

DIVERGENT STABILITY:
MANAGING THE USAF PILOT INVENTORY

BY
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Major Charles E. Metrolis Jr. commenced his Air Force career as a Pararescueman assigned to Myrtle Beach AFB, South Carolina. Major Metrolis later graduated from Southern Illinois University at Carbondale, Illinois in 1989 and received his commission through Reserve Officer Training Corps, Southern Baptist University, Charleston, South Carolina. He proceeded to pilot training at Laughlin AFB, Texas where he was the ATC Commandant's Trophy winner and a distinguished graduate. He subsequently served seven years flying the F-15C at Bitburg AB, Germany, RAF Lakenheath, United Kingdom, and Langley AFB, Virginia. In 1998 he attended French language instruction at the Defense Language Institute, Presidio at Monterrey, California. From 1999 to 2001 he perform exchange officer duties with the French Air Force flying the Mirage 2000C at Cambrai AB, France. Before attending the School of Advanced Air and Space Studies, he attended Air Command and Staff College where he was a distinguished graduate.

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Abstract

This study analyzes the United States Air Force's potential to establish a long-range, strategic game plan for its rated pilot force. Specifically, it addresses the problems of continual fluctuations in the USAF's pilot inventory and searches for possible solutions within available resources. The study draws relevance from the simple need for pilots in a variety of duties. The USAF's attempts to manage the pilot inventory are analogous to pilot induced oscillations (PIOs), where a pilot's attempts to correct pitch or altitude deviations results in over-compensation and deviations in the opposite direction. This study shows that the USAF pilot inventory has deviated frequently from stated requirements, and a reliance on traditional measures to correct shortages or surpluses has usually resulted in "personnel induced oscillations." The author argues that the USAF's efforts to stabilize the inventory have in some cases caused greater deviations downstream. The service's reliance on pilot production and short-term retention measures for quick solutions has created long-term problems. However, the study also examines periods of relative stability in the pilot inventory and assesses whether this stability can be linked to specific measures within pilot management, production, or retention. The study proposes that the concept of a strategic reserve of pilots is instrumental to the maintenance of a stable pilot inventory. The study also shows that small changes in pilot production are prudent despite the temptation to scale production to immediate trends. Moreover, the study is critical of retention programs such as Aviator Continuation Pay (ACP), arguing that improvements to long-established retention measures may be more effective in maintaining a stable pilot inventory. The thesis concludes with an assessment of trend data and recommends the establishment of a strategic reserve of USAF pilots, conservative changes in pilot production, and improvements in established retention programs as possible solutions to the large fluctuations in the USAF pilot inventory.

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Chapter One

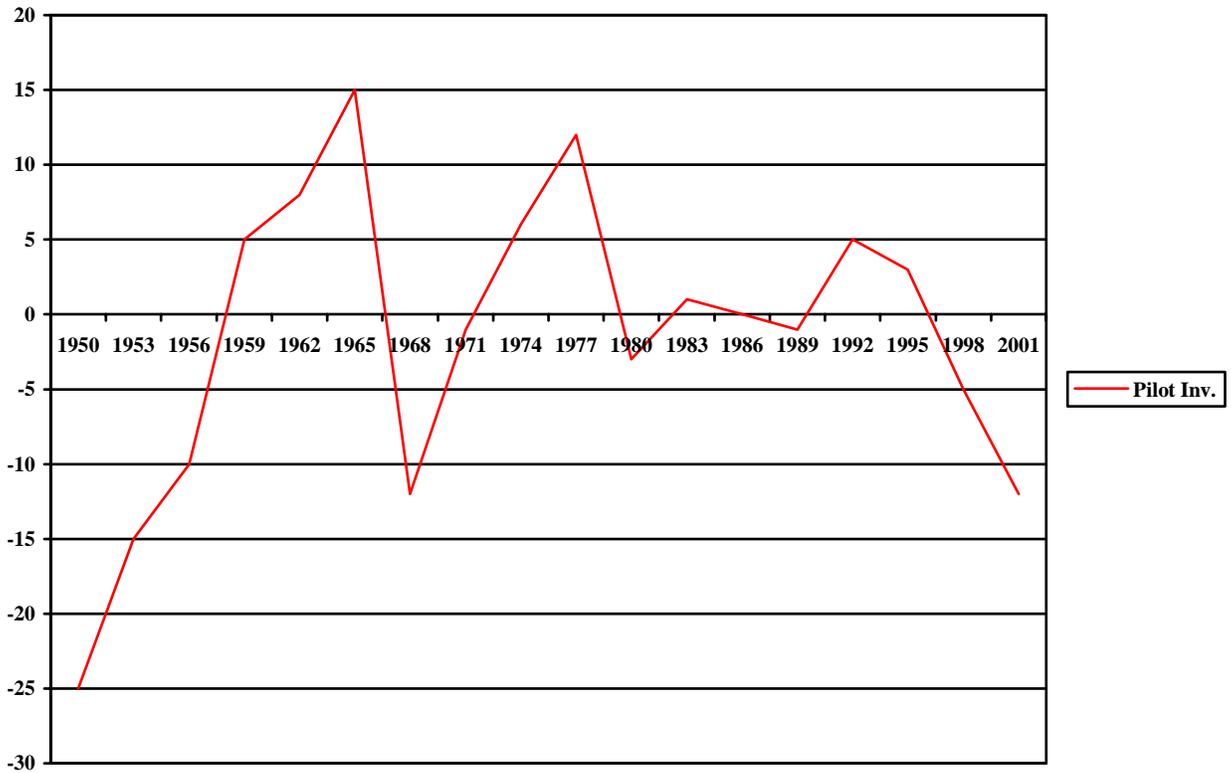
Introduction- The USAF Roller Coaster

During the last ten years, The USAF experienced a remarkable shift in its pilot inventory, moving from a nine percent surplus at the end of Fiscal Year (FY) 1993¹ to a shortage of five percent by the end of last year². Ironically, this fluctuation in the pilot inventory measured against stated requirements is a trend all too familiar to the USAF. The USAF has experienced dramatic shortages and surpluses in its pilot inventory since its inception in 1947; lacking is a long-range, comprehensive plan to remedy this problem in the future.

This study addresses the problems of shortages and surpluses in the USAF pilot inventory and seeks the best method to dampen the dramatic fluctuations that ensue when the USAF tries to rectify the problem? Two basic assumptions need to be highlighted. First, for at least the next twenty years, the USAF will need pilots. Second, because USAF pilots will continue to have other avenues of employment, fluctuations in the inventory will continue. To appreciate the complexity of the problem, one needs to explore the historical record of fluctuations in the USAF pilot inventory in further detail.

¹ Carl Conetta and Charles Knight, "The Readiness Crisis of the U.S. Air Force: A Review and Diagnosis", *US Defense Posture*, April 1999 [Internet] available at www.ciaonet.org/wps/coc09a.html

² Adam J. Hebert, "New Gains on the Pilot Retention Front", *Air Force Magazine*, February 2003, Vol. 86, No. 2, 54.



Graph 1 Shortages and Surplus as a Percentage of the USAF Pilot Inventory

The USAF has frequently deviated from official pilot requirements, swinging between surpluses and shortages by almost 20 percent. Graph 1.1 provides a 50-year synopsis of the shortages and surpluses as a percentage of the required pilot inventory. In the post-World War II era, the first shortage of 25 percent appeared at the onset of the Korean War when the pilot requirement more than doubled in a single year, FY 1951. As new pilots were trained, this shortage gradually abated, yet it persisted until FY 1958, when requirements began to decline again and a surplus appeared, peaking at 15 percent in 1965. With the Vietnam War buildup, this seven-year surplus rapidly became a shortage of 16 percent in FY 1967. By 1972 there was again a surplus, peaking at 18 percent in FY 1976. This surplus disappeared and became a shortage of 5 percent by FY

1979. The decade of the 1980s was atypical, characterized by a relatively stable relationship between pilot inventory and pilot requirements. However, a surplus developed with the beginning of the post-Cold War draw down, peaking at nine percent in FY 1993.³ This prompted a dramatic curtailment in training. Further cuts in the existing pilot inventory coupled with the relatively few pilots produced in the middle years of the 1990s contributed to a shortage of five percent in FY 1998.⁴ By the end of FY 2002 this pilot shortage had almost doubled, growing to nine percent. Specifically, the USAF was short over 1,200 pilots based on a requirement of slightly over 14,000. Recently, this pilot shortage has been reduced to 5 percent, or 632 pilots, as of the end of 2002.⁵ However, the USAF should not assume that the tide is turning once again in its pilot inventory based on improvements in pilot production, retention, or management. Rather, the USAF should assume that the current pilot shortage was reduced because pilot authorization declined to 13,280. Had the USAF pilot requirement remained at roughly 14,000, the USAF would have found itself sliding even further into a pilot shortage of 1,350, or 10 percent.

Even though the USAF experiences large fluctuations in its pilot inventory, does the USAF need to reckon with the situation? In order to answer this question one needs to determine the meaning of a pilot shortage and surplus, the second and third-order effects that result from each, and the impact these fluctuations have on the Air Force.

During a pilot shortage, the USAF lacks the appropriate number of pilots in its inventory to meet authorizations. Normally, small pilot shortages do not cause long-term or irreparable harm to the USAF. However, if the shortage is large enough, some non-cockpit positions requiring pilot expertise will not be filled. If the shortage is severe enough, the USAF cannot fill its cockpit requirements. If the size and duration of the shortage is extreme, then longer-lasting consequences usually surface. In such extremes, pilots are not afforded the opportunity to get away from the cockpit and broaden their professional knowledge base, which is essential for career development. For example, the current entitlement plan mans the combat flying wings at 100 percent and staff

³ Conetta, 3.1

⁴ History, Air Education and Training Command, 1996-1999, 167.

⁵ Hebert, 54.

positions at 65 percent in pilot authorizations. Professional Military Education (PME) schools are manned at an even lower rate with many school candidates “ops-deferring” from going to school until late in their careers, complicating opportunities for command and career progression. On the other hand, a pilot shortage is not all bad and can provide some benefit to a finite number of pilots, so long as the shortage remains small and short in duration. For example, if flying-hour programs remain unchanged within squadrons during shortages, pilots have the opportunity to gain more flying experience, which results in quicker qualification upgrades. Furthermore, the promotion potential for certain year groups affected by the shortage may increase, as long as the USAF looks to promote the same percentage of individuals.

Conversely, a pilot surplus has the exact opposite effects on career progression and flying opportunities. Surpluses in the pilot inventory dilute the flying experiences available and produce a “bubble” in the affected year groups, which hampers the promotion opportunity. However, on the positive side of the ledger, surpluses allow pilots the opportunity to undertake career-broadening assignments.⁶

The Air Force has traditionally tackled the problem with short-term guidance and measures that have often perpetuated and even exacerbated the problem. This results from classic Model II (Organizational) behavior in which decision making results not so much from deliberate choices, but more from agencies functioning according to standard patterns of behavior.⁷ For example, the Air Force has addressed pilot shortages by increasing production because it has always done so in the past. As this study will demonstrate, increasing production without regard for variables from other organizations creates an iterative loop the Air Force contends with as it addresses the fluctuation in its pilot inventory.

The pilot fluctuations also produce negative consequences for other career fields. Traditionally, the Air Force must adjust navigator and Air Battle Manager contributions

⁶ The negative and positive consequences that result from shortages and surpluses in the USAF pilot inventory are established through the author’s personal experiences, as well as personal interviews conducted with Mr. James Robinson, Director of Resources, Air Education and Training Command, Randolph AFB, Texas, and Lt Col David Moore, USAF Chief of Rated Force Policy, Pentagon, Washington D.C. in January 2003.

to the staff when fluctuations in the pilot inventory occur. Decreasing pilot representation on the staff, as well as in professional military education and academy instructor billets could ultimately impact the effectiveness of pilots acting as senior mentors. Finally, the Air Force's inability to adequately stem the large fluctuations in the pilot inventory casts certain aura of ineptitude over the service.

Historically, the Air Force has dealt with the fluctuations in its pilot inventory under rather favorable conditions. Although, the nation experienced wars in Korea, Vietnam, and Iraq, these conflicts were limited and did not represent a crisis situation for the USAF. Since the Air Force has been able to adjust for the shortages and surpluses in the inventory one can assume that there is no harm from the anomalies. However, one must also assume that the United States will not remain under persistently favorable conditions for managing the USAF pilot inventory. Hence, the Air Force's ability to accurately and effectively manage the pilot inventory deserves closer scrutiny.

Outline, Method, and Sources

This thesis argues that traditional USAF responses to pilot shortages and surpluses in fact produce larger fluctuations in the pilot inventory and perpetuate the existence of the problem. There are four main factors contributing to this dilemma. First, the USAF has historically tried to produce and maintain pilot inventory numbers that closely matched requirements and gave little regard for a strategic reserve of pilots. Second, when the USAF found itself either with a pilot surplus or shortage, its first course of action was to manipulate pilot production. Third, the USAF further massaged the pilot inventory levels by either conducting mass involuntary separations of pilots in critical year groups, or implemented retention measures to retain as many pilots as possible. Fourth, the USAF pilot management office remained tied to conventional and dogmatic methods of managing its force, and was ineffective in reacting to large surpluses or shortages. Ironically, the tools exist within the USAF to dampen the massive fluctuations in the pilot inventory, and cause them to occur less frequently.

⁷ Graham Allison and Philip Zelikow, *Essence of Decision Making*, (New York: Addison-Wesley Educational Publishers Inc., 1999), 143.

Before commencing with the analysis of the various factors that influence the pilot inventory, a common foundation needs to be established detailing the intricacies of the pilot career field. The burden of Chapter Two is to explain the importance of pilots within the USAF and what drives the requirement number. Using unit histories, various secondary sources, and personal interviews, one will realize there are many variables besides planes to fly when the USAF determines how many pilots it needs.

Chapter Three will concentrate on various unit histories and past studies that provide the historical basis on how the USAF has responded to pilot shortages and surpluses. Specifically, the study will focus on pilot training, retention, and pilot management. The analysis will show that USAF manipulation in one area affects the outcome of other areas, and actually contributes to the persistence of the fluctuations in the pilot inventory.

Chapter Four explores the current rated management system in the USAF using official regulations, various studies, and personal interviews. Specifically, a determination will be made on whether the current system is capable of stemming the fluctuations in the pilot inventory, or if past programs such as the Rated Supplement or new concepts provide more credibility as possible solutions to the problem.

Chapter Five delves deeper into the pilot production algorithm within the USAF. Through various studies and personal interviews we will analyze past pilot-training measures and evaluate the current state of USAF pilot training. A determination will be made whether the USAF has the capacity to address the problem of pilot inventory fluctuations through initial pilot production. This section will concentrate on infrastructure, aircraft, personnel, and training programs.

Chapter Six will examine USAF retention programs in greater detail. Official publications and regulations, as well as retention statistics will be used to determine the validity of various retention programs within the USAF. An evaluation will be conducted on whether the USAF is striving to keep the right group of pilots based on experience, rank, and age. Furthermore, we will see how certain retention efforts contribute to the fluctuations in the overall pilot inventory. The chapter will conclude with recommendations for improvement.

Chapter Seven concludes by summarizing the evidence and identifies key concepts in USAF handling of pilot shortages and surpluses. Overall recommendations are provided as to how the USAF can dampen the fluctuations in its pilot inventory using existing programs and tools.

Relevance and Stimulus

Numerous documents and articles written in the last 25 years address problems in USAF pilot production, retention, or rated management. However, most studies tackle only one issue at a time, seldom linking production, retention, and management as they should. Furthermore, there exists no apparent study on the issues surrounding the overall fluctuations in the pilot inventory. The author intends for this study to spawn additional research involving the entire spectrum of USAF pilot issues, particularly on ways the USAF can diminish the large fluctuations in its pilot inventory.

