

May 1996

AIR FORCE AIRCRAFT

Consolidating Fighter Squadrons Could Reduce Costs



**National Security and
International Affairs Division**

B-271047

May 6, 1996

The Honorable John R. Kasich
Chairman, Committee on the Budget
House of Representatives

The Honorable Herbert H. Bateman
Chairman
The Honorable Norman Sisisky
Ranking Minority Member
Subcommittee on Military Readiness
Committee on National Security
House of Representatives

In 1992, the Air Force decided to reconfigure its fighter force into smaller squadrons. This decision occurred at a time when the Secretary of Defense was attempting to reduce defense operating and infrastructure costs. We evaluated the cost-effectiveness of the Air Force operating its fighter forces in smaller squadron sizes and the implications this might have on the Secretary of Defense's efforts to reduce defense infrastructure costs. We focused on the C and D models of the Air Force's active component F-15s and F-16s. Because of your interest in this subject, we are addressing this report to you.

Background

To achieve directed force structure reductions, the Air Force has been reducing the number of F-15 and F-16 aircraft in its inventory. Between fiscal years 1991 and 1997, the Air Force plans to reduce its F-15 aircraft from 342 to 252. Over this same period, the Air Force plans to reduce its F-16 aircraft from 570 to 444. In 1991, F-15 and F-16 aircraft were configured in 42 squadrons. By fiscal year 1997, these aircraft will be configured in 37 squadrons.

Until 1992, the Air Force predominantly organized its active fighter aircraft in wings of three squadrons, with 24 combat aircraft in each squadron. However, in 1992, the Air Force Chief of Staff directed that the squadrons be reduced to 18 aircraft. By 1997, most fighter squadrons will have been reduced to this smaller size, leaving only 54 aircraft in most wings.

The Secretary of Defense has encouraged the services to consolidate forces wherever possible to reduce infrastructure and operating costs.¹ However, the Air Force acknowledged in 1995 that while the force structure has been reduced by 30 percent, the supporting infrastructure has been reduced by only about 15 percent.

Results in Brief

The organizational structure of the Air Force's fighter force is not cost-effective. By operating F-15s and F-16s in smaller squadrons, the Air Force increases the number of squadrons above the number that would have been used in the traditional 24-aircraft configuration. The result is increased operating costs and slowed progress in reducing infrastructure costs. Although the Air Force considers smaller fighter squadrons beneficial, it has not undertaken any studies to justify its decision. The Air Force's arguments for using smaller squadrons do not justify the additional costs.

We evaluated a range of options for consolidating squadrons that could reduce operating costs by as much as \$115 million annually or by more than \$745 million over the Defense planning period of fiscal years 1997-2002. In addition, consolidating squadrons could result in base closures, reducing infrastructure costs by about \$50 million yearly per base closing.

Benefits of Smaller Fighter Squadrons Not Compelling

The Air Force cited increased deployment flexibility and reduced span of control as the primary benefits for having smaller fighter squadrons. However, the Air Force has not demonstrated that these benefits are compelling. Moreover, the Air Force has neither documented instances of problems with deployment flexibility and span of control nor conducted studies that support its decision to use smaller squadrons.

Deployment Flexibility Exists Without Reducing the Size of Squadrons

Air Force officials said that the primary benefit of using smaller-sized squadrons is increased operational deployment flexibility. With fewer fighters in the Air Force inventory, reducing squadrons to 18 aircraft increases the number of squadrons above the number there would have been had the aircraft been organized in traditional squadrons of 24 aircraft. Air Force officials stated that these additional squadrons are

¹“Operating costs” refer to elements contained in the operation and maintenance, military personnel, and other procurement categories of Defense appropriations for example, wing and squadron personnel costs. “Infrastructure costs” are for Defense activities such as, intelligence, strategic defense, and applied research and development for example, base police and hospital costs.

needed to respond to conflicts that reflect the new security environment. This new security environment is characterized by multiple contingency operations and the possibility of two nearly simultaneous military regional conflicts.

