# CBO TESTIMONY

Statement of
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on
Pilot Retention:
Issues and Possible Solutions

before the
Subcommittee on Military Personnel
Committee on Armed Services
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Mr. Chairman and Members of the Subcommittee, I appreciate the opportunity to appear before you this morning to discuss the issue of meeting the requirements for pilots in the military.

The skills of military pilots are obviously essential to any mission employing combat air forces. Moreover, the role of pilots may grow in importance as the United States increases its use of air power in global peacekeeping missions. However, military pilot training is expensive. (For example, many analysts have estimated that the cost of training one new pilot may be greater than $1 million.) In addition, the services are finding it difficult to retain an adequate number of pilots. Both the Air Force and the Navy currently cite shortages of pilots that are expected to persist for the foreseeable future. The Navy's shortfall is 1,077 pilots in 1999; it projects a smaller shortage of 825 pilots by 2002 (see Table 1). In the Air Force, the shortage will worsen over the next several years, with estimated shortfalls of 1,354 pilots in 1999 and 1,943 pilots by 2002 (see Table 2). However, those summary measures do not reflect other, additional problems that may exist such as imbalances in the numbers of pilots in different pay grades or shortages of some types of pilots along with surpluses of others.

The problem of shortfalls in a service's pilot requirements is not new. In 1988, the Navy had an estimated shortage of 1,242 pilots (or 12 percent of re-

TABLE 1. NAVY ESTIMATES OF PILOT SHORTAGES, FISCAL YEARS 1998-2002

| | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|
| Inventory | 6,559 | 6,572 | 6,654 | 6,793 | 6,963 |
| Total Requirement | 7,712 | 7,649 | 7,649 | 7,764 | 7,788 |
| Shortage | -1,153 | -1,077 | -995 | -971 | -825 |

SOURCE: Congressional Budget Office based on data from the Department of Defense.

TABLE 2. AIR FORCE ESTIMATES OF PILOT SHORTAGES, FISCAL YEARS 1998-2002

| | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|
| Inventory | 13,338 | 12,564 | 12,308 | 11,859 | 11,719 |
| Total Requirement | 13,986 | 13,918 | 13,732 | 13,641 | 13,662 |
| Shortage | -648 | -1,354 | -1,424 | -1,782 | -1,943 |

SOURCE: Congressional Budget Office based on data from the Department of Defense.

quirements). That same year, the Air Force had a surplus of 120 pilots but projected a shortage of roughly 750 pilots for 1989.

Today, both the Air Force and Navy are aggressively pursuing measures that they hope will eventually eliminate their shortages. Nevertheless, over the years, the record shows that the actions taken by the services have not always solved their pilot shortage problem. The existence of shortfalls today despite the services' previous efforts suggests that it might be time to try something new. The Congressional Budget Office surveyed written sources and conducted interviews to assemble several alternatives that might aid the services in confronting their pilot shortages. The options offered here are the collective ideas of analysts from such organizations as the Congressional Research Service, RAND, the Center for Naval Analyses, and the Congressional Budget Office.

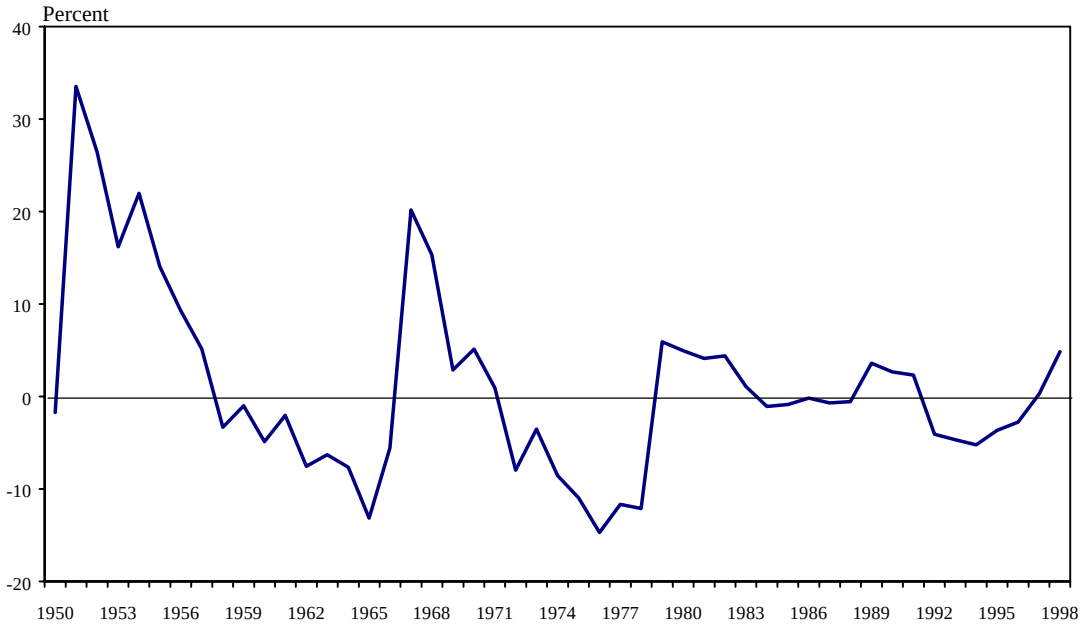
Some of the ideas deal with possible changes in the organizational structure of the pilot force that might reduce pilot requirements; others involve expanding the production of pilots or increasing pilot retention. By no means do they exhaust all of the possible measures that the Air Force and the Navy might consider implementing. Some of the alternatives might apply to both services, but many focus on the Air Force, since it is the largest employer of military pilots and faces the largest shortages in the future.