Chapter Two

USAF Pilots

Pilots constitute a key element in the overall USAF organization. This makes sense considering current capabilities of the USAF revolve almost exclusively around manned aircraft, this despite recent innovations and applications with unmanned aerial vehicles (UAVs) and space technology. Many analysts and critics believe the preponderance of USAF aircraft will continue to be manned for decades to come.⁸ A better understanding of the contextual elements surrounding a pilot's career is needed, since the USAF remains motivated to keep pilots a primary tool in its arsenal. This chapter explains the relevance of pilots in the USAF, and provides a better understanding of the characteristics involved in producing them, the importance of retaining them, the contributions pilots make to other critical duties besides flying aircraft, and the mechanisms that influence pilot manning requirements within operational squadrons. This information will provide valuable insight into the large fluctuations in the USAF pilot inventory.

⁸ Chip Thompson, "F-16 UCAVs: A Bridge to the Future of Air Combat?", *Aerospace Power Journal*, spring 2002, Vol. 14, No. 1, 23. The USAF has used the Predator and Global Hawk UAVs exclusively for reconnaissance and surveillance but has recently employed air-to-air ordnance from the Predator against targets in Yemen during Operation Enduring Freedom. The USAF is currently researching additional combat duty missions for UAVs, including air superiority and suppression of enemy air defenses (SEAD). Still the USAF is reluctant to trust an unmanned, remote-controlled aircraft with the responsibility of dropping bombs or shooting missiles. For additional information of UCAVs and UAVs see Jeff Mustin, "Future Employment of Unmanned Aerial Vehicles", *Aerospace Power Journal*, summer 2002, Vol. 14, No.2.

Demographics, Cost, and Time Factors Within the USAF Pilot Career Field

One can see the relative importance pilots possess within the USAF by looking at their statistical representation among all officers in the service. Of the 68,800 officers on active duty in the numerous specialty fields within the Air Force at the end of 2002, pilots constituted over 12,500. This corresponds to almost 1/5th of the officers in the USAF and ranks pilots second behind medical personnel.⁹

Cost is another contributing factor to the importance of pilots within the USAF framework. Initial production costs for students going through Specialized Undergraduate Pilot Training (SUPT) vary. If a student completes the fighter/bomber track of SUPT the cost is nearly one million dollars, compared to \$500,000 for a student pilot going through the tanker-transport track.¹⁰ The Air Force estimates that by the time a pilot reaches full operational competence in a combat aircraft the price tag will reach \$6 million.¹¹ The bottom line is that pilots are the most costly specialty skill in the armed services.

Extreme cost is not the only issue associated with USAF pilots. Time needed to acquire these assets also comes into play. The production of a mature, experienced USAF pilot is something that does not happen overnight. First, the USAF must recruit an individual who has met the minimum requirements to become an officer. Once recruited, prospective trainees may have to wait up to one year before attending one of the SUPT courses. Primary flight training in the T-37 or T-6, and advanced training in the T-38 or T-1 will add an additional year to the total.¹² Finally, graduated USAF pilots attend formalized transition training in their assigned aircraft, which ranges in time from three to six months. Once the USAF pilots are qualified in a combat aircraft and assigned to their operational units, an additional three to six months of flight training is required to reach Mission-Ready (MR) status, the minimum requirement to go to war. The synopsis of

⁹ Tamar A. Mehuron, editor, "USAF Almanac 2002," *Air Force Magazine*, May 2002, Vol. 85 no.5, 49.

¹⁰ Mark Parson, Director of Financial Management, Air Education and Training Command, Randolph AFB, TX, telephone interview with author 20 March 2003.

¹¹ Conetta, 3.4.

¹² History, Air Education and Training Command, 1996-1999, 170-175.

flight training above shows that some individuals will take up to three years, from UPT acceptance to MR status, to be of any value to an operational combat squadron. This time frame does not take into account additional delays or setbacks in pilot training due to weather, maintenance problems with aircraft, or unforeseen illnesses on the part of the pilot trainees. Furthermore, it does not address the two to three years of additional flight training at the operational units to reach a status of “experienced” or garner flight-lead qualifications.¹³

Pilot Requirements

We must explore the system the USAF uses to determine how many pilots it actually needs. As one would expect, filling cockpits with pilots is of prime concern to the USAF, but this is not their only mandate. The Air Force requires pilot expertise in other areas and divides total pilot requirements into four separate categories: force, training, staff, and other (man-year) requirements.¹⁴

The force category includes all the combat pilots assigned to operational units.¹⁵ Force requirements are broken down further into two sub-categories, primary and support. Primary force requirements are the pilots used for employing operational aircraft during training or combat missions. Support-force requirements comprise pilots in leadership positions such as the squadron commander or operations officer, as well as Operational, Test and Evaluation (OT&E) pilots, quality/standardization evaluators, and

¹³ Inexperienced pilots are still learning their unit’s mission and require continual supervision. They fly in operational units as wingmen (fighter units) or copilots (bomber or transport units) under the direct supervision of a flight-lead or aircraft commander. Experienced pilots understand their units’ operational missions, and although the definition of experienced pilots varies by aircraft type, most require pilots to complete the better part of an initial operational tour (30-36 months) to qualify as experienced. The basic criterion for a fighter pilot to obtain an experienced rating is 500 hours in the mission aircraft. For more information on experience levels of USAF pilots see S. Craig Moore, *The Air Force Pilot Shortage: A Crisis for Operational Units*, (Santa Monica, CA: National Defense Research Institute-RAND, 1998) and individual Air Force Instructions detailing specific pilot requirements.

¹⁴ William W. Taylor, *Absorbing Air Force Fighter Pilots: Parameters, Problems, and Policy Options*, (Santa Monica, CA: National Defense Research Institute-RAND, 2002), 16.

¹⁵ Ibid

individuals flying with the aerial demonstration team, the Thunderbirds.¹⁶ Further detail will be provided below on pilot classification within the primary and support-force requirements. However, the most important factor is that all pilots within the force-requirement are tasked with the primary responsibility of conducting flight operations in support of national security objectives.

Force category pilots must acquire specific knowledge of flight operations and combat duties, which produces the training category. The training category includes instructor pilot (IP) quotas for squadrons that are tasked to provide formal training to Air Force pilots. These squadrons are separated into two basic types: formal training units (FTUs) that conduct specialized training for rated pilots, and undergraduate flying training (UFT), which provides instruction to student pilots who have not yet received their wings.¹⁷ Determining the correct number of pilots to fill the training category differs from the force category. The latter uses the number of aircraft in the active duty inventory to compute pilot authorizations, while the former uses the total number of student pilots who must be trained.¹⁸

There are other peculiarities unique to the training category. Squadron commanders and operations officers are added to the training category separately because they already count against force category calculations. Furthermore, the training-requirements discussed above address only the instructor pilots who are required to man the various training units. Rated pilots who are enrolled in formal flying training programs are accounted for separately in the man-year-requirements that will be discussed below. Student-pilot trainees are not counted at all in the training category equation, or any other category, because their rated service has not yet started.¹⁹

The staff category includes positions in which the primary duty is not flying, but rated expertise is still essential. Some staff positions may contain flying billets, however this is not the norm.²⁰ Many of the flying staff position are above the squadron level and are normally required for the operational wing to effectively accomplish the mission.

¹⁶ Air Force Instruction 11-414, 53,54

¹⁷ Taylor, 17.

¹⁸ Ibid.

¹⁹ Ibid

²⁰ Air Force Instruction 11-414, 52.

Nonflying staff requirements include such positions as air liaison officers (ALOs) who provide tactical air control to army units, or theater airlift liaison officers (TALOs) who coordinate regional airlift issues with sister services, direct staff support for warfighting combatant commanders, or engage essential command-and-control functions needed to keep the Air Force running smoothly.²¹

The reasons for having pilots fill staff positions are quite clear. First, pilots in staff positions are advocates for the proper use of airpower. They provide proper insight into the strategic, operational, and tactical applications of airpower. Furthermore, they provide inside knowledge into the planning, programming, and budgeting issues related to their specialty, which is essential for force-management advocacy. Second, staff positions give pilots the necessary career broadening, which increases their overall knowledge of Air Force issues, providing pilots with increased promotion and leadership opportunities. Finally, pilots need to have a mechanism that relieves the requirement to do consecutive flying tours. The fast-paced OPSTEMPO of today's expeditionary Air Force can put quite a strain on pilots, whose demographics show that 77 percent of the males and 52 percent of females have families.²² Although staff jobs can be equally hectic, they do provide pilots the opportunity to spend more time with their families.

The "Other" category (man-year) does not establish specific pilot authorizations. Instead, it takes into account allowances from the assignment process to account for inherent features of the inventory that make pilots unavailable to fill specific requirements.²³ Many of these pilots are taken out of the assignment cycle to participate in career broadening or special duty assignments such as foreign exchanges, aide-de-camp, instructor duty at the USAF Academy, or professional military education (PME) opportunities at the Air Force Institute of Technology (AFIT). Additionally, others in

²¹ Taylor, 18. There is legitimate concern regarding the relative numbers of pilots filling these requirements, and they are continuously undergoing review by the USAF. HQ USAF/XOOT monitors the size of aircrew staffs to ensure compliance with congressional mandates. In recent years, pilot requirements have been reduced significantly in all staff positions, and this issue will be discussed later.

²² "Pilot Demographics", [Internet] available at www.afpc.randolph.af.mil/demographics/demograf/MARRTG.html, accessed on 13 May 2003.

²³ Ibid.

transit between assignments or waiting out pipeline delays between formal training courses fall into this category.²⁴ Even long-term medical patients and prisoners are added to the lump sum of pilots in the man-year requirements, albeit a very small percentage, rounding out total pilot requirements for the USAF.²⁵

Fillings Requirements

Now that the system for determining USAF pilot requirements has been explained, we need to explore additional factors that influence the manning of pilots in the specific categories. A pilot with the proper qualifications must fill each billet. Therefore, the ensuing discussion will center on the qualities needed to fill the force and staff categories to include experience levels, and rank/grade requirements.

Filling the force requirement is quite basic, however all pilots are not easily interchangeable between the various aircraft in the USAF inventory. Every squadron or wing level flying position must be filled by a pilot qualified in the specific aircraft assigned to the unit. Current assignable aircraft within the USAF inventory are shown in table 2.1. Units acquire qualified pilots from three main sources: initial basic course (B-Course) training for new pilots in the major weapon system (MWS), recurrency or transition (TX-Course) training for pilots returning from non-flying positions or assignments in another aircraft, or from reassignment of pilots current and qualified from a previous assignment in the same MWS.²⁶

²⁴ Ibid.

²⁵ Air Force Instruction 11-414, 52.

²⁶ Taylor, 20.

Table 1 Current USAF Combat Aircraft

<u>Category</u>	<u>Aircraft</u>
Fighters	A/OA-10, F-15, F-15E, F-16, F-117, F-22 (after FY2005)
Bombers	B-1B, B-2, B-52
Tankers	KC-135, RC-135, KC-10, E-3, E-4, E-8
Strategic Airlift	C-5, C-17
Theater Airlift	C-130, HC-130, MC-130, EC-130, C-141
Reconnaissance	U-2
Helicopters	H-1, MH-53, HH-60, CV-22 (after FY 2005)

Non-flying staff billets require a little more finesse since desired qualifications can range from broad to specific. The most flexible staff requirements are those that will take a pilot from any MWS. Such requirements are reserved for staff functions that need broad operational knowledge. Examples include those positions dealing with overall aircrew assignment policies and issues, and Air Staff billets.²⁷ Some staff positions require pilots within a narrower qualification base. For example, staff requirements might dictate that a pilot comes from the tanker community. This alleviates the need to distinguish between a KC-135 and a KC-10 pilot when filling this requirement. Finally, some staff position dictate pilots have specific MWS qualification when being filled.²⁸ One caveat is that only experienced pilots can be assigned to staff positions because they possess operational knowledge inexperienced pilots do not have.²⁹ However, the true impact of pilot experience levels can be felt when the Air Force fills force requirements.

There are two basic parameters that need to be addressed concerning the experience levels of pilots in the USAF. The first establishes criteria on the minimum

²⁷ Taylor, 20

²⁸ Ibid

²⁹ Moore, 12.

flight time necessary to achieve the “experienced” rating. The second determines the proportion of each flying unit that must comprise experienced pilots.

The “experienced” criterion is defined as the total number and type of flight hours an individual pilot possesses. Normally, pilots gain the “experienced” rating when they achieve 500 flight hours in their primary MWS. However, the MWS flight time is reduced to 300 hours if the pilot possesses 750 total flight hours in any aircraft, and is further reduced to 200 hours if total flight time exceeds 1,000 hours. Once individuals attain over 1,300 flight hours they are classified as experienced pilots regardless of the MWS.³⁰ Ironically, experience levels do not have to line up with other qualifications. For instance, an inexperienced F-15 pilot could be a flight lead, while an experienced one could be only a wingman. This possibility requires the USAF to have a system that calculates the appropriate experience/inexperience mix within various combat units.³¹

Generally, squadrons like to maintain between 65-75 percent of their pilots in the “experienced” category. However, this has not been the case in recent years with most units at about 50 percent experienced, with some squadrons that are actually comprised of a majority of inexperienced pilots. This dilemma is brought on by increased production, diminished retention, and a limited capacity for absorption due to shortages in advanced training classes. To compound the problem, the USAF has certain aircraft, such as the F-117 or U-2 that can be flown only by experienced pilots.

Finally, rank or grade plays an important part in the assignability of certain pilots. Most squadron commander and operations officer positions can be filled only by pilots holding the rank of major or lieutenant colonel. Increased rank is required for positions at the group and wing levels. Even pilots assigned to certain staff positions must have the appropriate rank/grade. All in all, the USAF has a complex system regarding pilots that drastically influences the ups and downs experienced in the inventory. The converse is also true.

³⁰ Air Force Instruction 11-414, 20.

³¹ *Ibid*, 21.

Chapter Three

Traditional Methods for Managing the Pilot Inventory

There are three instruments the USAF has used and continues to use when managing its pilot inventory: initial production, retention measures, and rated management. Some may assume that pilot management encompasses both production and retention. This assumption is correct. However, the focus of the rated management discussions in this thesis will be on the mechanisms available for storing pilots. It is useful to use a “sink” analogy to describe how the USAF balances its pilot inventory using the three tools listed above. The size of the sink signifies the total pilot authorizations the USAF is allowed. The water running into the sink represents new pilots being poured into the system. Retention measures influence how many pilots stay or exit the Air Force; much like a drain regulates the amount of water that flows from the sink.

The sink analogy helps one visualize how measures conducted to control the pilot inventory are played out. Specifically, the analogy points out the significant impact that one measure exerts in controlling the pilot inventory when conducted independently of the other two. For example, if the size of the sink and the opening of the drain remain the same, but more water is released from the spout, eventually the sink will overflow. Moreover, if the drain is stopped up without adjusting the amount of water being let in, a similar overflow will occur. If the size of the sink changes without compensating for an adjustment in the input or exit of water, then a waste of resources ensues unless there is some mechanism to hold the excess water. The burden of this chapter is to examine the historical record to see how the USAF has dealt with shortages and surpluses in its pilot inventory using the three management tools outlined above, and assess their effectiveness.

Pilot Production

When the US entered World War II at the end of 1941 it had produced a total of 7,244 pilots for the year.³² Two years later, in 1943, the United States Army Air Corps (USAAF) had generated 61,872 pilots from three flight training commands, which comprised 22 flight training bases for primary, basic, and advanced flight training.³³ By the time 1944 closed, the USAAF trained 81,024 pilots for that year; however, it also started a rapid reduction in its capacity to train pilots in anticipation of the war's end.³⁴ By 1946, the USAAF produced a surprisingly low 416 pilots and production levels remained below 1,000 until 1949.³⁵ Figure 3.1 gives a graphic representation of annual pilot production in the USAF since 1953.

When the US entered the Korean War in 1950, it saw a five percent surplus in pilots drastically swing to a 25 percent shortage because of wartime pilot requirements.³⁶ To compensate for the shortage, the USAF quadrupled pilot production over a three-year period, going from 1,023 in 1950 to 4,595 at the end of 1953.³⁷ Ironically, the USAF did not cut pilot production numbers at the end of the Korean conflict, instead producing over 5,000 pilots per year from 1954 to 1958.³⁸ The pilot production numbers for this period coincided with a pilot shortage ranging from 20 percent in 1954 to five percent in 1957.³⁹ It was not until the Air Force predicted a pilot surplus that production levels would decrease.