On the basis of our analysis of Air Force fighter assistance in recent contingency operations, it appears that the Air Force would have considerable deployment flexibility even if the aircraft remained in the former 24-aircraft configuration. We examined the three contingency operations that were ongoing during June 1995 that required Air Force F-15 and F-16 assistance. For two operations, the Commander in Chief (CINC) for each theater operation required less than one squadron's aircraft for each operation. For these operations, the Air Force rotated 18 squadrons of F-15s and F-16s (7 active and 11 reserve) to provide year-long coverage to support these contingency operations. We were told that for the third operation, the CINC's requirement, which equated to one 18-aircraft squadron each of F-15s and F-16s, was met by rotating 6 F-15 and 6 F-16 continental United States (CONUS) based 18-aircraft fighter squadrons. We were advised that this number of squadrons was used because Air Combat Command (ACC) desired, for quality-of-life reasons, to maintain an 18-month interval between rotations for each squadron's 3- to 4-month deployment overseas. However, using ACC's stated goal of 8 to 9 months between overseas deployments, the CINC's requirements for this latter operation could have been met with only three to four fighter squadrons. If the Air Force deployed squadrons in accordance with ACC's stated goal, a larger number of squadrons would not be needed, particularly since reserve squadrons are available to augment the active force.²

We also question whether DOD's current military strategy requires the larger number of squadrons afforded by the 18-aircraft squadron design. The Bottom-Up Review specified that 10 fighter wing equivalents (72 aircraft each) would be needed for each of two anticipated major regional conflicts. The term "fighter wing equivalent," however, underscores that fighter requirements are not stated in terms of squadrons but rather in terms of the number of aircraft.

The Secretary of Defense's fiscal year 1996-2001 Defense Planning Guidance states Air Force requirements in terms of total aircraft, not squadrons. Further, Air Force officials at ACC and the 9th Air Force

²According to Air Force officials, because reserve component squadrons rotate for shorter durations, about three reserve squadrons are used for a 3-to-4 month deployment while only one active squadron is needed for the same period.

headquarters (the U.S. Central Command's air staff) said that requirements for CINC missions are computed by the number of aircraft needed to successfully execute the mission, not by the number of squadrons. Moreover, officials at the 9th Air Force headquarters stated that the primary use of squadron organizations in a regional conflict operation is to manage the daily flight shifts and that squadron structures become almost invisible because all aircraft are controlled by the theater's air component commander. Thus, from the CINC's perspective, the number of squadrons in which aircraft are organized is largely immaterial.

Span of Control Has Not Been an Issue

Air Force officials told us that another benefit of smaller squadrons was "span of control"—the ability to manage personnel and the collective tasks for which they are responsible. Until recently, flight line maintenance and associated personnel were controlled by the wing. When this function was shifted to the squadron in 1991-92, a typical 24-aircraft squadron would have increased from about 85 to over 300 people.³ This fourfold growth, according to Air Force officials, would have weakened the commander's ability to effectively manage people and missions. These officials believed that the reduced number of squadron aircraft helps to offset this effect because a smaller squadron reduces the number of squadron personnel. However, we found that reducing the squadron to 18 aircraft only reduced personnel by about 10 percent (about 30 people).

The Air Force's standard for span of control for maintenance squadrons commanders is 700 people, about twice the number of personnel being supervised by flight squadron commanders. Although span of control may have been a perceived problem early in the Air Force's wing reorganization, ACC officials are not aware of any instance where it has been raised as an issue. Discussions with a number of wing and squadron officials also indicated that the squadron commander's span of control had not increased enough to be a problem.

Decision to Reduce Squadrons Was Not Based on Analysis

The Air Force's reduction in squadron size was neither evaluated in a systematic manner, nor supported by documented studies. For example, no assessment of benefits versus drawbacks of the appropriate squadron size was conducted, and there were no studies to support scenarios where more squadrons would be needed. Some Air Force officials said that the basic rationale for moving to smaller squadrons was to minimize the

³The decentralization of flight line aircraft maintenance from the wing to the squadron was part of an Air Force reorganization called "Objective Wing." This change gave the squadron commander responsibility for managing some maintenance assets for the first time.

reduction in wing and squadron commands as the number of aircraft in the force declined. We were told that the Air Force considered it inappropriate to identify command reductions during a period when the base realignment and closure (BRAC) process was ongoing because it would constitute an action that would prevent the BRAC process from proceeding as designed. According to Air Force officials, identifying changes that significantly reduce base facilities was against Air Force policy and the laws governing the BRAC proceedings. Although it is true that Department of Defense (DOD) entities were constrained from reducing force structure and closing bases beyond specified limits outside the BRAC process, the Air Force was not precluded from making recommendations on these matters during the BRAC process. In our view, such identifications would have facilitated the development of recommendations for base closures.

