TACTICAL COMBAT FORCES OF THE U.S. AIR FORCE

Statement of

Robert F. Hale
Assistant Director
for
National Security
Congressional Budget Office

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I appreciate the opportunity to testify on issues relating to Air Force tactical combat forces. As you know, CBO has recently completed a report for this Subcommittee on those tactical forces, and my testimony reviews the highlights of that analysis.

In the near term, our analysis suggests that the Air Force can meet its key goals for tactical forces--expanding to 40 air wings, modernizing those wings with F-15 and F-16 aircraft, and replacing old F-4 aircraft--assuming real growth in tactical air budgets of between 2 percent and 7 percent a year through 1990. The percent varies with trends in unit costs for aircraft and support. Alternative approaches that would hold down costs include maintaining F-4 aircraft for longer periods, postponing the buildup to 40 wings, or buying a less expensive aircraft.

In the longer term, the key issue is the cost of the new aircraft for the 1990s--the advanced tactical fighter (ATF). CBO's analysis suggests that it would be almost impossible to maintain the current 36-wing force in the next century-let alone expand it--if the ATF experiences the cost growth that has been common during previous aircraft developments. Only if the Air Force can overcome historical precedent and hold ATF unit costs to about 50 percent above F-15 levels--the approximate level of recent Air Force projections--would maintenance of the current force size be probable.

MEETING TACTICAL AIR FORCE GOALS IN THE NEXT FIVE YEARS

Over the next five years, the Air Force has three basic goals for its tactical combat forces:

- o Build up the force structure from the current 36 wings to 40 wings by 1991;
- o Modernize the force with new versions of F-15 and F-16 aircraft; and
- o Retire old F-4 aircraft at about 20 years of age.

The CBO analysis finds that the five-year defense plan accompanying the February 1985 budget would nearly meet all three of these goals, requiring only that F-4 aircraft be retired at about 21 years of age. Moreover, capability would grow under this plan. By 1992--when all the aircraft purchased over the next five years were in the fleet--potential combat capability would have increased above today's levels by about 32 percent. (The model that CBO used to generate increases in potential combat capability involves some subjectivity and many uncertainties, but it

is a useful tool--and has been used by the Department of Defense--to compare alternative force structures.)

This Administration plan would increase costs. Based on Air Force assumptions about unit costs, direct costs to procure and operate tactical air forces would equal $17.5 billion in budget authority in 1986 and would total about $100 billion over the next five years. That amounts to budgetary growth of about 2 percent a year after adjustment for inflation.

Cost increases could, however, be substantially larger. The Air Force assumes that, after adjustment for inflation, procurement unit costs for the F-16 will be about 15 percent lower in 1990 than they are today; those for the F-15 are expected to be 30 percent lower, despite transition to the new "E" model. The 2 percent estimate also assumes that operating costs will increase only enough to keep pace with inflation. Historically, however, unit costs for procurement and operations have increased by substantial amounts. If history repeats itself, meeting Air Force goals could require increases of as much as 7 percent a year in tactical force budgets rather than 2 percent a year.

Slow Modernization by Buying Fewer F-15 Aircraft

To hold down growth in costs, the Congress could slow modernization but continue to build toward 40 wings. The Congress could, for example, limit procurement of the top-of-the-line fighter, the F-15, to 36 a year rather than letting procurement increase to 60 a year as the Administration currently plans. Even with fewer F-15s, the Air Force could expand to 40 wings if older F-4 aircraft are not retired until 22 years of age. Moreover, since some F-15 procurement would continue, the Air Force could purchase the new "E" model of the F-15 with its enhanced capability for deep interdiction. Increases in potential combat capability would amount to 28 percent under this option, lower than the 32 percent under the Administration's option but still substantial. Costs would be less than those under the Administration's option by $0.5 billion in 1986 and by a total of $3.5 billion over the next five years (see Table 1).

Slow Modernization by Extending F-4 Service Life

If larger savings are required, all further procurement of the F-15 could be terminated, foregoing plans for a new model of the F-15. To accommodate this change and still expand to 40 wings, F-4 aircraft would

be kept in the fleet until they reached ages of between 24 and 30 years, depending on the model. The F-4 airframe should tolerate this later retirement, but old F-4s could become obsolete in the face of increasing Soviet capability. The Air Force could modernize its F-4s to minimize this problem, perhaps along the lines recommended by the Air National Guard. The Guard has suggested that the F-4 be improved by upgrading its electronics and adding fuel tanks to provide longer range.

