acquisition strategy would recognize that both long- and short-range air are important, as are both manned and unmanned options. Further, it would put a premium on flexibility.

Framing a Productive Debate

Regrettably, the debate surrounding long-range strike aircraft modernization has often been marred by politics and parochialism, and the result has been an unbalanced modernization strategy. To develop a more balanced strategy, both sides of the debate must acknowledge the following:

- **Aircraft acquisition is not a zero-sum game.** While resources are scarce, America's national security should never be shortchanged. The current perception is that there is a certain amount of money to be used for aircraft acquisition and that every additional dollar used to buy a new bomber is a dollar taken away from the fighter program.
While this approach may be justified given the huge amounts that are being projected for tactical aircraft modernization, it is not necessary. The reality is that the United States can afford to ensure that both its long- and short-range forces are sufficiently modern. For the amount that the United States spends annually on peacekeeping (\$3 billion per year), it could have a robust bomber program.
- **Bombers are not fighters, and fighters are not bombers, but both are important.** Bombers are being used more and more with each major

American conflict, and technology is allowing them to be more effective in ways never before thought possible. For example, bombers were never thought capable of reliably destroying moving targets. Operation Iraqi Freedom demonstrated that this is no longer the case.¹ Fighters also remain vital assets for battle commanders. They guarantee air superiority and provide essential cover for ground forces.

As Dr. Stephen Biddle's analysis of the recent war in Afghanistan makes clear, while bombers are of great value, close combat remains essential in achieving final victory against a well-prepared adversary.² The characteristics inherent to fighters and bombers make each appropriate for certain missions and less appropriate for others, even if they can do some of the same things.

- **America's bombers and fighters are old.** To argue that one element of America's strike force is older than the other and therefore needs more modernization is futile. Both America's short- and long-range strike aircraft are old and require modernization. The bulk of America's strike assets were developed in the 1950s, 1960s, and 1970s. While the United States has a plan to completely modernize its fighter forces over the next three decades, it has no plan to replace the bomber force. This is a mistake.
- **Rigidity in long-term acquisition strategy for strike aircraft is unwise.** Although both long- and short-range aircraft are important to the modern battlefield, neither type—at least in their present incarnation—is guaranteed a place on the future battlefield. Evolving technologies, changing tactics, emerging threats, and fluid politics ensure an unpredictable future.

Therefore, the plan to earmark hundreds of billions of dollars for thousands of short-range aircraft over the next three decades is too rigid. An evolving international and technological environment may dictate that those funds be spent in some other way; however, it is impossible to

1. T. Michael Moseley, "Operation Iraqi Freedom—By the Numbers, Assessment and Analysis Division," USCENAF, April 30, 2003.

2. Stephen Biddle, "Afghanistan and the Future of Warfare: Implications for Army and Defense Policy," Strategic Studies Institute, November 2002.

predict. Likewise, not planning to replace America's current aging bomber force over that same period of time seems equally rigid.

- **Neither bombers nor fighters operate in a vacuum.** It is important to understand that neither bombers nor fighters operate in a logistical vacuum. Both require support aircraft, support personnel, and maintenance.

While a bomber may be able to reach anywhere in the world with one mid-air refueling, it may require more day-to-day maintenance to prepare it for battle. Likewise, while a squadron of fighters may require less support on a per airframe basis, the costs associated with keeping them in-theater may be higher. Ultimately, while cost issues are important, the unique characteristics of each conflict will largely dictate which forces should be used.

- **Do not forget the tankers.** Whether it is long-range or short-range aircraft, they often cannot get to where they are going without the aid of tankers. America's tanker fleet, like so much of the force, is old and needs to be modernized.

A plan is currently in place to introduce 100 new tankers into the fleet through a buy/lease program. Independent of this particular program's value, continuing to ignore this essential element of long-range airborne strike capability would render any other modernization efforts futile. Therefore, any comprehensive strategy that prepares the United States for the future must include modernization of the tanker fleet.

The role of short-range aircraft on the modern battlefield is unquestionably important and will remain so in the foreseeable future, and the Pentagon's modernization strategy reflects this. However, it does not recognize that long-range strike aircraft will also be integral to future success.