³² Thomas A. Manning, *History of Air Training Command: 1943-1993*, (Randolph AFB, Tex.: Air Education and Training Command, Office of History and Research, 1993), 2, and Project Corona Harvest, Milestones in the Development of the USAF Pilot Resource, staff study prepared by AFPDPRO, 25 November 1966, 2.

³³ Project Corona Harvest, 2.

³⁴ *Ibid.*

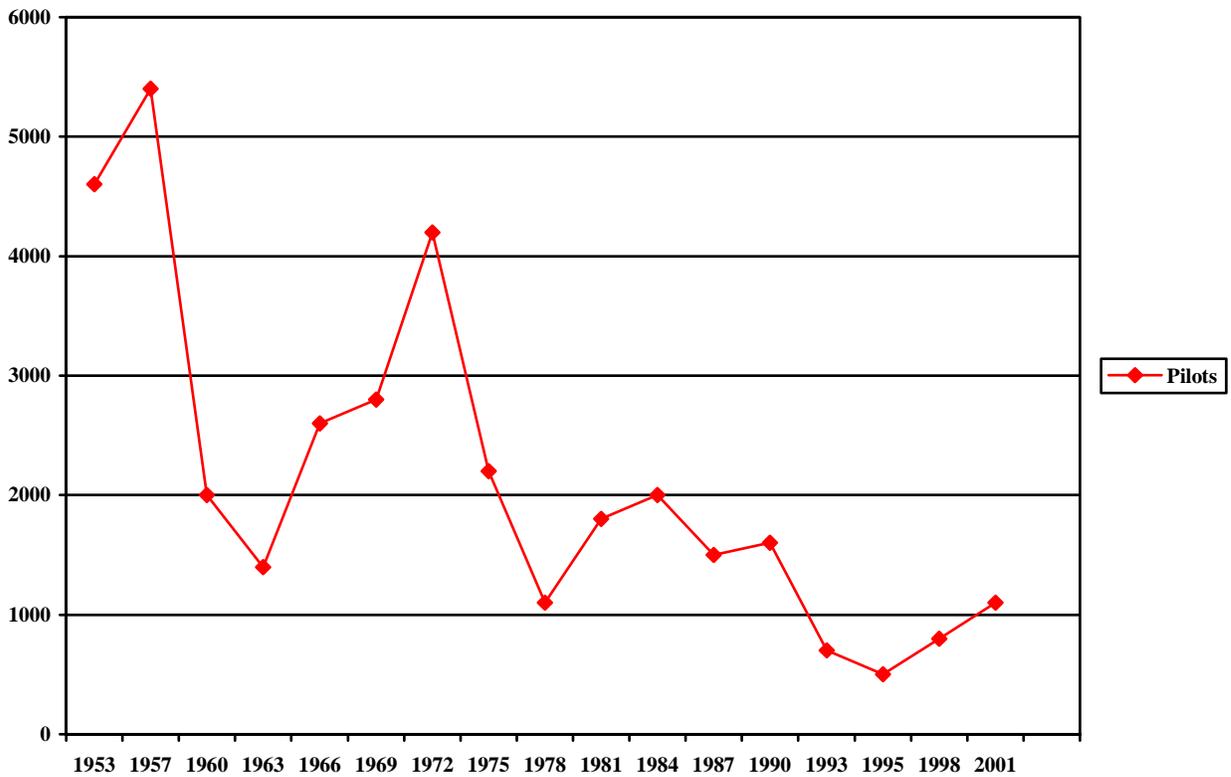
³⁵ Manning, 304.

³⁶ Conetta, 3.2.

³⁷ Manning, 304.

³⁸ *Ibid.*

³⁹ Conetta, 3.2.



Graph 2. Annual USAF Pilot Production

Faced with a five percent surplus in 1958, the USAF cut pilot production totals in half over a three-year period, going from 3,618 in 1958 to 1,795 in 1961.⁴⁰ Pilot production numbers for the USAF remained fairly constant for the next five years averaging about 1,500 pilots per year, however, a marked increase in pilot training became evident when the service reached 2,800 pilots trained in 1967.⁴¹ This increase in pilot production coincided with a change in the pilot inventory from a five percent surplus to a 20 percent shortage between the years 1966 and 1968.⁴² This was undoubtedly due to an increase in pilot requirements as a result of US involvement in the

⁴⁰ Manning, 304 and Conetta, 3.2.

⁴¹ Manning, 304.

⁴² Conetta, 3.2.

Vietnam War. Production would peak again at 3,846 in 1970 and remain above 3,000 through 1973.⁴³

As expected, the USAF commenced a gradual reduction in pilot training at the end of the Vietnam Conflict to match a corresponding decrease in pilot requirements.⁴⁴ One important caveat needs to be related at this historic juncture. In 1970, a formalized management program was instituted as part of the overall USAF personnel program that specifically dealt with pilot management. Known as the “Rated Supplement” this program used surplus pilots in non-rated duties and will be elaborated later.⁴⁵ By 1977 the USAF was holding a 20 percent surplus in pilots. Since the Air Force reduced the size of its sink while taking away the mechanism to hold any excess water, it was forced to reduce the amount of water exiting the faucet. To rectify the huge split in pilot inventory vs. requirements, the USAF cut pilot production below 1,100 by 1978 after rescinding the pilot management tool known as the Rated Supplement.⁴⁶

The 1980s can be classified as atypical for the USAF pilot community. First, there was not a dramatic increase or decrease in pilot requirements. 1980 started with a pilot authorization level of 23,219 and gradually fell to 21,474 by 1990.⁴⁷ Second, despite a pilot shortage of over 1,000 at the beginning of the decade, pilot production remained fairly constant throughout.⁴⁸ In fact, pilot production averaged approximately 1,750 per year in the 1980s, always remaining plus or minus 200 from this training number until 1990.⁴⁹ Finally, the number of pilot training bases remained fixed at six throughout the decade.⁵⁰ This contrasts to the pilot training infrastructure of the

⁴³ Manning, 305.

⁴⁴ USAF pilot authorizations totaled 36,000 at the end of September 1972 and decreased below 34,000 by the end of 1973. The pilot authorization subsequently fell below 30,000 by 1976 and continued its decline below 25,000 in 1977. United States Air Force Statistical Digest: FY1973-1977, Directorate of Management and Analysis, Management Information Division, HQ USAF, 134-177.

⁴⁵ John C. Griffith, *The Rated Supplement: A New Look at Defending the Program*, (Maxwell AFB, Ala.: Air University Press, May 1977), 5.

⁴⁶ Manning, 305 and Griffith, 1.

⁴⁷ Bruce D. Callander, “And Now the Pilot Shortage”, *Air Force Magazine*, April 1996, 5.

⁴⁸ Ibid.

⁴⁹ Ibid.

⁵⁰ Manning, 215-296.

preceding three decades. The 1950s began with eight bases, rose to eleven, and then fell back to five. In the 1960s, the number of pilot training bases increased again to nine, and in the 1970s the pilot training bases continued increasing to eleven total before finally falling back down to six at the end of the decade.⁵¹

Stability within the USAF pilot inventory did not continue into the 1990s. Faced with the reunification of East and West Germany, the demise of the Soviet Union, and the end of the Cold War, many political and economic groups began calling for significant reductions in the US Armed Forces. The Air Force followed suit and cut pilot requirements from 21,474 in 1990 to 15,209 by 1994.⁵² Coupled with this massive reduction in pilot requirements was a major decrease in production of new pilots. In 1990, 1,581 new pilots graduated from UPT. By 1992, the pilot production number was cut almost in half when only 870 pilots graduated⁵³, and by 1995 UPT had generated just 481 new active duty pilots. This is the fewest pilots Air Education and Training Command (AETC) had graduated since 1947, the year the Air Force became a separate service.⁵⁴

Even as the USAF sat on a surplus of almost 800 pilots in 1994, some Air Force leaders were predicting future difficulties. Lieutenant General Billy Boles, Deputy Chief of Staff-Personnel had serious misgivings about reducing pilot production to 500 in 1994 and 1995. Furthermore, he commented that if the Air Force continued to graduate only 500 pilots a year for a prolonged period, the USAF “could retain 100 percent of them and still not meet future requirements.”⁵⁵ Just as predicted, the USAF transitioned from a five percent pilot surplus in 1996 to a 10 percent shortage in 1998.⁵⁶ Moreover, analysts forecast the pilot shortage to widen with each passing year. Armed with this statistical information and trend analysis, General Michael E. Ryan, Air Force Chief of Staff identified the pilot shortage as one of his major concerns during a speech at the Air Force

⁵¹ Manning, 64-215.

⁵² Callander, 5.

⁵³ Ibid.

⁵⁴ History, Air Education and Training Command, 1996-1999, 165.

⁵⁵ History, Air Education and Training Command, 1994-1995, 158.

⁵⁶ Conetta, 3.2.

Association Convention in September 1998. Gen Ryan said he had major concerns in the:

retention of our aircrews, particularly our pilot force. The 14 major airlines' demand is more than double the fixed-wing pilots available from all the services who have completed their service obligations. Last year we doubled the bonus we pay our pilots to remain with us for five years beyond their initial pilot training commitment, and while that program paid for itself in increased retention, it did not solve our pilot shortage. Our goal is for least half our pilots to stay with us beyond the nine-year point. Currently, only a quarter are electing to remain. To deal with that reality, we are doubling our pilot training rate to 1,100 active duty pilots by the turn of the century, and we are extending the active duty service commitment to 10 years, vice eight, for those entering pilot training in 1999.⁵⁷

In just four years, AETC was able to double the number of pilots it produced, going from 523 in FY 1996 to 1,078 in FY 2000. Moreover, the Air Force followed that with another 1,054 pilots in FY 2001. Although these numbers are slightly below the goal set by General Ryan and the Air Staff in 1998, they nonetheless represent a significant achievement, considering AETC had closed two of its UPT bases.⁵⁸ However, the pilot training increases after 1998 do signify the USAF remaining true to form by adjusting pilot production based on shortages in the pilot inventory. Manipulating pilot production is not the only traditional means of fixing pilot shortages or surpluses. As General Ryan alluded to above, the retention of pilots also impacts the ups and downs of the USAF pilot supply.

Pilot Retention Measures

According to the USAF Rated Management Office, there has never been any difficulty attracting young men and women into the Air Force for the sole purpose of becoming a pilot. However, maintaining a healthy pilot inventory once these pilots are

⁵⁷ History, Air Education and Training Command, 1996-1999, 166.

⁵⁸ History, Air Education and Training Command, 2000-2002, 155. Between 1977 and 1993, the USAF maintained UPT at six training bases: Columbus AFB, MS, Laughlin AFB, TX, Reece AFB, TX, Vance AFB, OK, William AFB, AZ, and Sheppard AFB, TX. The USAF closed Williams AFB in Arizona in 1993 and Reece AFB in Texas in 1997.

through the door and have completed their initial service obligations is another issue. Although the USAF has employed various tools throughout the years to keep pilots in the service, however this section will focus on three mechanisms that have maintained a continuous presence in some form or the other since the 1970s and 1980s. The three areas of discussion will include the initial Active Duty Service Commitment (ADSC), flight pay, and pilot bonuses.

Since the USAF invests a vast amount of time, energy, and money into the production of a new pilot, it is only natural that the service expects some form of obligation from the trainee in return. From the 1960s through much of the 1980s, the ADSC for new pilots graduating from pilot training was six years. However, a projected pilot shortage, persistent cost issues, and a desire to boost retention of pilots in the 6-12-Years-of-Aviation-Service (YAS) range compelled the USAF to change the initial service obligation for pilots coming out of UPT.

In 1987, the Air Force raised the ADSC for new pilots to seven years, and then in 1988 to eight years.⁵⁹ The ADSC remained steady for ten years, but rising cost factors, low retention, and the commencement of another pilot shortage prompted a revision to the initial service obligation of pilots. In 1998, the Air Force secretary and chief of staff approved an increase in the initial pilot ADSC from eight years to ten. General Ryan stated that this “key long-term retention issue will ensure we meet our Air Force pilot needs in the future, and more importantly, protect our go-to-war capability.”⁶⁰ Even though the 10-year ADSC will contribute immensely to the maintenance of a stable pilot inventory, Air Force officials are reluctant to increase the commitment because of its potential to negatively effect recruitment.⁶¹ This sentiment is completely contradictory to the statistical evidence provided by the Rated Management office, which shows the Air Force has never had a problem filling its quota for pilot trainees in spite of ADSC

The numbers above do not include pilots that AETC trained for the US Navy, AFRC, the Air National Guard, and foreign nations.

⁵⁹ David R. Evans, *Career Pilots: One Fix for the Pilot Retention Problem*, (Maxwell AFB, Ala.: Air University Press, June 1988), 12.

⁶⁰ “Active-Duty Service Commitment Increases for Pilot Training,” *Air Force News*, [Internet], 03 March 2003, available from http://www.af.mil/news/Aug1998/n19980828_981303.html

⁶¹ Lt Col David Moore, USAF/DPPPR, interviewed by author 29 January 2003.

increases, or any other issues.⁶² A sample representation from the United States Air Force Academy indicates the service has not experienced any decline in pilot training applicants during the past 15 years. In fact, the highest number of Academy graduates attending pilot training since 1990 occurred in 2001, the last year statistics were updated.⁶³

By the end of the last decade senior Air Force leadership had focused on long-range, strategic management of its pilot inventory through the increase in the ADSC of pilots. However, the service has relied on additional measures to assist in the long-range retention of pilots. The USAF also incorporates flight pay as an incentive and retention tool. Retaining military pilots through the use of monetary incentives is nothing new to the US military. In 1913, the US Army gave its aviators flight pay because of the dangerous nature of flying and the shorter life expectancy of pilots.⁶⁴ The compensation package provided to pilots at this time amounted to an additional 75 percent of their base pay.⁶⁵ The National Defense Act of 1920 would reduce the amount of flight pay to 50 percent of base pay thus signifying the first modification to this long-lasting pilot incentive.⁶⁶

Current USAF flight pay is known as Aviation Career Incentive Pay (ACIP), but still maintains much of its roots under previous flight pay systems. First authorized in 1974, ACIP is an entitlement for all rated aviators, including navigators and air battle managers. This entitlement is intended to act as a baseline incentive for pilots in aviation service and derives its authority from Title 37, United States Code, Section 301a.⁶⁷ Normally, pilots are entitled to continuous ACIP through 25 YAS as long as they meet

⁶² According to the USAF Rated Management Office, there have been more than enough individuals willing to compete for pilot slots in the USAF. Therefore, the USAF has never failed to meet recruitment goals for pilots. In fact, the Air Force is successful in recruiting excess pilot trainees to compensate for the attrition rates associated with pilot training. Major Carlos Ortiz, USAF/DPPPR, interviewed by author 01 March 2003.

⁶³ McHugh, Cathy, Director, United States Air Force Academy Office of Institutional Research and Assessment. telephone interview with author, 4 June 2003.

⁶⁴ Larry Grossman, "Flying Low," *Government Executive* 21, June 1989, 36-39.

⁶⁵ Richard D. Davis, *Carl A. Spaatz and the Air War in Europe*, (Washington D.C.: Center for Air Force History, 1992), 16.

⁶⁶ Ibid.

certain timing requirements known as “gates”.⁶⁸ Specifically, pilots must fly eight of their first 12 years, and 12 of their first 18 years to receive ACIP through 25 YAS. If pilots fly at least 10 years, but less than 12 of their first 18 years, then they will only receive ACIP for the first 22 YAS.⁶⁹ Figure 3.2 depicts the structure of the current Air Force ACIP program.