Consolidating Fighter Squadrons Could Reduce Costs

Organizing the fighter force into 24-aircraft squadrons reduces the total number of squadrons and results in more economical operations than squadrons of 18 aircraft. For example, annual operating costs for 72 F-15s are about \$12 million less if they are organized into squadrons of 24 aircraft instead of squadrons of 18.

We calculated the savings from staffing standards and cost estimates provided by Air Force officials, using an Air Force's cost estimation model (a more detailed description of our methodology is in app. III). The annual savings are primarily due to reduced military personnel requirements, in such areas as command, staff, administrative, and maintenance. The salary costs associated with reduced military personnel requirements account for about 70 percent of the total savings, of which over 90 percent is enlisted pay. Also, larger squadrons allow maintenance specialty shops to be used more efficiently, requiring little or no change in staffing. Other savings occur due to reduced training, medical services, supplies, and base operating support.

Feasible Alternatives Exist for Increasing Squadron Size

The Air Force could modify its current configuration of fighter aircraft in a more cost-effective manner to increase the number of squadrons with 24 aircraft. This modification would entail consolidating some existing F-15 and F-16 squadrons with other squadrons to better maximize base utilization. Our four illustrative options (which are presented in detail in app. I) would have annual savings ranging from \$25 million to \$115 million annually.

Squadron Size Could Be Expanded Without Major Investments

ACC officials we contacted stated that bases that previously had 24 aircraft per squadron and 72 aircraft per wing should be able to return to that level. Our review of Air Force base closure capacity analysis data indicated that most fighter wings on CONUS bases could increase squadron size to previous levels with little or no additional cost. For example, a capacity analysis prepared by Moody Air Force Base (AFB) officials stated that Moody will retain the capacity to support 2 additional fighter squadrons and increase 2 of its 18 sized F-16 fighter squadrons to 24 aircraft.

Similarly, wing personnel at Shaw AFB and Langley AFB indicated that their installations could absorb 6 more aircraft per squadron or 18 per wing with no additional costs. These officials stated that because their bases previously had 24 aircraft per squadron and facilities were sized for 24 aircraft, returning to 24 would be little to no problem. Moreover, maintenance personnel stated that much of the support equipment could handle six additional aircraft with little additional investment. Deployment personnel at the 20th fighter wing at Shaw AFB stated that the supporting equipment for 24 aircraft would take the same number of transport planes to move as a squadron of 18 aircraft.

Factors to Be Considered When Consolidating

Air Force officials at different levels of command cited several factors that should be considered when consolidating aircraft into fewer squadrons and wings. These factors include keeping aircraft with the same state of modernization and mission characteristics together. In addition, they stated that aircraft engines should be compatible at least in the squadron and preferably throughout the wing. Other factors officials said should be considered include the availability of training areas, impact on the CONUS/overseas mix, and the capacity of the receiving base to accept the additional aircraft and related personnel and equipment.

Air Force officials noted that different modernization upgrades and specialized mission equipment can make the F-16 aircraft very different. For instance, newer F-16s have improved avionics that require different logistical support than earlier versions of the F-16. In addition, some aircraft have specialized equipment, such as the equipment needed to perform the night ground attack mission. Air Force officials stated that specialized training is required for pilots to perform this mission and believe mixing aircraft that have this capability with aircraft that do not will reduce unit readiness.

Air Force officials also stated that having either F-15 and F-16 aircraft with different engines in the same wing complicates maintenance. For instance, different engines either from the same or different manufacturer can generate unique maintenance requirements. Because different support equipment and maintenance skills may be needed for various engines, maintaining different types of engines at the same wing can strain maintenance resources and ultimately reduce the availability of deployable aircraft.

Additionally, Air Force officials said that any restructuring that affects aircraft outside the United States must consider agreements with foreign governments that govern the number of aircraft based in these countries. In general, the number of aircraft should not change materially.

Alternatives Exist for Reorganizing Fighter Force

Considering the factors that Air Force officials believe are most important when consolidating forces we developed four alternatives for reorganizing the F-15 and F-16 fighter force. Our alternatives generally did not commingle aircraft with different type engines and modernization and mission characteristics. We also kept relatively constant the U.S./overseas basing mix and the number of aircraft in each theater, and we varied the number of aircraft in the Air Force's composite wings. These options ranged from restructuring only fighter aircraft in the United States to restructuring all F-15s and F-16s worldwide.