What Bombers Bring to the Battlefield

Long-range bombers are traditionally one of the most flexible elements of the U.S. armed forces. Given the size of its payload, a bomber can deliver a disproportionate amount of bombs on targets compared to other elements of the force. For example, during the Vietnam conflict, bombers made up 7 percent of the force but delivered 44 percent of the bomb tonnage. Similarly, in the 1991 Gulf War, B-52 bombers delivered 32 percent of the tonnage—over twice what the entire carrier force delivered—but made up only 4 percent of the force.³ In the past, the mere tonnage was militarily significant by itself, but the increased lethality resulting from precision weapons used in recent years has transformed the role of bombers.

Given their central (and growing) contribution in modern combat, the age of the bomber force, and technological advances that future adversaries are sure to make, it is time to rebalance the acquisition strategy for bombers and short-range aircraft. This is not a question of being an advocate of long-range aircraft or opposed to tactical air capabilities. It should not be addressed as an either/or proposition. Yet the current strategy is exactly that. The Pentagon is putting all of its procurement resources toward short-range, tactical aircraft while starving the bomber force.

This is unacceptable given that the bomber force has been used increasingly with each successive major combat operation. Bombers delivered 32 percent of the ordnance during the Gulf War, 50 percent in Operation Allied Force (Yugoslavia), and 70 percent in Operation Enduring Freedom (Afghanistan).⁴

The Problem of Access

America's forward bases are becoming increasingly scarce, and future access to those bases is unpredictable at best. Turkey's indecision with respect to supporting America's operations to oust Saddam Hussein and Germany's outright opposition to that mission are cases in point.

3. "Independent Bomber Force Review," chaired by Brent Scowcroft, submitted to the House Armed Services Committee, 1997, at www.globalsecurity.org/wmd/library/report/1997/970000-ibr.htm.

4. Christopher J. Bowie, Robert P. Haffa, Jr., and Robert E. Mullens, "Future War: What Trends in America's Post-Cold War Military Conflicts Tell Us About Early 21st Century Warfare," Analysis Center Paper, Northrop Grumman Corporation, January 2003, p. 6.

Furthermore, potential U.S. adversaries are developing tactics that identify weaknesses in America's capabilities and operational concepts to deny the U.S. access to other bases. For example, U.S. military strength is projected by air and sea (and increasingly by space). It is reasonable to assume that potential adversaries would focus on methods that disrupt these capabilities, such as advanced air defenses, anti-satellite capabilities, and anti-ship cruise missiles.

Indeed, recent events prove this point. In Kosovo, Serb forces successfully used existing technology to shoot down an F-117 fighter, America's only stealthy tactical aircraft. It was reported at the time that Serb forces might have been able to track the F-117 by measuring the disturbance it caused in communications waves as it flew.⁵

Whether the Serbs were able to develop an effective passive air defense is almost irrelevant, however, because others are exploring this technology that may eventually render current stealth technology useless.⁶ More recently, in Iraq, resistance forces have used a still unidentified technology to pierce America's heaviest armored tank, the M1A1.⁷ Thus, although the United States enjoys technological superiority in the near term, that edge can be reversed with little or no warning.

Technology is not the only obstacle that the United States will face in gaining access to future theaters of battle. The United States has already faced a more immediate access problem based on political considerations in each of its most recent battles in the war on terrorism.

During the initial stages of the war in Afghanistan, war planners had to work around the problem of not being permitted to stage large forces out of Pakistan, a U.S. ally. There is little doubt that General Pervez Musharraf would have given the United States full access to bases in Pakistan if not for the internal political instability such a move would cause. Fortunately, the U.S. was able to work around

this problem and establish bases in other surrounding nations, but this may not always be the case.

A similar situation unfolded in Saudi Arabia during Operation Iraqi Freedom. Largely for political reasons, the Saudi government denied the U.S. the ability to launch attacks from Prince Sultan Air Base, a U.S. Air Force base with state-of-the-art facilities.