Table 2 USAF Aviation Career Incentive Pay

<u>YAS (including flying training as officer)</u>	<u>Monthly</u>
<u>Rate</u>	
2 or less	\$125
Over 2	\$156
Over 3	\$188
Over 4	\$206
Over 6	\$650
Over 14	\$840
Over 22	\$585
Over 23	\$495
Over 24	\$385
Over 25	\$250

As stated earlier, ACIP was intended to act as an incentive for pilots who committed to hazardous military service; however, it also served as a long-range retention mechanism. The ACIP pay table purposefully takes on a “bell-shaped” curve because the benefits of increased pay in the middle of the scale represent a retention measure targeting the “experienced” pilots who have completed six years of aviation service. After 14 YAS, the availability of flying positions within the Air Force is usually reserved for leadership and command billets. This significant reduction in flying opportunities after 14 YAS explains the reduction in ACIP benefits at this time. As the 1980s approached, the USAF realized that ACIP on its own would not stem flagging pilot retention and another projected pilot shortage. What transpired was the introduction of

⁶⁷ Shawna E. O’Brien, *Talking Paper on Aviation Career Incentive Pay (ACIP)*, (Washington D.C.: Headquarters USAF, 2000), 1-3.

⁶⁸ *Ibid.*

an Air Force incentive program known as Aviation Continuation Pay (ACP) or pilot bonus that has generated much attention and controversy.

The USAF strives to maintain robust retention rates for pilots in the 6-12 YAS range and achieved a retention rate of 78 percent for pilots in this year group in 1983.⁷⁰ However, this retention rate started a steady decline that would last through the rest of the decade. Even though the Air Force had experienced various obstacles to keeping pilots in the past, the decline in the 1980s approached historic lows, eventually reaching a dismal 21 percent of pilots who completed their initial service obligations for pilot training in 1987.⁷¹ Then Assistant Secretary of Defense for force management and personnel, Grant Green Jr., testified at a Senate hearing that the USAF was “projecting a serious shortfall which could grow to about 2,500 pilots by FY 1993.”⁷² Green testified that the reason for the shortfall was “unprecedented commercial airline hiring that will continue well into the 1990s.”⁷³ This boom in civil aviation led the airlines to hire over 10,000 pilots in 1987 alone, and the Air Force expected this hiring trend to continue as many airline pilots reached mandatory retirement age.⁷⁴ Further analysis into the contextual factors of commercial airline hiring must be provided to appreciate the complexity of the problem the Air Force faces.

Why should the USAF be concerned about civilian airlines? First, the overall commercial aviation sector has witnessed remarkable growth since the early 1960s. Even though civilian airline hiring has increased and declined repeatedly over the past 40 years, most of the significant hiring occurred within the last 15 years. In 1989, civilian airline hiring by the major airlines totaled 13,500 pilots.⁷⁵ An all-time hiring record of

⁶⁹ Ibid.

⁷⁰ Carlos Ortiz, *Talking Paper on History of Aviation Continuation Pay*, (Washington D.C., USAF/DPPPR, 2003), 1.

⁷¹ Ibid.

⁷² Quoted in Robert J. Hock, *A Study of the Effectiveness of Aviation Continuation Pay*, (Maxwell AFB, Ala.: Air University Press, April 1999), 7.

⁷³ Hock, 8.

⁷⁴ Ibid.

⁷⁵ Claire Mitchell Levy, *The Civilian Airline Industry's Role in Military Pilot Retention: Beggerman or Thief?* (Santa Monica: RAND, 1995), 5.

14,413 new airline pilots was achieved in 1998.⁷⁶ Despite the massive layoffs and bankruptcies that occurred in the civilian aviation industry after 11 September 2001, many see the industry on the road to recovery.⁷⁷ Projected increases in civilian airline hiring in the coming years will place the total requirement for civilian airline pilots above 60,000 for the next decade.

The second reason the USAF should be concerned about airline industry hiring practices relates to whom the airlines want to hire. Simply put, the USAF is the largest supplier of pilots to the airlines.⁷⁸ Historically, the US military has provided 40 percent to 85 percent of new hires for major airlines since the 1960s. However, the percentage has remained steady at 85 since 1992, with the Air Force making up 78 percent of this figure.⁷⁹ Because airline-sponsored training programs in the private industry and colleges remains small, the airlines will continue to rely on the USAF for a majority of its new pilots.

Finally, the Air Force should put emphasis on civilian airline practices because of the positive attributes. The upside is there are civilian airline links to the Air Force Reserve Command (AFRC) and the Civilian Reserve Air Fleet (CRAF). Civilian airline hiring of USAF pilots still enables them to continue serving in the AFRC. In fact, over 50 percent of AFRC pilots fly for civilian airlines. Furthermore, civilian airlines can and have provided pilots, equipment, and associated support during time of conflict. In the Persian Gulf conflict of 1991, the airlines flew over 5,315 missions, and delivered

⁷⁶ Senate, *Hearing on Pilot Shortages before the Subcommittee on Aviation Commerce Committee*, 10 September 1999, 2.

⁷⁷ The civilian airline industry has furloughed over 7,500 pilots since 11 September 2001. Both US Airways and United Airlines filed for Chapter 11 bankruptcy protection, however, US Airways emerged after only eight months. The entire airline industry is not in a crisis. Well managed and focused carriers such as Southwest, AirTran, and JetBlue airlines have remained profitable or continued to hire new pilots after 11 September 2001. The entire airline industry concluded 2002 with 5,845 total pilots hired, just short of AIR Inc.'s projected hiring of 6,000. AIR Inc. projects the airline industry to hire 7,000 new pilots in 2003. [Internet] available at www.jet-jobs.com/press%20release/1.08.03.html, accessed on 13 May 2003.

⁷⁸ Levy, 25.

⁷⁹ Ibid.

690,000 troops and 230,000 tons of material in support of military operations.⁸⁰ Still, the USAF determined that continued civilian airline hiring of its active duty pilots was a major issue that needed to be addressed.

After considering many options, the Air Force implemented ACP on 01 January 1989 as a tool to remedy the mass exodus of military pilots to the civilian sector.⁸¹ The Air Force initially offered \$12,000 per year for agreements to 14 years of commissioned service, but the Air Force soon realized that the bonus was not being enthusiastically received. In fact, only 66 percent of eligible pilots accepted the bonus in FY 1989, and this figure comprised a majority of pilots who had been in the Air Force over 10 years.⁸² Pilots with seven years or less time in service accepted the bonus at only a 35 percent rate.⁸³ Moreover, by the time the calendar year ended in 1989, the overall ACP acceptance rate dropped to 36 percent.⁸⁴

The USAF decided that ACP had merit, but needed to evolve to meet the ever-changing retention needs of the Air Force. In 1991, the Air Force began offering eligible pilots the option of receiving annual bonus installments, or choosing a new option that allowed pilots to receive half of their total ACP amount in an up-front, lump-sum payment.⁸⁵ In addition to eligible fixed-wing pilots, rotary-wing pilots were offered the bonus for the first time in 1996 due to a specific decline in their retention rates.⁸⁶ However, the first half of the 1990s offered a series of unique challenges to the ACP program. In 1991, major commercial airline hiring began to drop off, which was coupled with a significant drawdown in the USAF. Even though the Air Force had a pilot surplus during the first half of the 1990s, it was unwilling to cancel the ACP program because of possible adverse reactions. Ironically, the USAF found itself significantly cutting pilot production and waiving ADSCs for pilots, while at the same time offering enormous pilot bonuses for other pilots to stay in the service. Furthermore, those pilots that did not

⁸⁰ Levy, 7.

⁸¹ Ortiz, 1.

⁸² Hock, 12.

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ Ortiz, 1.

⁸⁶ Ibid.

accept the bonus were grounded and made eligible for short-notice reassignments to non-flying jobs.⁸⁷ Needless to say, the ACP program was starting to generate controversy and morale problems, not only for individuals eligible for the program, but for airmen in other career fields as well.

When airline hiring picked back up in the mid-1990s, the Air Force immediately saw the ACP acceptance rates begin to decline. Significant changes in ACP policy occurred in FY 1998 with the passage of the National Security Defense Authorization (NDAA), designed primarily to restore the financial value of the pilot bonus because of inflation and other variables. Beginning in 1998, the Air Force increased the agreement value of the bonus from \$12,000 to a maximum annual rate of \$22,000 for agreements through 14 years of commissioned service. Additionally, the FY 98 NDAA contained authority to offer the amended ACP program retroactively to pilots in the 1997-year group. Finally, pilots were no longer required to make long-term decisions to remain in the Air Force until 14 years. Instead, the Air Force offered the options of shorter-term agreement lengths of one, two, or three years at \$6,000, \$9,000, or \$12,000 respectively.⁸⁸

Unfortunately, the revisions in the ACP program had little impact on overall acceptance rates, and the USAF continued to witness a steady decrease in bonus acceptance rates, which finally hit 26 percent in FY 1998. Armed with this data, the Air Force once again restructured the ACP program. The USAF fully capitalized on the new bonus authority offered by Congress through the FY 2000 NDAA, and began offering agreements to pilots until 20 and 25 YAS, including colonels. Furthermore, agreements were now valued at \$15,000 for three years or less, and \$25,000 for 5-year contracts, or until 20 or 25 YAS. Those pilots who were initially eligible for the bonus would continue to have the option of receiving annual installments or taking half of the total agreement value up-front. However, pilots under an FY 1999 agreement or earlier now had the opportunity to convert their initial agreements to the new program structure by

⁸⁷ Hock, 13.

⁸⁸ Ortiz, 1.

amending their contracts.⁸⁹ As a result of ACP program restructuring, over 8,000 Air Force pilots were now eligible for a bonus in FY 2000, which equated to an approximate eight-fold increase over FY 1999.⁹⁰ The FY 2001 and 2002 ACP programs have carried forward the same basic framework of the FY 2000 program with only slight modification, namely the up-front lump-sum payment cap has been raised from \$100,000 to \$150,000, with the overall objective being to encourage a higher percentage of longer-term agreements to 20 and 25 YAS.⁹¹ Even with this strategic objective, ACP continues to be perceived by many in the Air Force as a temporary, short-term solution to the issues of retention and pilot shortages. Unfortunately, short-term solutions are not unique to pilot retention, but exist in other Air Force programs such as rated management.

Pilot Management

USAF rated management has followed traditional means of balancing the pilot force for much of its existence, with the overall objective of having the pilot inventory match requirements. These traditional measures consist of pilots that fill force, staff, and instructor requirements, as well as pilots who fall into other requirements, all detailed in Chapter Two. This section intends to examine two rated management tools that had brief existence in the Air Force, and were designed to maintain pilot inventories above requirement lines. These programs are the Rated Supplement of the 1970s, and the Banked Pilot Program of the 1990s.

The Air Force has often encountered some form of overage in the pilot inventory since its inception. In 1947, a report to the Air Board stated, “As a safety factor, the board believes there should be a mobilization potential of rated officers on active duty at all times, occupying positions normally allotted to non-rated officers.”⁹² As the years passed, “behind-the-lines pilots” or “mobilization reserves” were instrumental in such activities as the Berlin Airlift and Cuban Missile Crisis.⁹³ In fact, total rated officers,

⁸⁹ Ortiz, 2.

⁹⁰ Ibid.

⁹¹ Ibid.

⁹² Quoted in Griffith, 5.

⁹³ Quoted in Griffith, 7.

including navigators, performing non-rated duties in 1963 reached 18,148.⁹⁴ However, wartime needs related to the Vietnam Conflict witnessed a rapid withdrawal of rated officers from support career fields resulting in severe manning and experience problems for the service later on. By 1970, the total number of rated individuals executing non-rated duties stood at just 4,398.⁹⁵ The USAF felt compelled to institute some official rated management structure to better orchestrate a surplus of rated personnel.

In 1970, the Air Force established the Rated Supplement as a formalized rated management tool under the USAF Personnel Plan. Its primary purpose was to provide a wartime contingency resource of rated officers, while providing a career-broadening avenue for rated officers outside the operational environment. Participants in the program were both pilots and navigators in the ranks of Lieutenant Colonel and below, who served in non-rated positions, attended PME, or were assigned to AFIT.⁹⁶ By 1973, the Rated Supplement carried approximately 7,000 airmen, with almost 4,000 of these being pilots. This figure would remain steady for the next three years until budget cuts and force reductions appeared imminent. Sitting on a 15 percent pilot surplus in 1977, the Office of the Secretary of Defense was forced to make drastic changes in how the Air Force determined the size of its rated force. What resulted was the cancellation of the Rated Supplement under the FY 1978 Defense Planning and Programming Guidance.⁹⁷ Although the Rated Supplement program was short-lived, it did provide the USAF with a wartime contingency of pilots. However, a second order consequence was the establishment of an effective pilot management tool that could be used not only during times of pilot surpluses, but shortages as well.

Air Force planners referred to the utility of the Rated Supplement program when they established the Banked Pilot program in the 1990s. Sitting on a 700-pilot surplus in 1992, which USAF planners predicted would increase to 3,400 in 1994, USAF Chief of Staff Gen. Merrill McPeak commenced measures that would considerably cut pilot

⁹⁴ USAF Personnel Plan, Vol. II, Annex A, 13 June 1975, A-2.

⁹⁵ Ibid.

⁹⁶ USAF Personnel Plan, Vol. II, Annex A, 13 June 1975, A-2.

⁹⁷ Rodney D. Chiapusio, *The Rated Supplement: Motivator or Milestone? A Look at Job Satisfaction Perceptions*, (Maxwell AFB, Ala.: Air University Press, April 1980), 3.

production as well as the bases used to train them.⁹⁸ However, unlike defense officials in 1978 who eliminated the Rated Supplement to facilitate a quick reduction in the USAF pilot surplus, Gen. McPeak temporarily deferred 700 UPT graduates into non-flying support jobs to stabilize the pilot force during the period of rapid reduction. Known as the Banked Pilot program, this measure would eventually hold over 1,100 pilots.⁹⁹ Unfortunately, the program was cancelled in 1994 just as the Air Force was forecasting the transition from a pilot surplus to a pilot shortage. One can only speculate what the status of the pilot inventory could have been if some form of the Banked Pilot program had remained in effect from 1994 to the present. However, Major William Dalonzo's study indicates that the current pilot shortage would not have been as severe if some excess pilots had been continually banked into a reserve mechanism such as the Banked Pilot program.¹⁰⁰

Observations

Although the review of information pertaining to pilot production, retention, and rated management provides valuable insight into the different factors that impact the USAF pilot inventory, the main focus should be on finding certain aspects within each group that could minimize the large inventory fluctuations, further aggravate the situation, or have no effect at all. Below are specific observations from pilot training, retention, and pilot management, and their influences on pilot shortages and surpluses.