The "CONUS Only" alternative we developed is projected to save the Air Force about \$25 million annually in operating costs. This would be achieved by increasing 6 existing fighter squadrons to 24 aircraft and eliminating 2 squadrons. The alternative of consolidating fighter squadrons worldwide would consolidate the F-15 and F-16 aircraft into 7 fewer squadrons than the Air Force currently plans and increase 17 squadrons to 24 aircraft and 2 squadrons to 30 aircraft. This alternative could save the Air Force a projected \$115 million annually. Our other two alternatives would fall between these savings.

Consolidating aircraft at fewer bases would also help the Air Force identify excess base infrastructure and candidate bases for closure. For example, three of the four alternatives would eliminate all fighter aircraft from at least one base, suggesting the potential of a base closure. If a base closure could be executed with savings similar to what DOD estimated for similar bases during the 1995 BRAC process, annual savings would average

about \$15 million for the first 6 years and about \$50 million in each ensuing year.⁴

Air Force officials at headquarters and ACC expressed concerns about the implementation of our alternatives without the support of DOD and Congress. They stated that efforts in the past to move aircraft from a base without an equal substitution for the losing base have not been achievable. In their opinion, if the Air Force leadership decided to implement options to increase squadron and wing size back to 24 and 72, respectively, the Air Force would need the support of both DOD and Congress.

Recommendation

We recommend that the Secretary of Defense, in his efforts to reduce the DOD's infrastructure costs, require the Secretary of the Air Force to develop an implementation plan to operate the Air Force's fighter force in larger, more cost-effective squadrons. If the Secretary of Defense believes that the plan could reduce costs, he should seek congressional support for it.

Agency Comments

DOD concurred with our findings and recommendation. DOD's comments are reproduced in appendix II. A detailed explanation of our scope and methodology appears in appendix III.

We conducted this review from February 1995 to February 1996 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Secretaries of Defense and Air Force and interested congressional committees. We will also make copies available to others upon request.

⁴Savings represent DOD's estimate for fighter bases screened for closure but not recommended by DOD during the 1995 BRAC process. See Military Bases: Analysis of DOD's Process and Recommendations for Closure and Realignment (GAO/NSIAD-95-133, Apr. 14, 1995).

Please contact me at (202) 512-3504 if you or your staff have any questions about this report. Major contributors to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Richard Davis". The signature is written in a cursive style with a prominent "R" and "D".

Richard Davis
Director, National Security Analysis

Contents

Letter		1
Appendix I		12
Consolidation	Alternative One	12
Alternatives	Alternative Two	13
	Alternative Three	14
	Alternative Four	15
Appendix II		17
Comments From the		
Department of		
Defense		
Appendix III		19
Objectives, Scope,	Estimating Cost Implications	19
and Methodology	Developing Alternatives	20
Appendix IV		22
Major Contributors to		
This Report		
Tables	Table I.1: Comparison of Air Force's Planned Basing With	13
	Alternative One	
	Table I.2: Comparison of Air Force's Planned Basing With Basing	14
	Alternative Two	
	Table I.3: Comparison of Air Force's Planned Basing With	15
	Alternative Three	
	Table I.4: Comparison of Air Force's Planned Basing With	16
	Alternative Four	

Contents

Abbreviations

ACC	Air Combat Command
AFB	Air Force Base
BRAC	base realignment and closure
CINC	Commander in Chief
CONUS	continental United States
DOD	Department of Defense
LCOM	Logistics Composite Model
SABLE	Systematic Approach to Better Long Range Estimating

Consolidation Alternatives

We developed and refined four alternatives that demonstrate that the Air Force could organize its fighter aircraft more cost-effectively. Underpinning our analysis were principles that the Air Force cited as important. These factors included keeping the continental United States (CONUS)/overseas basing mix relatively constant; avoiding mixing aircraft with different modernization upgrades (blocks), mission characteristics, and engines; balancing capability throughout theaters; and assessing receiving base capacity. While these principles are plausible, our options vary the extent that these principles were used to gain greater economies. Moreover, the Air Force has not rigidly adhered to these principles. For example, different engines are contained in the F-15 wing at Eglin Air Force Base. The Air Force also plans to mix F-16s with different blocks.