The ideas presented here have not been analyzed by CBO. In addition, their inclusion is not meant to indicate CBO's endorsement of them. Each alternative warrants a comprehensive examination to determine whether and how it might be implemented. For example, the options' costs might vary widely, from nearly zero to hundreds of millions of dollars. Likewise, their benefits may be somewhat unclear today, and many could require significant legislative action.

## BACKGROUND

The services have experienced both pilot surpluses and pilot shortages over the past 40 years (see Figure 1). The number of pilots fell short of the services' requirements in periods of military buildups—for example, during the Korean War of the 1950s, the Vietnam conflict in the 1960s, and the Reagan defense expansion of the 1980s. During force drawdowns, however, pilot inventories usually exceeded requirements. At any given time, the managers of a service's pilot inventory must balance the supply of pilots with the military's demand for them; yet those efforts have rarely achieved the balance they have sought. That lack of equilibrium is underscored by the apparent contradiction of shortages of pilots following the recent reduction in the military's force structure. However, when

FIGURE 1. SHORTAGES OF AIR FORCE PILOTS AS A PERCENTAGE OF INVENTORY, FISCAL YEARS 1950-1998




SOURCE: Congressional Budget Office based on data from the Department of Defense.

today's shortages are considered within the historical context shown in Figure 1, they may not be as large or as daunting as some observers have suggested.

Nonetheless, managing the pilot inventory is a difficult task in which unmet challenges can easily lead to persistent problems in future years. For example, some Air Force officials acknowledge that the decision to greatly reduce the production of new pilots after 1991 has been a major cause of the current shortage (see Table 3). In particular, the small number of pilots in the pipeline in the 1990s led to a shortfall in the number of Air Force pilots with the rank of captain (company grade). At the same time, the service was experiencing a surplus of pilots with the ranks of major and lieutenant colonel (field grade). The field-grade/company-grade imbalance that resulted will persist for years. During the same period that the Air Force was reducing its production of pilots, it was also dealing with pilots who had graduated from training but were waiting for an opening in a flying slot. The Air Force devised a program whereby pilots in that status were reassigned, or "banked," in nonflying slots until flying jobs became available. At the height of pilot banking in 1991, there were 1,100 pilots in the "bank." It took several years before the Air Force could return all of those pilots to flying positions.

To meet their requirements for pilots, the services must manage retention as well as the training pipeline. Today, management is further complicated by a

TABLE 3. NEW PILOT PRODUCTION IN THE AIR FORCE, FISCAL YEARS 1988-1998

| Year | Pilots |
|---|---|
| 1988 | 1,468 |
| 1989 | 1,565 |
| 1990 | 1,548 |
| 1991 | 1,528 |
| 1992 | 967 |
| 1993 | 749 |
| 1994 | 533 |
| 1995 | 481 |
| 1996 | 525 |
| 1997 | 682 |
| 1998 | 869 |

SOURCE: Congressional Budget Office based on Department of Defense data.

changing environment marked by new security challenges that must be met with a smaller force. Many factors affect whether pilots remain in the military after their initial service commitment, including the recent high operational tempo that pilots have experienced, the impact that other quality-of-life issues have on the families of pilots, military compensation, and employment opportunities with commercial airlines. Although the services have no authority over the airlines' hiring decisions, they can influence a pilot's desire to leave active duty to seek employment in the private sector. In fact, to increase retention, the services have embarked on a series of actions focusing on the issues that give rise to pilots' dissatisfaction with military service. But in addition to those efforts, it may be time to consider other approaches to the problem of too few military pilots, including some measures that may previously have been considered too extreme or too complex.

## ALTERNATIVE INITIATIVES FOR MANAGING MILITARY PILOTS

The services can cut the size of their pilot shortages through three general approaches: reducing pilot requirements, boosting the production of new pilots, and increasing retention of pilots in the military. The Air Force and the Navy have initiatives in each of those areas and continue to promote new approaches as well.