Pilot Production Observations

Historically, the USAF has manipulated pilot production output to compensate for shortages or surpluses in the pilot inventory because it is the easiest system to manipulate. Unfortunately, the time required to train and ship an experienced pilot to the

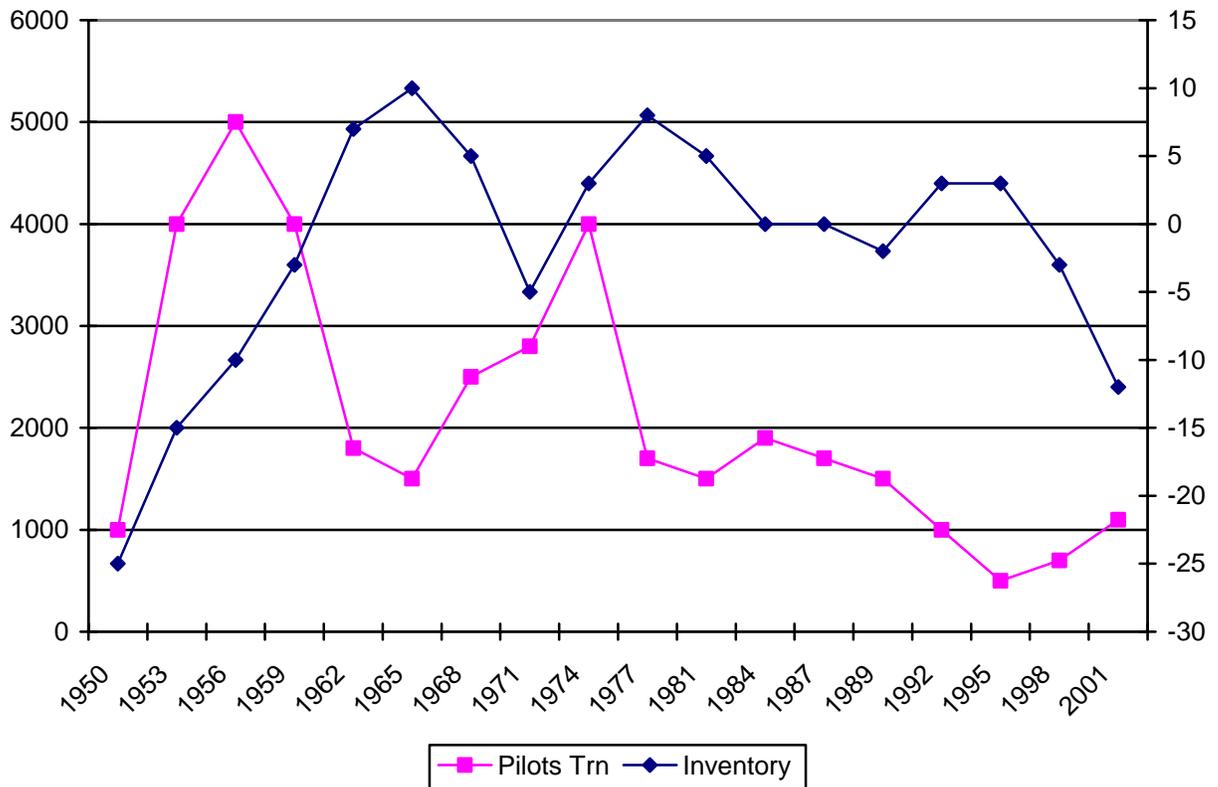
⁹⁸ Mark W. Babione, *USAF Banked Pilots: Is the Interest Worth the Deposits?*, (Boulder: University of Colorado Press, 1993), 5.

⁹⁹ William J. Dalonzo, *McPeak's Follies: A Comprehensive Look at Rated Management in the 1990s and Beyond*, (Maxwell AFB, Ala.: Air University Press, April 1999), 3.

¹⁰⁰ Dalonzo, 9-12.

field is not instantaneous, and usually results in an over-compensation and reversal in the inventory status. The relationship between pilot training and the overall inventory during the past five decades is depicted in Figure 3.3. The first impression one may get from this graph is that the two lines do not move in concert. In fact, the two lines fluctuate erratically, in opposite directions from each other, during a majority of the time period. The lone exception to this trend occurs in the 1980s when both pilot training and the pilot inventory remain fairly level. The relative stability in the pilot inventory may have resulted from the atypical approach ATC took with pilot training during this decade. Pilot production started at 1,600 in 1980, rose to only 2,000 in 1984, then slowly declined back to approximately 1,600 at decade's end. The fluctuations in pilot training during this decade represent the smallest ever experienced by the USAF, and may explain the corresponding small variations in the overall pilot inventory. These small deviations in pilot training contrast sharply from the fluctuating levels of the previous three decades. From 1950 to 1979, pilot production varied by as much as 4,500. In 1990, pilot production started at 1,500, but hit 500 by 1994. This was followed by an immediate increase in pilot production that would put the total number of pilots trained at 1,100 by the end of the decade. Not surprisingly, the surplus and shortage during this decade became pronounced. When analyzing this empirical data, one can conclude that small adjustments in pilot production can partially contribute to equally small movements in the pilot inventory, but with about a three-year lag. However, pilot production is only one aspect that affects the pilot inventory.

Graph 3 Annual USAF Pilot Production Compared to Shortages and Surpluses as a percentage of the Pilot Inventory



Pilots Trained

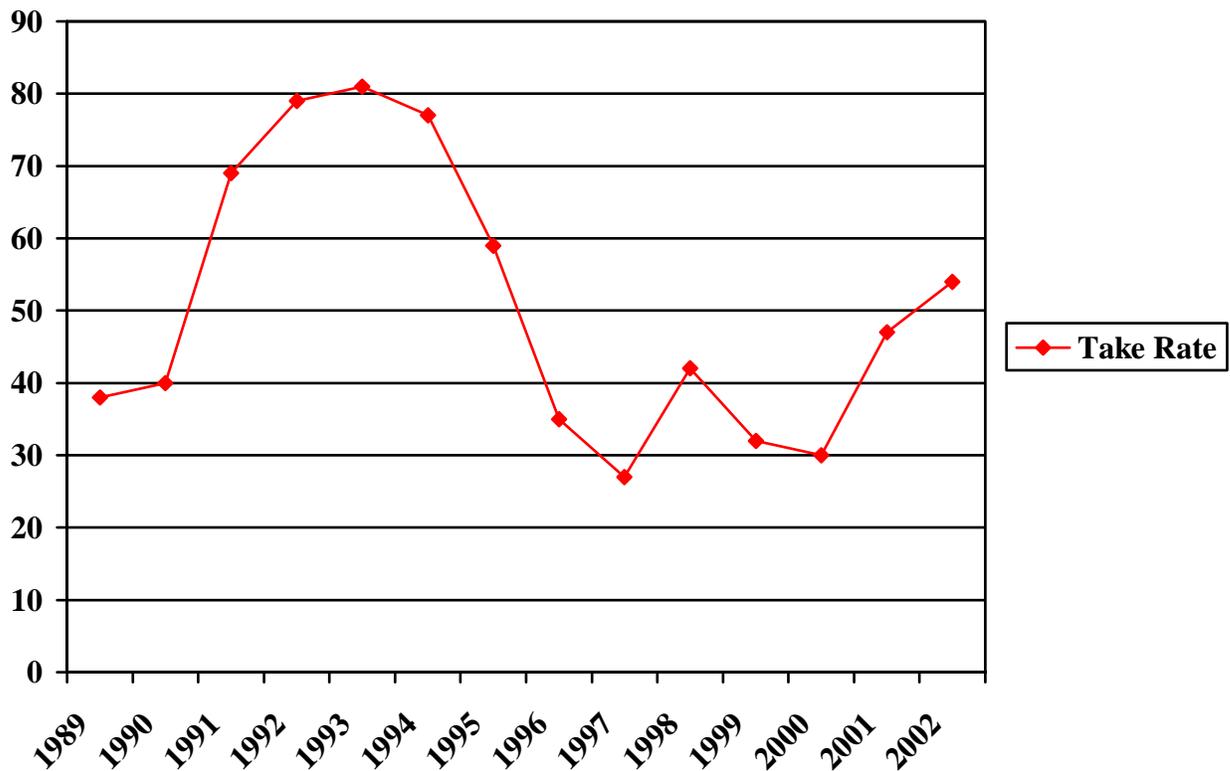
Pilot

Pilot Retention Observations

An analysis of statistical data also provides valuable insight into the overall effectiveness of the ACP program. The pilot bonus was originally instituted as a mechanism to aid the USAF in retaining at least 63 percent of pilots who had completed their initial service obligation. Although the Air Force unofficially states that it would like to retain 100 percent of its pilots today, the 63-percent figure still holds as the official goal. However, there have been only four years of ACP’s 14-year existence when the Air Force surpassed the 63-percent goal. Moreover, the Air Force has experienced eight years when the bonus failed to persuade over 50 percent of eligible pilots to stay. Figure 3.3 gives the long-term bonus-take-rates for the ACP program. Although the USAF has put an exorbitant amount of time and effort into the ACP program, its results still leave

something to be desired. Furthermore, the most recent survey conducted by the Air Force indicates other long-term retention issues addressing quality-of-life, promotions, operations tempo, assignments, additional duties, and ACIP are just as important when pilots decide to exit or stay in the USAF.¹⁰¹

Graph 4 Bonus Take Rate for ACP



Pilot Management Observation

Although the USAF has experienced massive fluctuations in the pilot inventory during the past five decades, the 1970s appear particularly interesting. First, it was the only time period when the pilot inventory remained in surplus figures. Second, this steady pilot surplus coincides with the existence of the Rated Supplement. Even though there were fluctuations in the pilot surplus during the time that the Rated Supplement was part of the overall USAF personnel policy, the variations were all on the surplus side.

¹⁰¹ Director of Personnel, USAF, Officer Survey, 2002.

Furthermore, the pilot inventory clearly shows that once the Rated Supplement was eliminated, and pilot production was drastically reduced, the pilot inventory quickly transitioned to a shortage. One can see the same stability in the pilot inventory on the surplus side when the Banked Pilot program was instituted in the early 1990s. Although this program was cancelled once a pilot shortage was projected, one can only speculate the impact on the pilot inventory if production in 1994 and 1995 had not been drastically reduced, and some form of Banked Pilot program was allowed to continue. The next chapters will expound upon the solutions and examine the existing tools in the USAF inventory to see if the Air Force is currently capable of implementing recommended changes.

Chapter Four

A Strategic Reserve of Pilots

From the observations in Chapter Three, it becomes apparent that the USAF has within its grasp the tools and capabilities to diminish the large fluctuations in the pilot inventory. Specifically, the key remedy comes from an enhancement in the overall management of the pilot force that will incorporate some form of “strategic reserve”. This chapter looks at the expected utility and benefits of instituting a strategic reserve of pilots. Further analysis will examine whether the current USAF structure already embraces some form of strategic reserve, whether it’s capable of instituting the concept under current guidelines and force structure, and if not, what the service must do.

Although maintaining a strategic reserve of pilots holds promise for reducing the large swings between pilot shortages and surplus, it provides additional strategic benefits and enhancements to the USAF’s overall warfighting capabilities. Many military theorists such as Carl Von Clausewitz, Baron Antoine Henri de Jomini, and John Warden provide ammunition for maintaining a strategic reserve. Although Clausewitz’s discussion of a strategic reserve in *On War* pertains mostly to the operational form of war, much of what he says applies at the strategic level. Clausewitz affirms that a strategic reserve is a valuable commodity, especially if emergencies arise, and that some form of force should be held in reserve to address strategic uncertainty.¹⁰² Jomini embellishes further in *The Art of War* writing, “A wise government always provides good reserves for its armies.”¹⁰³ However, one of the most modern examples of the utility of a strategic reserve comes from the Gulf War airpower architect Warden, who indicates that

¹⁰² Carl Von Clausewitz, *On War*, (Princeton: Princeton University Press, 1976), 201.

¹⁰³ Baron Antoine Henri de Jomini, *The Art of War*, (London: Greenhill Books, 1992), 133.

a strategic reserve helps armies better cope with the fog and friction of war. Warden goes on to state that a strategic reserve will not eliminate these hindrances, but it can ameliorate the negative consequences that may arise during combat.¹⁰⁴

Contemporary defense policy could benefit from the application of a strategic reserve of pilots in the USAF inventory. Serious questions about the future defense requirements of the US arise at the same time each military service is experiencing equipment and personnel shortages with an increase in OPSTEMPO. Eliot Cohen posits that the USAF is wearing itself out flying combat patrols over US cities while burdening the National Guard with additional homeland defense missions the active duty force is unable to accomplish.¹⁰⁵ Cohen illustrates the dilemma that results from not maintaining some form of reserve with a discussion of precision weapons. “American arsenals of precision weapons were also depleted after both the 1991 Persian Gulf War and the 1999 Kosovo campaign. The shortage in Afghanistan thus represents the third consecutive failure of the Pentagon to stockpile the right munitions or create a system for surge production of them when needed.”¹⁰⁶ Having the ability to stockpile a certain number of pilots in a strategic reserve would reduce the tensions that arise in the pilot inventory whenever a shortage is experienced or predicted, just as a reserve of precision munitions would benefit the USAF. However, some critics may ask whether the USAF already possesses some form of strategic reserve, or if we have the capability to fund additional pilots above the current requirement line.

Some people will argue that the USAF possesses a significant capability in the Air National Guard (ANG) and the Air Force Reserve Command (AFRC), insisting that these two entities in essence already makeup a strategic reserve of pilots. At the end of 2002, the ANG and AFRC possessed 1,158 and 390 combat aircraft respectively.¹⁰⁷ This inventory includes the latest, most capable models of the F-16, F-15, O/A-10, C-5, C-

¹⁰⁴ John A. Warden III, *The Air Campaign*, (New York: toExcel, 1998), 98-100.

¹⁰⁵ Eliot A. Cohen, *A Tale of Two Secretaries*, SAASS 670 Reader, 9.

¹⁰⁶ Cohen, 8.

¹⁰⁷ Mehuron, 57.

141, C-130, MC-130, HC-130, WC-130, KC-135, B-52, and HH-60 helicopter.¹⁰⁸ These air reserve components are able to conduct combat flight operations with the more than 7,000 pilots they own. On any given day, 99 percent of the aircraft and pilots are mission ready and able to deploy within 72 hours. Furthermore, these aircraft and crews are immediately deployable without the need for additional training.

If critics of a strategic reserve of USAF pilots are to assume that the Air Force has a ready-made reserve of pilots in the ANG and AFRC, then the US has not only contradicted the strategic purpose of these two organizations, but has already delved deep into this so-called strategic reserve. First, the ANG's state and federal mission is to provide trained, well-equipped men and women who can augment the active duty force during national emergencies or war, and provide assistance during natural disasters and civil disturbances. The overall mission of the AFRC is to support the Air Force mission to defend the United States through control and exploitation of air and space by supporting the concept of global engagement. The AFRC plays an integral role in the day-to-day Air Force mission. Explicit in the AFRC charter is the statement: "AFRC is not a force held in reserve for possible war or contingency operation."¹⁰⁹

An examination of each reserve component's contributions to the total force will suggest each is too closely imbedded in daily operations to be considered a strategic reserve.

Although ANG and AFRC participation in space operations and bomber support make up only 7 percent and 18 percent respectively, they constitute 34 percent of the fighter force and strategic airlift and 50 percent of the tanker force. They possess the largest slice of other pies, with 54 percent of the rescue capability and 60 percent of the theater lift responsibility. The most glaring statistic jumps out when one sees that the ANG and

¹⁰⁸ "Air Force Reserve Command Factsheet", [Internet] available at www.af.mil/news/factsheet/Air_Force_Reserve_Command.html, accessed 15 January 2003.

¹⁰⁹ Air Force Reserve Command Factsheet.

AFRC conduct 100 percent of the weather reconnaissance, psychological operations, and civil affairs broadcast mission.¹¹⁰

Not only are these two organizations holding the lion's share of capabilities in some fields, they are performing a significant number of the missions in Operations Enduring Freedom, Noble Eagle and Iraqi Freedom. As of 29 January 2003, there were over 100,000 reservists on active duty, nearly half the total of the entire force mobilized for combat in Iraq.¹¹¹ Many in political and military circles, such as Representative John McHugh, R-NY and chairman of the House Armed Services Committee's Total Force Subcommittee are convinced that the military cannot continue to depend so heavily on reservists for the ongoing war on terrorism.¹¹² Eliot Cohen writes that "the increasing use of reservists and National Guard personnel for routine military operations not only puts stress on the lives of those called up for months or even years at a time, it also runs the risk of exhausting their willingness to serve and indeed undermines the very idea of the citizen soldier."¹¹³ This sentiment is undoubtedly derived from the low morale being exhibited by many reservists as a by-product from remaining on active duty for over a year doing what some feel is above their calling as part-time workers. This is on top of being denied most of the privileges afforded active duty personnel such as expanded health care, space-available travel for dependents, and Thrift Savings investment opportunities. If the intent of the US government is to continue to use the ANG and AFRC as a substitute or reserve for an over-burdened active duty force, it should expect increased problems in the future.

The ANG and AFRC form part of the total force these days and fall as a strategic reserve.

There are benefits for maintaining a strategic reserve, and the statistical evidence from Chapter Three highlights the impact a strategic reserve of pilots can have on reducing large fluctuations in the pilot inventory. With the continual presence of some

¹¹⁰ "Air Force Almanac", [Internet] available at www.au.af.mil/au/database/projects/ay1996/acsc/96-004/hardware/docs/solo.html, accessed on 15 January 2003.