The following tables compare the Air Forces's planned fiscal year 1997 mix of 18- and 24-aircraft squadrons at each base with the mix of squadrons that would be achieved with each of our four alternatives.¹ Preceding each table, we described the specific factors we considered in developing each alternative.

Alternative One

This alternative consolidates squadrons that are located in CONUS only. Under this alternative, fighter aircraft would remain at the same number of bases as the Air Force currently plans. The number of aircraft of one composite wing would be changed. Bases would be restricted to having the same aircraft that were in the Air Force's plan. This alternative would result in annual operating costs savings of \$25 million. Table I.1 compares the Air Force's planned basing with alternative one.

¹Our analysis was based on the Air Force's fiscal year 1997 planned structure as of September 1995. Subsequent to completion of our analysis, the Air Force revised its 1997 basing plan. This change would not affect the feasibility of our alternatives or the magnitude of our cost savings.

**Appendix I
Consolidation Alternatives**

Table I.1: Comparison of Air Force's Planned Basing With Alternative One

Base	Air Force plan for fiscal year 1997				Alternative one				Change in number of squadrons		Comparison of total F-15s and F-16s at each base	
	18-aircraft squadrons		24-aircraft squadrons		18-aircraft squadrons		24-aircraft squadrons		F-15	F-16	Air Force plan	Alternative one
	F-15	F-16	F-15	F-16	F-15	F-16	F-15	F-16	F-15	F-16		
1	0	3	0	0	0	2	0	0	0	-1	54	36
2	0	2	0	1	0	0	0	3	0	0	60	72
3	0	2	0	0	0	0	0	1	0	-1	36	24
4	1	1	0	0	1	1	0	0	0	0	36	36
5	0	1	0	0	0	1	0	0	0	0	18	18
6	0	2	0	1	0	3	0	1	0	1	60	78
7	3	0	0	0	0	0	3	0	0	0	54	72
8	3	0	0	0	2	0	0	0	-1	0	54	36
Total	7	11	0	2	3	7	3	5	-1	-1	372	372

Alternative Two

This alternative consolidates squadrons and uses one fewer base than currently planned by the Air Force. In order to execute this alternative, fewer than one squadron from CONUS would have to be shifted outside of CONUS. Two different aircraft blocks would be mixed, which is comparable to the Air Force's plan. The number of aircraft at two composite wings would be changed. Also, aircraft other than F-15s and F-16s would have to be relocated to fully execute this alternative. This alternative would result in annual operating costs savings of \$59 million. Table I.2 compares the Air Force's planned basing with alternative two.

Appendix I
Consolidation Alternatives

Table I.2: Comparison of Air Force's Planned Basing With Basing Alternative Two

Base	Air Force plan for fiscal year 1997				Alternative two				Change in number of squadrons		Comparison of total F-15s and F-16s at each base	
	18-aircraft squadrons		24-aircraft squadrons		18-aircraft squadrons		24-aircraft squadrons		F-15	F-16	Air Force plan	Alternative two
	F-15	F-16	F-15	F-16	F-15	F-16	F-15	F-16	F-15	F-16		
1	0	3	0	0	0	0	0	0	0	-3	54	0
2	0	2	0	1	0	0	0	3	0	0	60	72
3	0	2	0	0	0	1	0	1	0	0	36	42
4	1	1	0	0	1	1	0	0	0	0	36	36
5	0	1	0	0	0	0	0	0	0	-1	18	0
6	0	2	0	1	0	2	0	3	0	+2	60	108
7	3	0	0	0	0	0	3	0	0	0	54	72
8	3	0	0	0	2	0	0	0	-1	0	54	36
Subtotal	7	11	0	2	3	4	3	7	-1	-2	372	366
9	0	1	0	0	0	1	0	0	0	0	18	18
10	2	0	0	0	2	0	0	0	0	0	36	36
11	0	2	0	0	0	1	0	1	0	0	36	42
12	3	0	0	0	0	0	2	0	-1	0	54	48
13	0	0	0	1	0	0	0	1	0	0	24	24
14	0	0	0	2	0	0	0	2	0	0	48	48
15	1	0	0	0	0	0	1	0	0	0	18	24
16	1	2	0	0	1	2	0	0	0	0	54	54
17	0	2	0	0	0	2	0	0	0	0	36	36
Subtotal	7	7	0	3	3	6	3	4	-1	0	324	330
Total	14	18	0	5	6	10	6	11	-2	-2	696	696

Note: U.S. bases are 1-8; non-U.S. bases are 9-17.