TABLE 1. EFFECTS OF THREE MAJOR OPTIONS ON ADMINISTRATION'S PLANS, FISCAL YEARS 1986 THROUGH 1990

Option	Five-Year Savings from Administration's Plan (In billions of dollars of budget authority)	Number of Wings by 1991	Potential Capability Increase Over 1985 (In percents) [a/ b/]	Average Age [b/]	Percent F-15s [b/]
Administration	---	40	32	9.7	22
Slow Modernization by Buying Fewer F-15s	3.5	40	28	10.1	20
Slow Modernization by Improving F-4s	11.0	40	28	11.1	15
Postpone Force Growth	6.8	36	21	9.8	21

SOURCE: Congressional Budget Office.

a. Based on a model used by CBO to quantify the potential capability of the planes that make up the inventories of each of these forces.

b. Values shown reflect figures as of 1992. This year was chosen because by then all aircraft bought during the five-year period will have been delivered.

Even after paying for the upgrade, this alternative would reduce costs by $2.1 billion in 1986 and by a total of about $11 billion over the next five years. The resulting fleet would still have 28 percent more potential combat capability than today's fleet (see Table 1).

Postpone Force Growth

Yet another strategy would keep the fleet at today's level of 36 wings, postponing indefinitely the planned growth to 40 wings. Savings under this approach would amount to $0.5 billion in 1986 and a total of $6.8 billion over the next five years. Savings would be achieved by buying fewer F-15 and F-16 aircraft and operating fewer wings. The increase in potential combat capability would amount to about 21 percent by 1992 (see Table 1).

Comparison of this alternative with the preceding two options could suggest a review of current Administration policy. In the face of budget limits, postponing increases in the numbers of wings appears to be the Administration's choice. The date for achieving 40 wings has been delayed in every budget since this Administration's first comprehensive plan in January 1982. Yet CBO's analysis suggests that other approaches--such as increasing the numbers of wings accompanied by extension in the service life of the F-4--might save more money with less reduction in capability.

Buy F-20 Aircraft

Since we completed our analysis, buying Northrop's new F-20 aircraft has been raised as still another option. The Northrop Corporation has offered to sell 396 F-20 aircraft at a fixed price of $15 million apiece, which is less than costs for current versions of the F-16 procured by the Air Force. Since CBO has not yet analyzed this alternative, I cannot supply detailed estimates of costs and capabilities. Any such estimates would depend on answers to a number of questions:

- If the Congress and Administration chose to buy fewer than 396 aircraft, how would this affect unit costs and Northrop's willingness to begin production?

- What changes would the Air Force want in the F-20, and how much would they cost?

- How would F-16 costs be affected by competition from the F-20?

- Can the Air Force enter in multiyear contracts for either the F-16 or F-20--as both contractors propose--and still anticipate savings from competition?

- How realistic are Northrop's estimates of F-20 operating costs, which are substantially lower than those for the F-16?

- How would operating costs be affected by having another plane in the fleet?

- What would be the mission of the F-20 and what systems would be put on the plane?

Until these questions are answered more fully, the F-20 option—while apparently viable based on presentations by the contractor--cannot be compared in detail to the others in CBO's report.

ADVANCED TACTICAL FIGHTER-KEY TO THE FLEET OF THE 1990s

Most of the decisions that the Congress and Air Force face over the next five years depend on planes whose basic designs were developed in the 1960s and 1970s. The Air Force is now beginning development of a totally new aircraft for the 1990s and into the next century--the advanced tactical fighter. Important decisions that affect the nature and cost of the ATF will be made in the next few years, and the results of those decisions could affect the Air Force dramatically in the next decade and beyond.

The ATF will exploit a group of new technologies to make it more capable in many ways than aircraft now being procured. In particular, the Air Force would like the ATF to have enhanced avionics, supersonic cruise capability, stealth characteristics, short-take-off-and-landing capability, high reliability and maintainability, long flight ranges, and improved survivability in environments contaminated by nuclear fallout or biological warfare materials.

Although these enhanced capabilities might be needed to match Soviet improvements, they probably will make the ATF very expensive. That, in turn, will dramatically affect the Air Force's ability to maintain the current size of its fleet.