¹¹¹ Rick Maze, "Service Must Reduce Need for Reserves", *Air Force Times*, 10 February 2003, 29.

¹¹² *Ibid.*

form of surplus in the pilot inventory, the USAF is afforded greater flexibility when it is required to manipulate pilot production totals or implement pilot retention programs. Now more than ever, contemporary factors compel the Air Force to reexamine the idea of a strategic reserve of pilots as its inventory sits in deficit numbers, training command ponders ways to increase production, the Air Staff evaluates the effectiveness of certain retention initiatives, and the Air Force continues to rely on the ANG and AFRC to fulfill mission objectives. So, Why is the USAF hesitant to embrace the concept of a strategic reserve of pilots?

The Air Force reluctance to implement a strategic reserve of pilots probably stems from a lack of appreciation for the negative consequences wrought by the large fluctuations in its pilot inventory, bad experiences with past attempts to maintain a strategic reserve of pilots, and overall financial factors associated with maintaining a certain level of pilots above the official requirement line.

Doctrinally, the Air Force hesitates to pursue a path that will rectify the pilot inventory crisis. It strives for mere sufficiency and usually falls short. Moreover, its short-term fixes to various shortages and surpluses actually aggravate the problem. This philosophy of “crisis management to sufficiency” has been the normal approach for the past fifty years and is uniquely responsible for the five large sine waves the USAF has experienced in its pilot inventory since 1947. The lone exceptions to the above occurred during the 1970s when the Rated Supplement augmented the pilot inventory, the 1980s when small adjustments were made in pilot production, and the first half of the 1990s with the pilots in General McPeak’s “Bank”.

Although the Rated Supplement and Banked Pilot Program brought some stability to the pilot inventory, there are certain negative aspects to the both programs, which may explain the Air Force’s reluctance to incorporate a strategic reserve of pilots into its management structure once again. First, the overall size of the Rated Supplement proved to be an administrative nightmare for the Air Force. In 1970, the program maintained roughly an 11 percent surplus of personnel, holding 4,398 aviators in the Rated Supplement against a total authorization of roughly 34,000 pilots. By 1974, the Rated Supplement had swelled to 7,500 aviators, representing over 20 percent of total Air Force

¹¹³ Cohen, 11.

requirements.¹¹⁴ Additionally, the Air Force distributed the Rated Supplement resources across 65 Air Force specialties ranging from various Air Staff positions to supply and maintenance officers. Certain career fields within these 65 specialties signify the second problem of the Rated Supplement. Critical Air Staff and supervisory positions were incorporated into the Rated Supplement program of the 1970s. This produced serious negative consequences for these units when the pilots were pulled to accomplish flying duties.

Next, the scope or range of both the Rated Supplement and the Banked pilot programs offered additional challenges. The Rated Supplement used personnel from the ranks of Lieutenant to Lieutenant Colonel. Although problems with the higher ranking individuals relate to the staffing of critical Air Staff and supervisory positions detailed above, the utilization of the junior ranks cause more acute problems. Specifically, the mass production and influx of young Lieutenants and Captains into the Rated Supplement caused a “hump” in affected year groups, which impacted promotion opportunities for these individuals later. Furthermore, certain career fields had enough challenges managing their own inexperienced personnel without having to contend with additional inexperienced rated individuals. Conversely, the Banked Pilot Program ran exclusively on newly graduated pilot trainees. Although this measure was instituted because of a shortage of operational aircraft, it presented the same challenges for the younger ranks, as did the Rated Supplement. If the Air Force had allowed certain senior ranking pilots the opportunity to join the Banked Pilot program, as opposed to mandatory retirement or separation, there would have been a greater potential to alleviate the severe shortage of experienced pilots in the late 1990s, and it could have reduced the implications of the “bathtub” resulting from low pilot production in 1994 and 1995. Finally, those pilots who participated harbored negative perceptions of both programs. With the Rated Supplement, there was a certain stigma attached with selection into the program. Most individuals who were selected for the Rated Supplement felt they were considered negatively upon at promotion time.¹¹⁵ Negative perceptions also followed the individuals in the Banked Pilot Program. Although some top pilot training graduates could volunteer

¹¹⁴ Griffith, 8.

¹¹⁵ Chiapusio, 24-28.

for the Banked Pilot Program in the hopes of flying an operational fighter, most Banked Pilots were from the middle to lower ranking graduates in pilot training classes. Furthermore, these individuals could not be banked as future fighter or bomber pilots because they lacked the standings in the class that allowed them to compete for these operational aircraft.¹¹⁶ Even though there were numerous faults with the Rated Supplement and Banked Pilot programs as they were instituted, these problems are manageable.

Still, there is the financial variable to contend with. If a strategic reserve of pilots on the magnitude of the Rated Supplement were enacted in the USAF today, there would be considerable backlash from both political and military circles concerning the cost. The challenges for the USAF are to justify the existence of a strategic reserve of pilots not only in financial terms, but in the rationale of strategy and security as well. Monetary benefits from maintaining a select surplus of pilots on a continual basis offsets the money required to increase or decrease pilot production, and the time associated with accomplishing these measures. General Carl Spaatz preached these benefits to Congress in the 1950s when the nation had to contend with rearmament for the Korean War under tighter fiscal constraints. Spaatz stated that there are “those of us who believe an adequate Air Force is the first essential for maintenance of world peace.”¹¹⁷ Spaatz went on to say there was little room for complacency in keeping the Air Force undermanned to save money. “A balanced budget at this time is of less importance than the security of the free world.”¹¹⁸ Parallels to this mentality can be seen with the current administration as it wrestles with the war or terrorism, transformation, and the overall defense budget. A strategic reserve of pilots could diminish the fluctuations in the USAF pilot inventory, provide financial savings for the service compared to large changes in pilot production, and bolster the strategic standing and security of the nation. A template for an effective strategic reserve also exists.

¹¹⁶ Dalonzo, 25.

¹¹⁷ Carl Spaatz, “Our Dwindling Air Force”, *Newsweek*, 29 May 1950, 20.

¹¹⁸ *Ibid.*

A USAF Strategic Reserve for the 21st Century

If a strategic reserve is to work, the USAF must incorporate various improvements over previous programs. Specifically, a strategic reserve of pilots today must address the size, scope, perception, and career-field choices that plagued the Rated Supplement and Banked Pilot Program.

First, the size of the strategic reserve must be relatively small compared to past programs. If current USAF pilot requirements continue to stand at approximately 12,500, then a strategic reserve of 200-300 pilots seems quite manageable. This figure equates to only two percent of total pilot authorizations. Furthermore, this number coincides with the average delta in pilot production during the 1980s, which signified a period of relative stability in the pilot inventory.

Second, the range of available personnel based on rank must be targeted to enhance the effectiveness of the program and the cost benefit to the pilots participating. Unlike the Rated Supplement, which used aviators in the ranks of Lieutenant through Lieutenant Colonel, or the Banked Pilot program, which was filled primarily with Second Lieutenants, the strategic reserve of pilots today should focus on pilots in the ranks of captains and majors. These two ranks constitute over half of the current USAF officer inventory, which would enable a wider selection of personnel for the strategic reserve.¹¹⁹ Furthermore, using these ranks in a strategic reserve would eliminate large bubbles in the junior grades, and eradicate the need to pull senior ranking Lieutenant Colonels from potential leadership positions.

Focusing on experienced pilots in the ranks of Captain and Major will dispel any negative perceptions felt by the Lieutenants or Lieutenant Colonels, however a completely different approach to selecting pilots for a strategic reserve must transpire to quell any bad perceptions from the targeted group. In order to accomplish this, the selection for positions within a strategic reserve must be viewed as a reward or worthy accomplishment, as opposed to a penalty for unwanted personnel. If the selection of pilots for a strategic reserve were conducted much like that of a selection board for special duty assignments, the perception of the program would be vastly improved.

¹¹⁹ Mehuron, 47.

However, the selection of the right career fields for holding a strategic reserve of pilots is the critical piece to the success of the program.

There are many variables that impact the proper selection of career fields for a strategic reserve of pilots. Unlike the Rated Supplement and Banked Pilot program that had pilots performing non-rated duties, today's strategic reserve of pilots must continue to perform flight duties. This not only will maintain the flight proficiency of the pilots involved, but also enhance the perception of the pilots who make up the reserve. Finding applicable flight positions for pilots in a strategic reserve will be a daunting challenge in an era of continuous reductions in the active duty force. Therefore, the USAF must institute a strategic reserve that takes the best of existing programs and melds them with possibilities from other institutions. Specifically, the Air Force can devise a strategic reserve of pilots through an expansion of its international pilot exchange program, build on the success of the Associate IP Program by enlarging the Fighter Associate Program, flow active duty pilots into the ANG and AFRC billets, and fill flight opportunities in federal and state government agencies.

The Secretary of the Air Force, International Affairs, currently administers the International Personnel Exchange Program (PEP) for the USAF. This office manages 80 rated positions, with 67 of these allocated for flying, and 13 for non-flying staff and PME opportunities. PEP positions involve 25 countries, mainly from Western Europe, Canada, Australia, Japan, South America, and the Middle East.¹²⁰ Within the guidelines of the PEP, unique opportunities are afforded USAF aviators as they conduct flying exchanges throughout the globe. The USAF and each participating nation achieve specific operational and strategic objectives by conducting these exchanges. Overall, exchange goals look to promote mutual assurances and trust between nations, foster understanding of doctrine, tactics, and procedures, strengthen military-to-military contacts, as well as air force-to-air force involvement, and develop long-term professional and personal relationships among the exchange pilots.¹²¹ The only limiting factor to the existing PEP

¹²⁰ Mr. Hyatt Lansdall, Director, International Personnel Exchange Program, Secretary of the Air Force, International Affairs, Pentagon, Washington D.C., interviewed by author 28 April 2003.

¹²¹ Air Force Instruction 16-107, International Personnel Exchange Program, October 2002, 1, 2.

concerns reciprocity. Current directives instruct participating air forces to do pilot exchanges with the USAF on a one-for-one basis. However, within the context of the current program lays the potential for expansion, and with it a mechanism to facilitate a strategic reserve of USAF pilots.

The Air Force should look to expand its positions with select air forces beyond the one-for-one directive. Where possible, the USAF should study the feasibility of assigning two pilots for every one from the exchange nation. This measure could repair some of the diplomatic, political, and military fallout from the recent war in Iraq, particularly among France, Germany, and Canada. Furthermore the USAF should expand its pilot exchange involvement into emerging nations of the North Atlantic Treaty Organization (NATO), areas of the former Soviet Union, countries in the far Pacific region, and maybe even a partnership in China itself. Poland recently signed a letter of offer and acceptance to purchase new F-16 fighters from the US, and General Gregory Martin, Commander United States Air Forces in Europe (USAFE) has recommended an F-16 exchange with this country. The US is also working on memoranda of agreement with other countries such as Russia and Malaysia, and is asking questions about expanding into other areas of Eastern Europe. Recently, the US Senate unanimously backed NATO expansion into Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia, providing additional prospects for PEP expansion.¹²² The precedent to change the one-for-one requirement has been set by Chile concerning doctors, which could be expanded to include pilots in the near future.¹²³ All in all, the PEP organization has remained a vital tool within the overall management of USAF pilots for many years, and the program offers unique opportunities to incorporate additional positions for a strategic reserve of pilots. A recent innovation with a new twist could also provide a mechanism for housing additional pilots in a strategic reserve.

Early in 1996, AETC looked to the AFRC and the ANG for help in getting the right number and the right mix of instructor pilots it needed to significantly expand pilot production. Initially, AETC was thinking in terms of doing a limited recall of AFRC and

¹²² Ken Guggenheim, "US Senate Unanimously backs NATO Expansion", *Montgomery Advertiser*, 9 May 2003.

¹²³ Hyatt Lansdall, interviewed by author, 28 April 2003.

ANG fighter pilots to extended active duty for three or four-year tours as a short-term fix. However, the command soon realized the longer lasting strategic implications of the program, and soon became interested in formulating an associate program with a small number of full-time Active Guard Reserve (AGR) pilots and some part-time Traditional Reserve (TR) pilots permanently assigned to each of the training bases.¹²⁴ By the summer of 2001, six reserve associate squadrons were in place to support SUPT, Introduction to Fighter Fundamentals (IFF), and Euro-NATO Joint Jet Pilot Training (ENJJPT) field a total of 396 pilots.¹²⁵ A variation of this theme had AFRC and ANG associate units located at Tyndall and Luke AFBs. Tyndall AFB is responsible for USAF F-15 training and currently has authorizations for 16 AGR and 18 TR pilots. Luke AFB, which conducts F-16 training, can expect to reach its authorized strength of 22 AGR and 52 TR pilots by July 2003.¹²⁶

More importantly, ACC has recently joined forces with the ARC to begin the Fighter Reserve Associate Program (FRAP). FRAP offers experienced pilots who are leaving active duty the chance to continue flying with the same unit, but in a reserve status. In December 2000, Gen. John Jumper, then commander of ACC, declared the program a success after a three-year evaluation at Shaw AFB SC. Gen Jumper directed the staff to find ways to expand FRAP to other command units, resulting in Reserve Associate detachments at Hill AFB, UT, Eglin AFB, FL, Nellis AFB, NV, and Langley AFB, VA.¹²⁷ Based on the success of the FRAP, the Air Force should examine the feasibility of expanding the Associate Program even further by forming detachments at all fighter units, as well as bomber, transport, tanker, and helicopter units.

The increasing flexibility and changes within the AFRC and ANG Associate Programs provided an excellent opportunity for expansion in the opposite direction. The Total Force Absorption Program (TFAP) has sent some active duty pilots to select Reserve units after completing 18-months with an active duty unit. Lt Col. Patrick

¹²⁴ History, Air Education and Training Command, 1996-1999, 172-174.

¹²⁵ History, Air Education and Training Command, 2000-2002, 160.

¹²⁶ Ibid.

¹²⁷ David Byron, "Agreement Establishes Fighter Associate Program", *Air Force News Link*, [Internet] available at www.af.mil/news/Apr2003/40403610.shtml, accessed on 5 April 2003.

McAndrews, chief of ACC's flight management branch stated, "This is just the first step. Five to ten years down the road, we hope to expand TFAP to include the ANG."¹²⁸ The Associate Programs have provided the Air Force with unique force management tools that will not only ensure proper manning of flying units with experienced pilots should an acute pilot shortage develop, but the programs also provide a mechanism to store a strategic reserve of pilots when the active duty pilot force comprises a pilot surplus. These mechanisms are much better than the alternative of simply releasing seasoned, experienced pilots from active duty.

Finally, the USAF should look "outside the box" when contemplating a strategic reserve of pilots by examining state and federal agencies that use aviation. Specifically, the Air Force should look for flight opportunities within the Department of Homeland Security. This new agency represents the largest reorganization of the US government since the Defense Department was established in 1947, and incorporates numerous departments such as the US Forestry Service, Border Patrol, Customs, and Coast Guard.¹²⁹ All of the above agencies rely extensively on flight operations, which have been stretched to the limit in the past two years. The lack of adequate aerial firefighting equipment within the Forestry Service represents one example of current limitations within the department, highlighted by the Hayman, CO, and Walker AZ, fires of 2002. The agency fought both fires with only 45 contract aircraft with an average age of 32 years.¹³⁰ When two firefighting air tankers crashed battling these two fires an immediate inquiry was launched by Congressman Jim Gibbons, (R-NV) for the US House Subcommittee on Forests and Forest Health to investigate the possible causes of the accidents. More importantly, Gibbons sponsored legislation to provide additional aerial resources from the Department of Defense to aid future firefighting efforts.¹³¹ Under the

¹²⁸ Byron, 3.

¹²⁹ David Hughes, "Homeland Security Department: Is \$36.2 Billion Enough?", *Aviation Week & Space Technology*, 17 February 2003, 57,58.

¹³⁰ Robert Gehrke, "Military Slow to Turn Over Firefighting Planes", *The Salt Lake Tribune*, [Internet] available at www.sltrib.com/2002/aug/08062002/nation_w/759436.htm, accessed on 7 May 2003.