Alternative Three

This alternative consolidates fighters at one fewer base than currently planned by the Air Force. The number of aircraft in three composite wings would be changed. One squadron at base 4 would have 30 aircraft. One squadron substitution between the Air Force's active and reserve components would be necessary. Some aircraft would be exchanged between theaters. Two different aircraft blocks were mixed at one wing, which is comparable to the Air Force's plan. This alternative would result in annual operating costs savings of \$101 million. Table I.3 compares the Air Force's planned basing with alternative three.

Appendix I
Consolidation Alternatives

Table I.3: Comparison of Air Force's Planned Basing With Alternative Three

Base	Air Force plan for fiscal year 1997				Alternative three				Change in number of squadrons		Comparison of total F-15s and F-16s at each base	
	18-aircraft squadrons		24-aircraft squadrons		18-aircraft squadrons		24-aircraft squadrons		F-15	F-16	Air Force plan	Alternative three
	F-15	F-16	F-15	F-16	F-15	F-16	F-15	F-16	F-15	F-16		
1	0	3	0	0	0	0	0	0	0	-3	54	0
2	0	2	0	1	0	0	0	3	0	0	60	72
3	0	2	0	0	0	1	0	1	0	0	36	42
4	1	1	0	0	0	0	1	1	0	0	36	54
5	0	1	0	0	0	0	0	1	0	0	18	24
6	0	2	0	1	0	1	0	2	0	0	60	66
7	3	0	0	0	0	0	3	0	0	0	54	72
8	3	0	0	0	0	0	2	0	-1	0	54	48
Subtotal	7	11	0	2	0	2	6	8	-1	-3	372	378
9	0	1	0	0	0	1	0	0	0	0	18	18
10	2	0	0	0	2	0	0	0	0	0	36	36
11	0	2	0	0	0	0	0	2	0	0	36	48
12	3	0	0	0	0	0	2	0	-1	0	54	48
13	0	0	0	1	0	0	0	1	0	0	24	24
14	0	0	0	2	0	0	0	2	0	0	48	48
15	1	0	0	0	0	0	1	0	0	0	18	24
16	1	2	0	0	0	2	0	0	-1	0	54	36
17	0	2	0	0	0	2	0	0	0	0	36	36
Subtotal	7	7	0	3	2	5	3	5	-2	0	324	318
Total	14	18	0	5	2	7	9	13	-3	-3	696	696

Note: U.S. bases are 1-8; non-U.S. bases are 9-17.

Alternative Four

This alternative consolidates fighters at one fewer base than currently planned by the Air Force. The number of aircraft at two composite wings would be changed. One squadron at base 4 and one squadron at base 6 would have 30 aircraft each. One squadron substitution would be required between the Air Force's active and reserve components. Also aircraft would be exchanged between theaters. Two different aircraft blocks were mixed at one wing, which is comparable to the Air Force's plan. This alternative would result in annual costs savings of \$115 million. Table I.4 compares the Air Force's planned basing with alternative four.

**Appendix I
Consolidation Alternatives**

Table I.4: Comparison of Air Force's Planned Basing With Alternative Four

Base	Air Force plan for fiscal year 1997				Alternative four				Change in number of squadrons		Comparison of total F-15s and F-16s at each base	
	18-aircraft squadrons		24-aircraft squadrons		18-aircraft squadrons		24-aircraft squadrons		F-15	F-16	Air Force plan	Alternative four
	F-15	F-16	F-15	F-16	F-15	F-16	F-15	F-16	F-15	F-16		
1	0	3	0	0	0	0	0	0	0	-3	54	0
2	0	2	0	1	0	0	0	3	0	0	60	72
3	0	2	0	0	0	0	0	1	0	-1	36	24
4	1	1	0	0	0	0	1	1	0	0	36	54
5	0	1	0	0	0	1	0	0	0	0	18	18
6	0	2	0	1	0	0	0	3	0	0	60	78
7	3	0	0	0	0	0	3	0	0	0	54	72
8	3	0	0	0	0	0	2	0	-1	0	54	48
Subtotal	7	11	0	2	0	1	6	8	-1	-4	372	366
9	0	1	0	0	0	1	0	0	0	0	18	18
10	2	0	0	0	1	0	1	0	0	0	36	42
11	0	2	0	0	0	0	0	2	0	0	36	48
12	3	0	0	0	0	0	2	0	-1	0	54	48
13	0	0	0	1	0	0	0	1	0	0	24	24
14	0	0	0	2	0	0	0	2	0	0	48	48
15	1	0	0	0	1	0	0	0	0	0	18	18
16	1	2	0	0	0	0	0	2	-1	0	54	48
17	0	2	0	0	0	2	0	0	0	0	36	36
Subtotal	7	7	0	3	2	3	3	7	-2	0	324	330
Total	14	18	0	5	2	4	9	15	-3	-4	696	696