Bombers are not constrained by these access problems. Bombers stationed in the continental United States can reach any target on Earth within 24 hours and can do so with zero to one refueling. The bomber force, however, is not limited to basing in the continental United States. America can also base bombers out of the United Kingdom, Guam, and Diego Garcia. This added geographic flexibility means that the United States can respond militarily to any threat, any time, anywhere. More important, these are the capabilities that deter aggression in the long run.

The Luxury of Efficiency

This flexibility makes the bomber not only an independent, global strike platform, but also a very efficient one. According to the Independent Bomber Review, headed by Brent Scowcroft and submitted to the House Armed Services Committee, "one or two B-2s can do the job of 60 fighters and 15 tankers." The Review goes on to state that "a B-2 would be seven times more cost-effective than the 75-aircraft force package." One must assume, however, that "the job" to which the report refers is one geared toward the bombers' strength, such as putting bombs on targets from the air.

Another report explains that, in terms of delivering a JDAM (joint direct attack munitions) smart bomb, the B-2 is three times more efficient than the F-15E fighter. This assumes the current payload capacity of the B-2, which can carry 16 2,000-pound JDAMs.⁸ Imminent upgrades for the B-2 will allow it to carry 80 500-pound JDAMs, and within the next 10 years, it will be able to deliver up to 192 Small Diameter Bombs. These upgrades will yield

5. Sean Rayment, "US Fears Iraq Radar Can See Stealth Plane," *The Telegraph*, June 1, 2002.

6. Scott Cannon, "Stealth's Unmasking Only a Matter of Time," *The Kansas City Star*, June 17, 2003.

7. John Roos, "Something Felled an M1A1 Abrams Tank in Iraq—But What?" *Army Times*, October 27, 2003.

8. Bowie, Haffa, and Mullens, "Future War," p. 42.

not only greater flexibility and capability, but also much greater efficiency.

Achieving a Balanced Modernization Strategy

Diverse geographic, political, and technological obstacles make it imperative that the Pentagon develops new ways to fight and win wars. The Pentagon's operational concept for bombers, as described in the "Long-Range Strike Aircraft" white paper, seems to keep up with the changing strategic environment and the evolving role of bombers.⁹ However, the Air Force's bomber acquisition strategy is lagging behind. The Air Force is more concerned with how much time can be squeezed out of an airframe than with whether or not America's long-range strike modernization plan, as a whole, is appropriate.

This becomes increasingly troublesome when one considers the increasing responsibility that bombers have had for delivering ordnance in recent conflicts. In Operation Allied Force against Serbia, the B-2 bomber flew 45 sorties, delivering 1.4 million pounds of ordnance. In the first two months alone, the B-2 flew only 3 percent of the missions but struck 33 percent of the targets.¹⁰

These percentages remain consistent today. During Operation Enduring Freedom, bombers flew around 10 percent of the sorties but delivered 70 percent of the ordnance.¹¹ In contrast, carrier-based aircraft delivered 24 percent, and land-based tactical aircraft delivered only 6 percent.¹²

Impending problems will likely not concern whether or not there are enough long-range strike platforms in the future. Instead, the problem will likely emerge from whether or not the makeup of the force brings the right mix of attributes to the battlefield. The current strategy will result in a very modern tactical fighter force and a very old bomber

force. A more balanced plan would be better for America's long-term national security.

The Fighters. The poor condition and age of America's fighter force, the proliferation of modern tactical aircraft, and the development of modern air defenses that can counter U.S. capabilities will eventually undermine U.S. tactical air superiority. The United States should focus on modernizing this capability in the near term.

To do so, however, it must realize that it may one day face adversaries who have acquired better air defenses to detect America's stealth planes, anti-ship cruise missiles to target its aircraft carriers, and innovative systems to deny access to the forward-basing areas from which the United States could launch its tactical aircraft. Such developments would seriously undermine America's reliance on tactical fighters. The Bush Administration will need to decide how much to invest in modernizing the tactical air fleet and how much to dedicate to developing revolutionary capabilities that would not have the same limitations.

Modernizing the tactical fighter force will involve near- and long-term funding requirements. Funding should focus first on meeting near-term requirements, but simultaneously ignoring the tactical fleet's longer-term needs could put U.S. military forces at great risk.