Our analysis suggests that it would be almost impossible to maintain the current 36-wing force in the next century--much less expand it--if the ATF experiences cost growth that has been common during previous aircraft developments. After adjustment for inflation, "flyaway" costs per aircraft (that is, costs excluding spare parts and ground equipment) for the F-15 were almost three times those of the F-4; flyaway costs of the F-16 were almost twice those of the F-4. If ATF flyaway costs are double those of the F-15, the Air Force would be able to maintain only 29 wings, rather than the current 36, under reasonable assumptions about other factors that affect

force size (see Table 2). Only major and probably unrealistic changes in these other factors would preserve today's fleet size. For example, if ATF costs double, the Air Force could maintain close to 36 wings only if the low-

TABLE 2. NUMBER OF WINGS IN THE YEAR 2010, ASSUMING 3 PERCENT ANNUAL REAL BUDGET GROWTH

Other Factors		ATF/F-15 Cost Ratio		
Percent of ATF in Forces	Cost Growth in Lower-Cost Aircraft	1.50 (Approximate AF Projection)	2.0 (F-16/F-4 Cost Ratio = 1.7) [a]	3.0 (F-15/F-4 Cost Ratio = 2.8) [b]
22 [c]	F-16, no growth	46 [d]	40 [d]	33
	F-16, 3% annual	35	32	27
	F-15, no growth	30	28	25
34 [e]	F-16, no growth	40 [d]	34	26
	F-16, 3% annual	33	29	24
	F-15, no growth	29	26	22
75	F-16, no growth	28	23	17
	F-16, 3% annual	26	22	17
	F-15, no growth	25	21	16
100	All ATFs	24	19	15

SOURCE: Congressional Budget Office.

a. Historical cost ratio of low-cost aircraft in tactical forces mix to preceding air superiority aircraft.

b. Historical cost ratio of high-cost aircraft in tactical forces mix to preceding air superiority aircraft.

c. Programmed percentage of F-15s to total Air Force fighter/attack procurement in DoD Five-Year Defense Plan for fiscal year 1986.

d. Above or equal to current force size.

e. Percentage of higher capability aircraft in Air Force procurement over the last 10 years.

cost fighter in the force mix is an F-16 aircraft that experiences no real cost growth. But the Air Force has already announced plans for an improved F-16 that is likely to cost more. The Air Force could stay close to today's force of 36 wings if ATFs comprise only about 20 percent of the fleet, but over the last ten years high-cost aircraft averaged 34 percent of Air Force aircraft procurement.

Maintenance of the current force of 36 wings seems unlikely unless the Air Force overcomes historical precedent and holds the costs of the ATF to 50 percent above F-15 levels, the approximate level of recent Air Force projections. Even then, expansion to more than 36 wings would require optimistic assumptions about other factors that influence force size.

All these numbers assume that tactical aircraft budgets receive annual real increases of 3 percent, similar to the average of past increases in the gross national product. Expansion in numbers of wings, even with large growth in ATF costs, would be quite feasible if tactical funding increased over the next decade by, say, 5 percent a year after adjustment for inflation. But this greatly exceeds what history suggests will be allowed for tactical forces; from fiscal year 1964 through fiscal year 1983, funds for procurement of tactical aircraft increased by only about 2 percent a year. Moreover, there are many other competitors for defense dollars--both

strategic and conventional--that will make it difficult to sustain large growth in tactical air force budgets.

Our results contrast with those in a recent Air Force study that suggest the ATF will be affordable. That study, however, makes optimistic assumptions. Total unit costs of the ATF are assumed to increase by only 20 percent, despite increases of 60 percent in flyaway costs, apparently because of expected reductions in the cost of ground equipment and spare parts. Also, the study assumes that the unit costs of an F-16 would decrease by about 22 percent by 1991 while those of an F-15, despite its impending model change, would decrease by 33 percent. Even with these assumptions, the study finds its plan affordable only by assuming that tactical aircraft enjoy the same share of the Air Force budget as in the late 1970s, when the United States was buying many tactical aircraft. The Air Force study shows that its plan could not be afforded under shares typical of the last five years, which are also the portions typical of the last twenty years.

Why worry today about costs of a plane that will not be fielded until the mid-1990s? Fighters take a very long time to develop, and the ATF is already in the beginning development stages. Soon it is scheduled to go through the first milestone in the development process--the decision to

proceed with validation of the design concept. The further the plane moves into the development process, the more difficult it will be to make design changes. By the time the ATF could have a significant impact on the budget, many fundamental decisions that dictate future costs would have already been made and the options available for savings would be limited. Therefore, it is not too early for the Congress to focus on ATF costs.

The Congress could place a cap on ATF costs--perhaps at levels currently estimated by the Air Force--and require an annual report to monitor compliance. Alternatively, the Congress could simply monitor ATF costs through normal hearings and reports. Action on ATF costs would have no substantial effect on today's deficit or even those of this decade, but action today could have a major effect on the choices facing the Congresses and Administrations in the decades ahead.