Note: U.S. bases are 1-8; non-U.S. bases are 9-17.

Comments From the Department of Defense



STRATEGY
AND
REQUIREMENTS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
2900 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-2900



In Reply Refer to:
I-96/35706

Mr. Richard Davis
Director, National Security Analysis
National Security and International Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Davis:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report "AIR FORCE AIRCRAFT: Consolidating Fighter Squadrons Could Reduce Costs" (GAO Code 701046), OSD Case 1095. The Department generally concurs with the report.

Although the Department agrees that a cost analysis of aircraft is certainly a primary consideration in sizing a squadron, the DoD also believes that other costs must weigh in the overall decision, particularly the costs associated with other aspects, such as deployment packaging, grouping of like aircraft, peacetime operational tempo (OPTEMPO) support, stationing, etc. In addition, three of the four options presented in your report could result in base closure, which can only be done effectively through another Base Realignment and Closure Commission (BRAC), and no further BRAC activity is planned.

When the Department of the Air Force undertakes the recommended study, we would ask that you allow the Department's analysts to review the specifics of your cost analysis and conclusions.

The Department appreciates the opportunity to comment on the draft report.

Sincerely,

Frederick L. Frostic
Deputy Assistant Secretary of Defense
Requirements and Plans

Enclosure



GAO DRAFT REPORT - DATED FEBRUARY 16, 1996
(GAO CODE 701046) OSD CASE 1095

“AIR FORCE AIRCRAFT: CONSOLIDATING FIGHTER
SQUADRONS COULD REDUCE COSTS”

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

RECOMMENDATION

RECOMMENDATION: The GAO recommended that the Secretary of Defense, in his efforts to reduce DoD infrastructure costs, require the Secretary of the Air Force to evaluate options and develop an implementation plan to operate the Air Force fighter force in larger, more cost-effective squadrons. The GAO also recommended that, if the Secretary of Defense believes that such a plan has merit and could reduce costs, he should seek Congressional support for the plan. (p. 13 GAO Draft Report)

DOD RESPONSE: Concur. However, although the Department agrees that a cost analysis of aircraft is certainly a primary consideration in sizing a squadron, we also believe that other costs must weigh equally in the overall decision, particularly the costs associated with other aspects, such as deployment packaging, grouping of like aircraft, peacetime operational tempo (OPTEMPO) support, stationing, etc. The GAO report focused on potential cost savings, but did not fully assess potential operational or other impacts, such as basing and base realignment and closure costs. Basing alternatives that could lead to base closure (page 12) should be reviewed in light of Congressional interest in how the Department recommends and executes base realignment and closure.

Similarly, basing decisions that reduce the final number of overseas forward presence forces should be made within the context of potential impacts on theater Commanders-in-Chief (CINC) war plans, regional commitments, and U.S. international policies and influence.

Now on p. 8.

Objectives, Scope, and Methodology

The objective of this review was to evaluate the cost-effectiveness of operating the fighter forces in smaller squadron sizes and the implications this might have on the Secretary of Defense's efforts to reduce defense infrastructure. Our review focused on the Air Force's active component fighter aircraft with a primary focus on the C and D model of F-15s and F-16s.

To evaluate the benefits resulting from reduced squadron sizes, we interviewed officials in various Air Force Headquarters offices such as the Force Programming Division; the Combat Forces Division of the Directorate of Forces; the Combat Forces of the Directorate of Programs and Evaluation; and the Air Operations Group. We also interviewed Air Combat Command (ACC) officials, including officials from various staff functions, the 33rd Fighter Wing, 1st Fighter Wing, and the 20th Fighter Wing. Additionally, we interviewed officials from the U.S. Central Command Air Forces Headquarters. We examined a variety of Air Force documents, including peace-keeping and Gulf War deployment records, staffing requirements and historical levels, and various studies and analyses. We also reviewed the Secretary of Defense's Defense Planning Guidance and Joint Strategic Capabilities Plan and the Air Force's War Implementation and Mobilization Plan.