Instead of spending over \$300 billion over the next 30 years on 4,000 tactical aircraft,¹³ as planned, the Pentagon should diversify its air-to-ground strike options. It should procure enough tactical aircraft over the next 10 years to ensure a modern force similar in size to today's force in order to meet near-term threats. But it should minimize purchasing aircraft that only marginally improve current capabilities and instead invest in developing a reliable unmanned combat aerial vehicle (UCAV) that could enter the force around 2010.

9. U.S. Air Force, "Long-Range Strike Aircraft," white paper, November 2001.

10. Northrop Grumman Corporation, "Program Description: B-2 Spirit," updated August 12, 2002, at www.capitol.northgrum.com/programs/b2.html (October 30, 2003).

11. John A. Tirpak, "The Long Arm of the Air Force," *Air Force Magazine*, October 2002.

12. Bowie, Haffa, and Mullens, "Future War," p. 6.

13. U.S. General Accounting Office, *Tactical Aircraft: Modernization Plans Will Not Reduce Average Age of Aircraft*, GAO-01-163, February 2001, p. 26.

Beyond that date, the Air Force and Navy should gradually reduce purchases of manned aircraft and redirect funds to procure UCAVs consistent with technological feasibility. The requirement to conduct air-to-ground strike missions by tactical aircraft also should be augmented by long-range conventional missiles.

By 2020, the U.S. force should rely not on 1970s-era tactical aircraft, but on modern manned tactical aircraft, unmanned combat vehicles, and long-range precision strike missiles.

The Bombers. America's bomber force is already too old. It consists of 76 1950s-era B-52s, 60 aging B-1s, and only 21 modern B-2s. The Air Force is planning to maintain its current fleet of bombers for another 35–40 years,¹⁴ by which time the B-52 will be nearly 90 years old and many new threats will have materialized. The Air Force needs a bomber modernization strategy to preserve America's competitive advantage by developing a modern bomber force that is appropriate for an unpredictable future.

The United States now focuses bomber modernization dollars on programs that extend the bomber life spans. Given the bombers' limitations and the emergence of new threats, this is inadequate if the goal is to maintain America's superiority over its potential adversaries. A better near-term strategy would be to develop an advanced air-launched cruise missile (ALCM) for use on the aging B-52 bomber force. This would increase the utility of America's highly visible and therefore vulnerable bombers by allowing them to target locations from more distant, safer locations.

At the same time, the Air Force should begin to phase out the B-52 and replace it with the B-2. Northrop Grumman has stated that it could build

40 new B-2s over the next decade for around \$735 million each.¹⁵ By 2015, only the best-conditioned B-52s should remain in the fleet. Phasing in the B-2 as the primary long-range conventional bomber over the next 10–15 years would give the United States a competitive advantage over potential adversaries well into the next decade. Under such a plan, by 2015, America's bomber force would consist of something like 60 B-2s, 60 B-1s, and a handful of B-52s with advanced ALCMs.

Additionally, the United States should begin to invest in new technologies that could be introduced into the force around 2020 as the B-1 reaches the end of its planned service life and potential enemies become more technologically sophisticated. Research and development should focus on two new capabilities: an unmanned intercontinental range bomber and a multi-purpose space plane for bombing missions and space control.

Conclusion

The controversy that inevitably accompanies the mere suggestion that the United States should move away from a strategy that so heavily favors tactical air indicates that any effort to change course will involve many difficult and controversial decisions. The good news, however, is that it is neither strategically necessary (or financially realistic) to replace the entire fleet with modern B-2s or next-generation long-range bombers nor necessary to reverse current efforts for fighter modernization. A more balanced approach can and should be developed.

—*Jack Spencer is Senior Policy Analyst for Defense and National Security in the Kathryn and Shelby Cullom Davis Institute for International Studies at The Heritage Foundation.*

14. U.S. Air Force, "Long-Range Strike Aircraft."

15. James Dao, "Stealth Bomber, Once Scorned, Gains Fresh Backing," *The New York Times*, June 26, 2001.