But they still anticipate future shortages and as a result may wish to consider other, additional options.

## Reduce Pilot Requirements

The Air Force and the Navy could diminish their shortages of pilots by reducing pilot requirements. The requirements cover both flying, or "cockpit," positions and nonflying slots, which the services believe require a pilot's qualifications even though the jobs do not actually involve flying aircraft. When the services allocate their pilot inventories, they assign top priority to filling requirements for the critical cockpit positions. Yet in both the Air Force and the Navy, the number of pilots greatly exceeds the number of flying positions (see Table 4). Thus, if reductions in requirements are to be made, they must be made in nonflying positions. Both services might argue that they have already examined their requirements and reclassified some nonflying positions; nonetheless, special consideration of whether pilots are essential for nonflying billets aboard ships in the Navy and staff positions in the Air Force might yield additional requirement cuts. Moreover, for nonflying positions that may, indeed, require the expertise of a pilot, the services might consider employing former military pilots on a consulting basis.

TABLE 4. PERCENTAGE OF FLYING REQUIREMENTS MET BY THE AIR FORCE AND NAVY IN 1998

| Service | Inventory | Flying Requirement | Inventory as a Percentage of Flying Requirement |
|---|---|---|---|
| Air Force | 13,338 | 10,490 | 127 |
| Navy | 6,559 | 3,359 | 195 |

SOURCE: Congressional Budget Office based on Department of Defense data.

Boost New Pilot Production

Increasing their production of new pilots is another way the services could reduce pilot shortages. One such approach might consider alternative ways of training pilots and other initiatives that would improve the flow of pilots through the training pipeline. Key factors in boosting pilot production include an adequate number of instructor pilots and the capacity of major weapon systems (that is, particular types of aircraft such as fighters or helicopters) for accepting new, inexperienced pilots for specialty training.

The Air Force could make an immediate change in pilot training by using more first-assignment instructor pilots (FAIPs) as instructors in undergraduate pilot training, or UPT. That approach might allow the Air Force to more quickly increase its rate of UPT graduates and might have other benefits as well. (The Air Force once relied heavily on FAIPs but has made less use of them in recent years.) FAIPs can be trained as undergraduate instructors and assume their duties soon after they complete their own undergraduate training. In that way, they would bypass an intervening operational tour in a major weapon system (MWS), thus allowing the Air Force to increase the number of instructors more rapidly than would otherwise be the case.

The use of FAIPs affects how many new pilots an MWS can absorb. Because FAIPs would postpone their initial MWS operational tour, the slots they would have filled in the MWS units would open up for other UPT graduates. Moreover, once the FAIPs eventually joined a specific MWS unit, the skills developed during their three-year tour as instructors might allow them to become accomplished MWS pilots more rapidly—thus further improving the flow of pilots through the various weapon systems.

The Air Force might also consider senior pilots as an additional source of trainers, reassigning them as instructor pilots at the rank of lieutenant colonel or colonel. Many senior pilots may be underused or dissatisfied in their current staff or other nonflying positions and might welcome the opportunity to spend the last three or four years of their career instructing and guiding junior pilots. Indeed, their experience, patience, and enthusiasm might improve the level of instruction. Finally, the services could conduct more joint pilot training as a way of conserving resources (although the fact that the Air Force currently trains some pilots for other services would have to be taken into account). In addition to preserving human capital for the services, joint training might produce budgetary savings.

Another action that the Air Force might consider is altering the mix of experienced and inexperienced pilots in operational units. As a short-term measure, the Air Force could use a greater number of less experienced pilots in its

operational units, which would increase the flow of pilots through the units and thus permit production of more new pilots. However, that approach might affect readiness adversely and decrease the combat capability of the operational units. Consequently, it requires careful consideration.

To assist in the management of its pilot inventory, the Air Force might follow the Navy's example and employ a management consulting firm to study its process for producing new pilots and to make recommendations for improvements. Arguably, an independent evaluator might be less susceptible to internal pressures from the service and be more likely to make difficult and possibly controversial recommendations if necessary.

Increase Pilot Retention

The retention of pilots is a third key to alleviating pilot shortages. The services can influence pilot retention by changes in their management approaches to pilots' careers and by monetary incentives to induce pilots to remain in the service.

An immediate action that the Air Force could take to influence the career decisions of its pilots would be to make the Phoenix Aviator 20 program permanent. Phoenix Aviator 20 is a one-year test program offered by the Air

Force in conjunction with commercial airlines. The program's intent is to encourage pilots to remain on active duty for 20 years in exchange for cockpit assignments during their final two years in the Air Force and a guarantee that they will receive serious consideration for employment with the airlines as well as some transition-assistance benefits when they retire. Many pilots in the program's target group reportedly view the program with some scepticism because of its temporary status. To avoid sending mixed signals, the Air Force could drop the "temporary" label, thus allaying pilots' fears about whether the program will be active when they need it. (If the program proves to be ineffective, the Air Force can always stop accepting new program entrants.)