¹³¹ Congressman Jim Gibbons, "Gibbons Calls for Investigation into Downed Firefighting Planes", [Internet] available at www.house.gov/gibbons/press02/pr.downedplanes.html, accessed on 7 May 2003.

proposal, Gibbons is looking for excess military C-130s, P-3s, and A-10s located at the Aerospace Maintenance and Regeneration Center, Davis Monthan AFB, AZ to bolster a strapped Forestry Service.¹³² Active duty pilots performing duties under the strategic reserve concept could fly some of these planes. Although the Forestry Service illustrates a unique example of where USAF strategic reserve pilots could operate, the same opportunity exists in other over-burdened agencies like the Border Patrol and Coast Guard. Both agencies are looking to the Department of Defense for assistance in patrolling the extensive borders and coastlines of the US.¹³³

Although USAF pilots in a strategic reserve would contribute immensely to the programs outlined above, they must not constitute the bulk of each program. Under the strategic reserve concept, the pilots could be reassigned to USAF active duty units at any time to effectively augment the pilot inventory. Therefore, the additional pilots in the international exchange program, Associate Program, and Department of Homeland Security should be viewed as a dynamic resource that can supplement each agency. These assets will foster not only stability in the USAF active duty inventory, but improved domestic security and enhanced international relations.

¹³² Charles McCarthy, “Double Duty State Wants More Former Military Planes for Fire Fleet”, *Sacramento Bee*, 15 August 2002, [Internet] available at www.radanovich.house.gov/press/2002/newsclips/aug02/081502planesforfirefleet.htm, accessed on 7 May 2003.

¹³³ Hughes, 58.

Chapter Five

USAF Pilot Training- The Road Ahead

Despite force management efforts, it is reasonable to assume the USAF will occasionally need to vary its rate of pilot production. Even the smallest changes in pilot production require the right infrastructure, system, and management. This chapter reviews past results in USAF pilot production based on infrastructure, management, and personnel, analyzes the current state of pilot training in the Air Force, and makes a determination if the system is structured to address not only future USAF pilot requirements, but more importantly to alleviate the large fluctuations in the inventory. Specific programs such as training bases, aircraft, training programs, and instructor pilots will be investigated to determine if each is capable of compensating for periodic shifts in the pilot inventory. The chapter will conclude with an assessment of the current capabilities of the USAF pilot training system, and give recommendations for improvement to each specific area outlined above.

As stated earlier, the USAF's first reaction to a shortage or surplus in the pilot inventory has usually been to increase or cut production, usually at a rate corresponding to the net deviation from the official requirements line. Although adjustments in pilot production are to be expected, and most of the time required, the true dilemma is determining the correct amount of change. As we have seen, the process of changing pilot production totals is not instantaneous, and has historically produced a bow wave in the opposite direction. This reversal is normally caused by the lag-time between pilot production changes and results, coupled with a change in pilot requirements back in the opposite direction.

This study provided contextual data from the 1980s that reveals a rather simple approach to changing pilot requirement and inventory lines, which subsequently reduced

large deviations in the USAF pilot inventory. Even though dramatic changes were occurring in total pilot authorizations during this decade, small changes were occurring in the pilot production levels for each year. During this time period, the USAF balanced the smaller changes in pilot production with improvements in pilot retention tools such as ACIP and ACP, and some residual manpower from the cancelled Rated Supplement of the 1970s. It was this systematic and balanced approach to pilot training that maintained a relatively stable USAF pilot inventory for much of the 1980s.

The pilot training structure for the 1980s was capable of adjusting pilot production output on a much larger scale, but the USAF chose to minimize the adjustments while it let other changes and mechanisms play out. Relative stability characterizes USAF pilot training for much of this decade, and without surges in production, the pilot inventory remained stable as well.

The 1990s tell a different story. As 1990 came to a close, Air Training Command (ATC) had produced 1,600 pilots from its six UPT bases.¹³⁴ The command possessed 50 T-41s, 677 T-37s, and 638 T-38s, flown by instructor pilots supplied from various combat commands, as well as those pilots selected to be First Assignment Instructor Pilots (FAIPS).¹³⁵ The entire system revolved around a training syllabus that had each student pilot completing a standardized course of instruction. Each student would either complete some form of initial flight screening in the T-41 at Hondo AFB, TX, or the Air Force Academy in Colorado Springs, CO, or already possess a private pilot's license before commencing UPT. All student pilots would then complete the same course of instruction, flying approximately 62 sorties/ 81 hours in the T-37, followed by 86 sorties/109 hours in the T-38. Various T-37 and T-38 simulator instruction would also be accomplished throughout the academic cycle, providing an additional 50 hours in instrument and emergency procedure training for the students.¹³⁶

Surprisingly, the pilot training system outlined above had remained fairly constant since 1975. Pilot training bases remained fixed at six from 1975-1993, and aircraft

¹³⁴ Callander, 5.

¹³⁵ History, Air Training Command, 1990, 213.

¹³⁶ Ibid, 249.

inventories changed only slightly.¹³⁷ The command continued to use a “generalized” approach to flight training through much of the same period, which actually had been the norm since the 1950s.¹³⁸ The number of flight hours conducted in UPT remained fairly steady at about 200, with simulator training making up about 20 percent of the flight training in the T-37 and T-38.¹³⁹ Moreover, 1990 marked the third straight year that ATC relied on the October 1987 syllabus as the basis for UPT instruction.¹⁴⁰ However, the beginning of the 1990s started a tumultuous period for USAF pilot training, ending the stability and consistency that characterized the preceding two decades.

Starting in 1991, ATC began to experience significant changes in relation to USAF total force management and inventory, which affected UPT infrastructure, pilot training programs, training aircraft, instructor pilots, and production output. When total pilot authorizations dropped by 1,500 in 1991 and an additional 1,200 in 1992, ATC compensated with a reduction in pilot production that dipped to 746 by 1993.¹⁴¹ Furthermore, Gen. McPeak established the Banked Pilot program as a temporary measure to absorb some of the surplus in the pilot inventory during this period.

Ironically, ATC saw fit to change the way it conducted business while it experienced these huge losses in pilot production. First, ATC intended to standardize the instruction offered to pilot candidates during flight screening with the creation of Enhanced Flight Screening (EFS). This process eventually would include the acquisition of 113 T-3 aircraft, capable of performing overhead patterns and aerobatics during 25 hours of instruction. The objectives were to offer a degree of uniformity in the flight screening process, while capitalizing on a proven concept that would reduce pilot training attrition in UPT from 36.9 percent in 1987 to a goal of 18 percent.¹⁴² Second, the implementation of Specialized Undergraduate Pilot Training (SUPT) was in full swing, signifying a dramatic shift from generalized pilot training, which had been the norm for ATC during the past 40 years. Under SUPT, all student pilots would conduct primary

¹³⁷ History, Air Training Command, 1943-1993, 205-296.

¹³⁸ Stephen D. Chiabotti, *The Glorified Link: Simulation and Reform in Air Force Undergraduate Pilot Training, 1967-1980*, (Ann Arbor: Bell and Howell Co., 1987), 39.

¹³⁹ Chiabotti, 98.

¹⁴⁰ History, Air Training Command, 1990, 248.

¹⁴¹ Callander, 5.

training in the T-37. Based on performance in this portion of training, students then would proceed to the T-38 for specialized training in line with the fighter, bomber, or reconnaissance aircraft in the inventory, or to the newly acquired T-1 for additional training in preparation for tanker or transport aircraft.¹⁴³

1993 also signified the start of monumental changes in the instructor cadre of USAF pilot training. During this year, ATC started a draw down of First Assignment Instructor Pilots (FAIPs), looking to eliminate this program from pilot training to match the philosophical training concepts of SUPT. ATC's goal was to capitalize on operationally experienced pilots in fighters, bombers, tankers, and transports for the bulk of its future IP Corp, instead of FAIPs, who sometimes remained at the pilot training bases for almost seven years.¹⁴⁴ During the transition from FAIPs to operationally experienced IPs, ATC added the "Grey Haired Program", which placed aviators with over 14 years of service in T-37s and T-38s. Additionally, the command experimented with the concept of bringing ARC instructor pilots on board while the reserve forces also experienced a draw down in forces.¹⁴⁵ Ultimately, this reduction in forces would affect more than just IPs and training programs.

When pilot production was cut in half between 1990 and 1992, the Air Force had to close William AFB, AZ, under one of the first rounds of Base Realignment and Closure (BRAC). When pilot training totals fell to just 500 in 1994 and 1995, representing an AETC training capacity of just 50 percent, the command was hit under BRAC once more, closing Reece AFB, TX.¹⁴⁶ This left the command with just three SUPT training bases at Columbus AFB, MS, Laughlin AFB, TX, and Vance AFB, OK, as well as ENJJPT at Sheppard AFB, TX.

Coinciding with these reductions in training bases and pilot graduates was an equal reduction in training aircraft. The command would see T-37 and T-38 inventory numbers gradually fall to 452 and 453 respectively based on the lower production totals

¹⁴² History, Air Training Command, 1991, 232-238.

¹⁴³ The USAF T-1 is a modified Beechjet 400A with placement for two student pilots and an instructor pilot. History, Air Training Command, 1991, 213.

¹⁴⁴ History, Air Education and Training Command, 1993-1995, 129.

¹⁴⁵ Ibid, 126.

¹⁴⁶ History, Air Education and Training Command, 1996-1999, 168.

and bases.¹⁴⁷ This decline in aircraft inventory fit nicely with certain AETC aircraft modernization initiatives of the time. First, the command would require less T-6s, which were scheduled to replace the 1950s era T-37s. Second, the T-38 avionics upgrade, designed to close the wide technology gap that existed between the 1960s vintage T-38 and the Air Force's most advanced fighters, would not be as extensive.¹⁴⁸

Theoretically, the training aircraft initiatives, as well as other pilot training measures introduced in the early 1990s were novel concepts for an Air Force that possessed a surplus of pilots for much of the same period. Unfortunately, these measures did not mirror the positive steps the training command took in the 1980s, which significantly contributed to the stability of the pilot inventory during that time. Moreover, these drastic changes in pilot training would provide numerous hurdles for the command as the Air Force pilot inventory surplus changed to a shortage in 1997.

Arguably, the largest contributor to the command's current production dilemma (being at 100 percent training capacity) is having just four main training bases. Although AETC recently commenced pilot training operations at Moody AFB, GA, this measure came to be known as a "relief valve, which would allow AETC to survive today."¹⁴⁹ The limitations on pilot training operations at Moody are two-fold. First, students receive only primary (T-37) and IFF (AT-38) training at the base. Second, Moody hosts operational combat rescue operations under Air Combat Command, which pose unique challenges for AETC as it operates on the same base as a tenant unit. Ironically, AETC recognizes the limitations under the current system, but appears to be taking no actions to rectify the problem in the future. AETC is not pursuing any action that would investigate the possibility of reopening Reece or Williams AFB. Furthermore, there exist no feasibility studies Air Force wide, which explore the prospect of opening a training base at a new location. In fact, AETC is more concerned with preserving its current assets, as the threat of another BRAC looms on the horizon in 2005, putting Columbus AFB under the crosshairs for possible closure or realignment.¹⁵⁰

¹⁴⁷ Ibid, 193.

¹⁴⁸ Ibid.

¹⁴⁹ Robbie Robinson, personal interview with author 15 January 2003.

¹⁵⁰ Carlton Meyer, "2005 Base Closure Recommendations", [Internet] available at www.g2mil.com/2005.htm, accessed on 15 January 2003.

The current number of training aircraft and operations peculiar to SUPT also stress operations in AETC. Initially, T-1 and T-6 acquisition remained consistent with the capabilities necessary to produce the numbers of pilots at the bases the command possessed at the beginning of the 1990s. However, final delivery numbers for the T-1 peaked at 180, a number in line with reduced production of the mid-1990 and beyond. Moreover, the eventual buy for the T-6 was reduced for the same reason.¹⁵¹ The T-38 soldiers on with the avionics upgrade and should remain in service past 2025. However, the Air Force appropriated only enough funds to upgrade the number of T-38s it would own in 1997, with no accommodation for future expansion. Finally, the T-3 aircraft and the military and civilian instructors who flew them were removed from AETC in 1998 after three fatal accidents at the US Air Force Academy. This measure produced a serious blow to AETC operations, forcing the command to make alternate arrangements with civilian flight operations to continue the effective flight-screening program.

The Air Force was eventually able to offer flight screening in a standardized format under Introductory Flight Training (IFT). IFT was a 40-hour program that eventually encompassed 91 locations, 748 aircraft, and a cadre of 708 certified flight instructors.¹⁵² The program was so effective it actually contributed to AETC operating at 100 percent capacity. The attrition rate in SUPT for those student pilots who had gone through IFT was only 8 percent, which maintained more student pilots in the pipeline.¹⁵³ Furthermore, the entire concept of SUPT was instrumental in lowering the attrition rate from 25 percent in 1990 to 6 percent for T-37s, 2.3 percent for T-1s and 0 percent for T-38s in 2001.¹⁵⁴ However, this achievement also kept more student pilots training in a limited numbers of aircraft, taxing the pilot training system even further.

Finally, the command decision to do away with the FAIP concept in 1993 proved to be disastrous as AETC tried to acquire IPs with valuable fighter and bomber experience during a severe shortage of these assets after 1997. The command's IP force

¹⁵¹ Ibid.

¹⁵² History, Air Education and Training Command, 1996-1998, 187.

¹⁵³ Ibid, 188.

¹⁵⁴ "Student Attrition FY01", [Internet] available at www.aetc.af.mil/do/dor/metrics/Production/HTML_ver/Prod_FILES/slide2738.htm, accessed 12 December 2002.

went through additional growing pains as it instituted the Associate IP program. Ironically, AETC was compelled to reevaluate the FAIP concept as the Air Force struggled to meet total fighter pilot requirements. In 1996, Lieutenant General John C. Griffith, Vice Commander Air Education and Training Command, determined that the command would have to produce some FAIPs. However, he added that this was not a long-term solution, and reminded senior planners that the SUPT concept depended on instructors with experience in a major weapon system.¹⁵⁵

AETC will continue to struggle over the next decade as it manages its IP force, bases, aircraft, and training programs under annual production quotas of 1,100 pilots. As one can deduce, the command will have a tough time meeting this training goal, one they have failed to reach so far. If the current pilot training goal of producing 1,100 active duty pilots annually is suspect, let alone getting the USAF out of its current pilot shortage, then the potential for AETC to produce additional pilots for a strategic reserve is almost nonexistent. If AETC is to accomplish any of the tasks above it must institute effective measures related to basing, aircraft, training programs, and instructor pilots. Below are some recommendations related to these issues that AETC can pursue, which will enable the command to use the existing training framework to meet increased production goals if needed in the future.