Estimating Cost Implications

To calculate the cost implications of operating smaller squadrons, we obtained estimated annual operating costs for F-15 and F-16 fighters from Air Force headquarters cost-modeling officials. Separate estimates were provided for squadrons of 18 and 24 aircraft in the U.S., Pacific, and European theaters. These are based on staffing estimates that we developed using planning factors provided by the Air Force. The planning factors included the number of officer and enlisted personnel in squadron overhead, flight crew, and maintenance positions for independent and dependent squadrons.¹

To provide this data, the Air Force used its Systematic Approach to Better Long Range Estimating (SABLE) model, an automated model that uses various cost and planning factors to estimate the peacetime operating and support costs of flying units. Operating costs include cost elements in the operation and maintenance, military personnel, and other procurement appropriations. Within these appropriations, the major cost categories

¹Independent squadrons have the personnel and equipment needed to perform maintenance at the organizational and intermediate levels, whereas dependent squadrons have only organizational level maintenance capability. "Intermediate" and "organizational" are the two levels of maintenance below the depot level.

include military and civilian pay, aviation fuel, depot level repairables, and consumable supplies. These costs are estimated for each type and model of aircraft within each major command.

The SABLE model only addresses variable costs but not any fixed costs. Similarly, it captures direct costs but few indirect costs such as the costs of maintaining the base and runway. The SABLE produces general cost estimates to evaluate force structure options. The estimated savings do not include any military construction, base closure, or other costs that may be associated with transferring aircraft from one specific location to another.

Since 70 percent of the estimated cost savings resulted from reduced military personnel, our reliability assessment consisted of an analysis of the reasonableness of the military personnel planning factors provided by the Air Force. In conducting this assessment, we interviewed ACC manpower officials who developed the personnel factors that were used for the squadron located at U.S. bases. Since maintenance positions accounted for over 80 percent of the military personnel savings, we also reviewed the Logistics Composite Model (LCOM) that ACC officials used in developing their maintenance personnel factors. We also interviewed fighter wing and squadron command and maintenance officials at Langley, Eglin, and Shaw Air Force Bases and toured wing and squadron maintenance and flight line areas. We also reviewed historical staffing data that covered the period when the wings at these two bases previously had squadrons of 24 aircraft.

Developing Alternatives

To develop and evaluate alternatives for consolidating active F-15 and F-16 squadrons, we analyzed force structure organization at all bases that had combat F-15 and F-16 squadrons from 1991 to present, as well as the Air Force's plans through 2001. We also reviewed and analyzed the base capacity assessment completed by each fighter base as part of the 1995 base realignment and closure (BRAC) process. Additionally, we met with various officials from Air Force Headquarters and ACC to identify and understand factors that would constrain the consolidation of these fighter aircraft. We also discussed squadron consolidation and constraining factors with fighter wing officials such as the wing commander, squadron commanders, maintenance officers, and facility and air space managers.

The baseline for our alternatives was the Air Force's planned fighter force structure for fiscal year 1997. Our alternatives ranged from restructuring

Appendix III
Objectives, Scope, and Methodology

only fighter aircraft in the United States to including all F-15 and F-16s worldwide. These options were discussed in open critiques with Air Force officials from both Air Force Headquarters and ACC. Our alternatives did not attempt to address political or international policies impacting basing decisions.

Major Contributors to This Report

**National Security and
International Affairs
Division, Washington,
D.C.**

Fred Dziadek, Assistant Director
Rodell B. Anderson, Senior Evaluator
Craig A. Hall, Senior Evaluator

Norfolk Field Office

Fred Harrison, Evaluator-in-Charge
Dan Omahen, Senior Evaluator

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. VISA and MasterCard credit cards are accepted, also. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20884-6015

or visit:

Room 1100
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000 or by using fax number (301) 258-4066, or TDD (301) 413-0006.

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to:

info@www.gao.gov

**United States
General Accounting Office
Washington, D.C. 20548-0001**

**Bulk Rate
Postage & Fees Paid
GAO
Permit No. G100**

**Official Business
Penalty for Private Use \$300**

Address Correction Requested