The lure of employment with the commercial airlines remains a stumbling block in the Air Force's and Navy's attempts to retain their pilots. To overcome that obstacle, the services might consider other arrangements with the airlines in the spirit of the Phoenix Aviator 20 program. One such approach might involve a trilateral agreement with the pilots, the service, and the airlines. That plan would call for a contract among the three parties under which military pilots would be employed by a commercial airline but would resume active-duty service for a predetermined period (for example, three months) each year. Since a pilot's schedule would be set in advance, all parties would benefit from the arrangement.

Another way to increase retention may be to identify potential candidates for pilot training who would be likely to remain in the military for a full career. For example, the services might consider selected enlisted personnel with at least a two-year college degree. Highly motivated enlisted personnel with some flight experience might be strong candidates for pilot training. Although the number of enlisted personnel chosen for such training might be few, those who were trained are likely to be highly motivated to stay in the military for a full 20 years. The Air Force and the Navy might also consider using warrant officers as pilots (as the Army does for some helicopter billets). That approach could be a separate program or be used in conjunction with the preceding option.

Although the services are reluctant to change the promotion system, they might consider whether promotions could be used to help retain pilots. For example, the Air Force might accelerate pilots' promotions to major. Earlier promotion might encourage an earlier commitment to a full 20-year career, particularly if it was combined with other career management changes and the use of aviation continuation pay (discussed later). After October 1, 1999, the active-duty service commitment for new pilots will rise from eight to 10 years. That change may offer the services an opportunity to make significant modifications in their management of pilots' careers and their use of bonuses.

The Air Force might consider alternative career paths for pilots. At one end of the spectrum would be the current career track, in which the Air Force treats all pilots as potential leaders and assigns them throughout their careers to both flying and nonflying jobs. At the other end of the range would be a career track that allowed pilots to spend all of their service time in flying assignments. Between those two extremes might be several other career paths that would combine, in varying degrees, flying and nonflying assignments. By offering different career tracks, the Air Force could capitalize on the differences among pilots in how much actual flying they want to do during their careers. However, the creation of separate career paths that allowed some pilots to spend the greater portion of their career flying might limit the pilots' possibilities for promotion to the rank of major or lieutenant colonel (lieutenant commander or commander in the Navy). Despite that drawback, pilots for whom flying was paramount might be more likely to commit to a 20-year career if they were assured of a fly-only track.

The services could implement several monetary inducements intended to improve pilot retention and program efficiency. For example, the Air Force could focus more strongly on aviator continuation pay (ACP), targeting bonuses in two ways (see Table 5). First, bonuses might be made available only to pilots in communities (groups of pilots who fly similar types of aircraft) that were experiencing shortages. Second, the services could vary bonus payments by year of service, making larger payments to junior officers.

TABLE 5. ILLUSTRATIVE TARGETING OF BONUS PAYMENTS

| Pilot's Years of Service When Bonus Agreement Is Signed[a] | Annual Bonus Payment (Dollars) |
|---|---|
| 8 | 22,000 |
| 9 | 20,000 |
| 10 | 18,000 |
| 11 | 16,000 |
| 12 | 13,000 |
| 13 | 11,000 |

SOURCE: Congressional Budget Office based on Department of Defense data.

a. This illustration reflects the current service commitment of eight years. Beginning October 1, 1999, the commitment will rise to 10 years.

NOTE: If pilots sign a bonus contract, they must agree to remain on active duty to complete 14 years of commissioned service. For example, if an agreement was signed in the ninth year of service, the pilot would receive $20,000 annually for the duration of the contract (the next four years).

The services might also consider increasing the maximum bonus they paid. In the example in Table 5, the highest bonus payment is $22,000—currently the maximum amount paid by the Air Force, even though the services are permitted to pay as much as $25,000. (The Navy's maximum bonus is $19,000.) To enhance the retention effects of ACP, the services might consider offering the maximum payment of $25,000.

Another change in the ACP program that might improve its efficiency is to eliminate the one-year ACP bonus. Paying bonuses only for one year does not appear to significantly affect pilots' decisions to stay in the service. Reports indicate that most pilots who took the one-year contract in 1998 did not prolong their service beyond the additional year.

To sum up, the approaches that we have outlined here are only a few of the many options available to address the problem of pilot shortages. The services may have already considered and rejected some of them previously or deemed them too difficult to implement. However, the persistence of pilot shortages and the importance of the pilot's role in the U.S. force structure in coming years may warrant further scrutiny of any reasonable option.