First, the USAF must look for ways to increase the number of aircraft in its training inventory, specifically with the T-38 and T-6. In order to understand the complexity of the aircraft dilemma, we must examine the process of initial airframe acquisition. The Air Force will size a specific fleet of training aircraft based on the expected utilization rate. This determines the Primary Authorized Inventory (PAI). The Back-up Authorized Inventory (BAI) represents the number of aircraft needed to sustain a constant PAI while aircraft go through technical order changes, modifications, and periodic maintenance. Finally, the Attrition Reserve (sometimes referred to as BAI/AR) provides a number of aircraft that will offset the expected losses during the life cycle of the aircraft (usually 20 to 24 years). In the case of the T-38, the Air Force bought an additional 15 percent to cover an expected loss rate of 1.2 aircraft per 100,000 flying hours covering a 20-year life cycle. Ironically, the USAF has exceeded the life cycle of

¹⁵⁵ History, Air Education and Training Command, 1996-1998, 177.

the T-38 by 20 years. The Air Force equates the avionics upgrades to the T-38C as essentially “new aircraft purchases.” Unfortunately, the Air Force only “bought” enough upgrades to satisfy an annual pilot production rate of 1,100. There are no additional aircraft for attrition, but more importantly, there are no additional T-38s to allow the Air Force to increase pilot production from the current rate. The Air Force bought the T-6 using the same formula outlined above, but initially purchased only enough T-6s to train 900 pilots annually. Eventually, the Air Force bought additional T-6s to accommodate annual pilot production of 1,100. However, the Air Force faces the same predicament as with the T-38 if it expects to increase pilot training in the future.¹⁵⁶

Finding a remedy for the T-38 situation is hard because the production line was terminated years ago. The Air Force found a partial cure by reclaiming 39 T-38s previously flown by the Taiwanese Air Force; however, these aircraft are not expected to receive the avionics upgrades. Instead, these airframes will act as a floating reserve for the command. If the USAF looks to expand the T-38 fleet further it have to acquire the 56 T-38s flown by Air Combat Command and Air Force Material Command, and push for funds to upgrade these aircraft for an extended life cycle. The T-6 aircraft numbers are easier to manipulate because the production line is still open. However, the Air Force will be required to buy more T-6s if it plans to increase pilot production under the current SUPT system.¹⁵⁷

General Hal Hornburg, AETC Commander, highlighted airframe issues in June 2001 when he instituted measures to explore the concept of once again producing a universally assignable pilot through the use of a generalized undergraduate pilot training program.¹⁵⁸ General Hornburg’s idea was to provide more flexibility for the rated management system using training resources that were currently available. What transpired was the Next Generation Undergraduate Pilot Training (NG-UPT) concept that incorporated both generalized and specialized pilot training measures. All students would complete 90 hours in the T-37/T-6 and 55 hours in the T-38. The students would then split off to accomplish specialized training in the T-1 or T-38, as well as turboprop

¹⁵⁶ Robinson, personal interview with author 15 January 2003.

¹⁵⁷ Ibid.

¹⁵⁸ History, Air Education and Training Command, 2000-2002, 167.

and helicopter training. Unfortunately, the command lacked the required number of T-38s to successfully implement this promising program. Furthermore, the NG-UPT concept would have uncovered additional basing issues for all the aircraft that the command was not capable of handling.

Mr. Robbie Robinson mused that the Air Force went “a base too far” when it closed Reece AFB, TX in 1997. The Air Force may find ingenious ways to improve pilot training programs and buy additional aircraft, but these actions will not matter if the command lacks the “plant capacity” to base these new airplanes. According to Robinson, the Air Force must seriously consider opening flight training at another base if production levels are to remain at 1,100 over the next decade. Increasing and sustaining active-duty pilot production above 1,100 is simply out of the question. Although he is somewhat pessimistic with the tenant operations at Moody AFB, GA, he nonetheless concludes that the concept is providing some relief for the command. Therefore, he recommends the Air Force pursue additional prospects for flight training at bases outside of AETC, including ANG and AFRC bases.¹⁵⁹

In order for USAF pilot training to survive in the future, it must maintain successful training initiatives, while implementing new measures that hold promise. The biggest dilemma AETC faces right now is whether it can increase pilot production in the future with its current infrastructure, manning, and training programs. According to Mr. Robinson, the answer is no, unless we incorporate some of the training measures outline above. However, the need to increase pilot production may not be required. Many analysts predict that force structure within the USAF will continue to shrink, evidenced by discussions on decreased F-22 and F-35 purchases and lower numbers of leased or purchased tankers. If pilot authorizations subsequently decline due to a smaller force, then AETC will have the opportunity to reduce pilot production somewhat. The real challenge for the Air Force will be to fight the temptation to drastically reduce pilot training assets to correspond with the smaller force structure. Evidence, particularly from the 1990s, has shown the negative consequences these actions produce on the pilot inventory. Improvements in Rated Management and pilot training will inevitably stabilize the pilot inventory. However, these programs must work in concert with

improvements in retention measures to truly address the pilot inventory problem in a comprehensive fashion.

¹⁵⁹ Robinson, personal interview with author 29 May 2003.

Chapter Six

Retaining the Right People with the Right Tools

We have seen from the evidence presented in Chapter three the unpredictability the USAF has had in pilot retention since 1989. Ironically, this same unpredictability in pilot retention was evident in the Cumulative Retention Rate (CCR) for pilots in the 6-11 years of service from 1978 to 1988. The CCR for this time period hit 26 percent in 1979, rocketed to 78 percent in 1983, then declined to 21 percent in 1988.¹⁶⁰ The fact that the Air Force has been unable to meet adequate and stable retention figures for the past 25 years signifies a lack of proven, comprehensive long-range retention measures that work. This chapter will critique past retention programs, while presenting insight into other retention measures that may hold promise.

One can deduce from the discussion in Chapter three that the increases in Active Duty Service Commitment (ADSC), improvements to Aviation Career Incentive Pay (ACIP), and the implementation of Aviation Continuation Pay (ACP) were accomplished to improve retention of USAF pilots. This thesis argues that of the three programs, ACP was the least effective in establishing an adequate retention of pilots. The statistical results alone prove the Air Force was unable to compete with the civilian airlines when it came to monetary compensation. Conceptually, ACP also used financial incentive to target individuals who would probably have stayed in the Air Force anyway because of the time already invested in the service. The Air Force has finally seen the futility of ACP and has discussed phasing out the program starting in 2009, with final elimination by 2014.¹⁶¹

¹⁶⁰ Evans, 3.

¹⁶¹ Carlos Ortiz, interviewed by author 15 January 2003.

ADSC and ACIP bear closer scrutiny because of each one's potential to improve pilot retention. Keeping young pilots in the Air Force forms the basis for ADSC. The Air Force has increased the ADSC over the years to compensate for the increased cost of pilot training, and to address the overall retention of experienced pilots. The Air Force has always strived to maintain the bulk of its pilot inventory with those individuals who have 15 years of service or less. Therefore, it makes sense for the Air Force to seriously study the feasibility of raising the ADSC for pilots to 14 years after completion of pilot training. The arguments for this measure are quite clear. First, an ADSC of 14 years would eliminate the need for ACP under the 5-year contract because it basically targets the same group of pilots at no cost to the Air Force. Second, those individuals who are critical of this amount of increase in ADSC only need look at the same length of time being offered for pilots who accept ACP until 25 YAS. The increase in ADSC keeps younger pilots in the Air Force at a time when they will actually be performing the bulk of their flight duties. Finally, the USAF Retention Office has provided no statistical evidence to suggest that the past increases in ADSC negatively impacted recruitment. Therefore, it would be logical to assume that the increase in ADSC to 14 years would not impact recruitment. ADSC represents one half of a long-standing tradition that holds potential for improved pilot retention. Improvements in ACIP must also take place to entice aviators to remain in service past the 14-year point.

The evolution of ACIP over the years to its present form highlights the Air Force's reliance on this program. Targeting individuals with monetary compensation at the start of their flying careers, as well as overall increases in dollar amounts paid to pilots from the 6-22 YAS time period have contributed to the Air Force's ability to keep committed pilots in the Air Force. However, if the Air Force wants to show that it is still committed to keeping dedicated pilots who have already served 14 YAS, it will revise the ACIP pay scale once more. A revision to current ACIP would see the incentive pay at 14 YAS increase from \$840 to \$1,000, and remain at this level for the remainder of the pilot's career. This increase corresponds to an annual inflation rate of approximately three percent over the past five years. Ironically, retention officials proposed this very same measure to USAF leadership, who in turn agreed with the ACIP pay increases and

sought implementation.¹⁶² Unfortunately, the US Government Accounting Office (GAO) saw differently and recommended against the ACIP increases. The Air Force is still confident in the merits of increasing ACIP payments after 14 YAS and will continue to pursue this measure. ADSC and ACIP improvements represent attractive measure to increase pilot retention. However, there are other viable alternatives and improvements to existing tools that can also contribute to increased pilot retention.

A recent survey conducted by Major John Newberry addressing pilot retention issues concluded that excessive operational requirements and TDYs (54 percent), and the erosion of benefits and pay (24 percent) would influence a pilot's decision to leave the Air Force. These figures are substantial when compared to the 16 percent of pilots surveyed would separate from the Air Force for a lucrative career in the airlines.¹⁶³ The Air Force has addressed the operational and TDY concerns by instituting the Air Expeditionary Force, and tackled the quality-of-life issues by passing substantial pay raises that target mid-level, experience service members. Still, there are other tools within the system that can be improved to increase not only the retention of aviators, but all service members alike. For example, the US government should seek legislation that would allow retired service members' compensation to be computed from incentive pays, not just base pay. The predictability and performance of pilot retention might improve if USAF pilots could count on ACIP being factored into their retirement equation.

There are other quality-of-life issues that the Air Force can pursue that will also have the potential to increase pilot retention. For example, the Air Force could push for authorization to increase the amount paid to beneficiaries of those pilots killed on active duty. Currently, all Air Force members can elect up to \$250,000 of life insurance coverage. However, the unique and dangerous nature of flying military aircraft would justify an increase of the benefits paid to a figure of \$500,000 for pilots. This is not an outlandish increase in benefits, and obviously won't cost the government a dime unless the pilot is killed. Other improvements in medical services and other fringe benefits are currently underway that may improve the retention of Air Force pilots while costing the government very little.

¹⁶² David Moore, interviewed by author 15 January 2003.

¹⁶³ Newberry, 24.

However, the most efficient means for keeping USAF pilots in the service may not deal with monetary compensation or improvements in organizational programs, but rather a revitalization of the ethos of a military officer. In *Officers in Flight Suits*, John Sherwood describes Air Force officers who joined the service because of tangible status symbols such as gold lieutenant's bars, silver pilots wings, and state-of-the-art aircraft with the pilot's name painted on the fuselage.¹⁶⁴ Pilots were not seeking skills that they could later market in the outside world. Instead, they joined because they wanted to belong to a first-class organization that was rich in heritage, and contribute to the defense of their nation. Many today believe that this sensation is what is lacking with new recruits and officers in the USAF pilot corps. The Air Force should look at ways to build upon the traditions of the past, recreate an air-minded culture, and take advantage of the aviation heroes from World War II, Korea, and Vietnam, before this vital commodity has disappeared. Furthermore, the Air Force possesses many current heroes who participated in Operations Desert Storm, Allied Force, and Iraqi Freedom that must not be ignored. Once the Air Force reestablishes institutional measures that embrace camaraderie and esprit de corps, it will have an additional tool for retaining the pilots it needs. The bottom line is that the Air Force will be more effective in maintaining a stable pilot inventory if it holds close ideals that make pilots want to stay in, as opposed to focusing on retention measures that keep pilots from getting out.

¹⁶⁴ John Darrel Sherwood, *Officers in Flight Suits: The Story of American Air Force Fighter Pilots in the Korean War*, (New York: New York University Press, 1996) 5.

Chapter Seven

Conclusion

This study set out to find possible solutions to the continuing problem of fluctuations in the USAF pilot inventory. What solutions does the evidence suggest? In order to make an assessment on possible remedies to the problem, one must summarize certain conclusions derived from pilot production, retention measures, and the management of the pilot force. However, one must also summarize just what an USAF pilot really is, and what this individual represents to the USAF.

The initial analysis of the different characteristics of USAF pilots, and the special requirements they are required to fill in the service was vital to appreciate the complexity of the fluctuations in the pilot inventory. In addition to flying aircraft, pilots must also fill staff positions, flight instructor billets, attend PME and perform other career-broadening jobs. Traditionally, the Rated Management office has strived to have the pilot inventory match authorizations using pilot production and retention measures.

The current Rated Management system could work if the nation lived in a vacuum and the service never had to contend with pilot shortages and surpluses. However, the Air Force is affected by world events, strategic guidance, and service capabilities; and these stimuli affect the requirement for pilots. However, pilots are not static, inanimate objects who are incapable of reacting to outside stimuli. Pilots are dynamic human beings who are affected by the perceived stimuli detailed above, as well as unknown forces, which produce uncertainty and friction within the pilot inventory. This “friction”, as we choose to call it, is the force that makes the apparently easy so difficult.”¹⁶⁵ It may be easy for the Air Force to match its pilot inventory to the exact number of

¹⁶⁵ Clausewitz, 121.

authorizations on paper, but the historical record has shown that this is indeed a difficult task.

As we have witnessed, the Air Force has historically tried to match pilot inventory and requirements lines, with the rare exceptions of the Rated Supplement and the Banked Pilot program. When unplanned shortages occurred in the pilot inventory, the Air Force increased pilot production and devised various retention measures to keep experienced pilots from leaving the service. Conversely, if a surplus developed in the USAF pilot inventory, the service's first course of action was to cut pilot production. If the inventory did not balance itself quickly, the service would look for opportunities to rid itself of additional pilots through involuntary separations of experienced pilots. The historical record has shown that the Air Force's reliance on the traditional methods for balancing the pilot inventory have actually aggravated the situation, resulting in pilot inventory swings by as much as 25 percent in a single decade.

However, the historical record has also enlightened us to unique circumstances when certain "unorthodox" or "non-traditional" mechanisms provided relative stability in the pilot inventory.

If the USAF pilot force is comprised of dynamic, reactive individuals, it makes little sense to tie this inventory to a rigid rated management system. What is required is a mechanism that is just as vibrant and dynamic, and is capable of absorbing various adjustments in the pilot inventory. The analysis within this study points to the concept of a small "strategic reserve" as just one of the possible solutions to the large fluctuations in the USAF pilot inventory. Past experiences with the Rated Supplement and Banked Pilot Program suggest a strategic reserve would work, provided we correct the mistakes of past programs, while taking advantage of contemporary contextual factors. What results is a Rated Management tool that lets the Air Force fight the "friction" that affects the pilot inventory.

The Air Force will also have to change its conceptual thinking about pilot training and retention measures if it plans to combat the large fluctuations in the pilot inventory. The Air Force must resist the reactionary temptation to dramatically adjust pilot production whenever it experiences a shortage or surplus. The author does not advocate that the Air Force not use pilot production as a means for combating inventory shortages

and surpluses. Rather, one should not view pilot production as the first line of defense. Instead, the Air Force should embrace small changes in pilot production. Furthermore, the service should manipulate pilot production only as a last resort because of the time associated with producing an experienced pilot.

While the Air Force conducts smaller changes in pilot production it can fall back also on improvements to certain pilot retention measures in order to maintain a stable pilot inventory. The USAF has the means necessary to keep experienced pilots from exiting the service. By incorporating variations to existing retention tools such as the ADSC and ACIP, the Air Force can build upon traditionally successful programs to keep pilots from leaving the service. However, the Air Force must also embrace an institutional change in the way it retains its pilot force, relying on culture, heritage, and organizational pride to make pilots want to “stay” in the service, as opposed to ways to keep aviators from “leaving” the Air Force.

Maintaining a stable pilot inventory is not “rocket science.” The Air Force does not have to incorporate drastic retention measures or radically adjust pilot production to maintain a steady pilot inventory. Instead, the Air Force should recognize the positive aspects within existing or prior pilot management tools, and incorporate these measures in a conservative fashion. Moreover, the Air Force needs to make a concerted effort to use the available programs outlined above in harmony. Historically, discord has been more prevalent. Measures such as reductions in pilot contributions to the staff, pilot production increases, and improved retention would sometimes counteract each other resulting in greater deviations in the pilot inventory. If the Air Force desires more stability in managing its pilot inventory, it must exude this same stability when it comes to the actions it takes. Orchestrating pilot management, production, and retention does not equate to manipulating all mechanisms at once. Instead, it represents a strategic outlook of available tools that the Air Force can choose from to balance the USAF pilot inventory.

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APPROVAL

The undersigned certify that this thesis meets masters-level standards of research, argumentation, and expression.

Dr Stephen Chiabotti

Dr Dennis Drew

08 June 2003

MEMORANDUM FOR HQ AU/PA

FROM: Maj. Charles E. Metrolis Jr.

SUBJECT: Security Issues related to SAASS Thesis

The SAASS Thesis titled "Divergent Stability: Managing the USAF Pilot Inventory" does not reveal sources or methods for collecting information. The thesis does not contain specific targeting information for real or future operations, does not identify specific vulnerabilities of the US to her allies, does not include "plug and play" models, and does not identify speakers or guests at AU. Furthermore, this thesis has been through the security releasability checklist provided by SAASS.

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