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AN INVESTIGATION OF B-2 PILOT FORCE RESERVE COMPONENT AUGMENTATION

by

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Preface

I chose to write on augmenting active duty Air Force B-2 squadrons with reserve component pilots because of the rapid turnover that the B-2 pilot force is experiencing. I saw experienced instructor pilots separating from the active component to pursue a career in the airline industry. The majority of these pilots still desired to serve their country and joined Air Force Reserve or Air National Guard squadrons flying transport or training aircraft. Those pilots who chose to remain in the active component often transferred to other duty locations after three to four years in the B-2 taking their valuable expertise with them. The B-2 flying community was experiencing "brain drain" as its most experienced pilots moved out of the B-2 flying positions.

I saw the reserve components as possible answers to the "brain drain" the B-2 pilot force was experiencing. Reserve component pilots were being used in more innovative ways as the "Total Force" concept developed. I did not understand why the Air Force had not extended the Total Force to the B-2 pilot ranks and desired to explore the possibilities.

I would like to thank Lieutenant Colonel Allison Palmer, my Air Command and Staff College "Total Force" course instructor for explaining the reserve components and leading an interesting and informative elective course. I would also like to thank Major Jeff Swanson of the Air Force Reserve Command Headquarters for his help explaining how the B-52 and B-1 communities use the reserve components and his for his help finding background material.

Abstract

The B-2 "Spirit" stealth bomber pilot community is experiencing a number of factors that influence their ability to produce combat sorties. Because of career concerns, pilots often move to a career-broadening assignment, intermediate service school or other assignment after a relatively short period of three to four years flying the B-2. A number of pilots also choose to separate from active duty to enter the major airline industry. Due to the resulting limited number of B-2 instructor pilots the Air Force contracted for civilian B-2 academic instructors who are not as qualified to instruct as the B-2 instructor pilots they replaced. These factors have negatively influenced the level of pilot experience with the B-2.

This paper explores the concept of utilizing Air Force Reserve pilots to provide a source of continuity within the B-2 community. It assumes the reserve component B-2 pilot will enter the Air Force Reserve as a fully qualified B-2 pilot. It does not address using reservists for any specialties other than the pilot specialty. It also does not investigate using the Air National Guard because of the relatively small number of B-2 aircraft (21 aircraft) and the assumption that every Air National Guard squadron is unit-equipped and owns their own aircraft.

Reserve component B-2 pilots offer three major benefits to the Air Force. First, they would provide a source of continuity to increase the level of pilot experience. These reserve component pilots would become the B-2 experts. Second, the reserve component B-2 pilots would free active duty pilots to accept career broadening assignments and professional military education in-residence. Finally, should the B-2 reservist choose to seek and be awarded employment with

the contractor responsible for academic classroom instruction, he would increase the quality of classroom instruction for all B-2 student pilots while strengthening his own knowledge of the B-2 aircraft.

This paper also addresses three potential drawbacks of the reserve component B-2 pilot program. First, the squadrons' combat capability may be limited because the reservists are currently not allowed to access critical nuclear weapon systems. The squadrons will have to decide if they are able to retain a sufficient number of active duty pilots to accomplish potential nuclear taskings. Next, active duty B-2 pilot retention will not suffer if the Air Force institutes the B-2 reserve component concept. Finally, the reserve component B-2 line pilot may not serve often enough throughout the year to participate in the B-2 unique tactics and techniques development process in which every B-2 pilot, from the squadrons' newest pilot through the squadron commander, participates. Careful integration will minimize this potential drawback.

The best method to solve the B-2 pilot turnover problem is to implement a Total Force B-2 Pilot Program. The program would exchange one active duty B-2 instructor pilot from the 394th Combat Training Squadron schoolhouse for three reserve component instructor pilots. These reservists would each serve three consecutive days, twice a month, and one 14-day Annual Training period during the year. They would provide in-flight instruction to the B-2 student pilots, be the source of continuity within the B-2 pilot community, and become the experts on the B-2 aircraft. Even better, if they were able to secure full-time employment with the academic contractor, they would serve the B-2 community year-round and synergistically improve the combat capability of the B-2 while serving both as a civilian contractor and a Total Force Air Force officer.

Chapter 1

Introduction

Like their active duty counterparts, the Guard and Reserve are standing tall around the globe on the front lines of freedom, courageously weathering the cold of the Korean Peninsula and the searing heat of Kuwait.

—Charles L. Craigin
Principal Deputy Assistant Secretary of Defense for Reserve Affairs

The Total Force concept of integrating the Air Force Reserve (AFR) and Air National Guard (ANG) components with the active duty component Air Force is changing the way the Air Force views its forces. The Air Force Reserve and Air National Guard are no longer seen as "weekend warriors" training to augment active duty forces in the event of a major theater war. Reserve component forces are working alongside active component forces everyday as the United States military becomes more engaged around the world.

The Air Force has successfully integrated the active and reserve components in a variety of weapons systems. The airlift community successfully integrated the active and reserve components with the Reserve associate unit. These Reserve units do not "own" their own aircraft but fly jets that belong to a colocated active duty unit. Nearly 50 percent of the C-5 and C-141 aircrew capability lie within the associate units.[1] The B-52 community integrated the reservists into their realm when the 93d Bomb Squadron, a unit-equipped Reserve squadron, stood up mission ready in June 1995 at Barksdale Air Force Base (AFB), Louisiana.[2] The most recent experiment integrating active and reserve components is the Fighter Reserve Associate

Test (FRAT), which placed a small number of reservists within an active duty F-16 squadron at Shaw AFB, South Carolina to determine if the concept would improve manning and experience levels. According to Maj Gen James E. Sherrard III, Chief, Air Force Reserve, "results are promising and it is our belief that our Reserve members will be able to meet and exceed the goals established for this test."[3]

This paper will explore the feasibility of extending the reserve component integration to the B-2 community. It will be limited in scope to augmenting the pilot force within the three active duty squadrons at Whiteman AFB, Missouri with Air Force Reserve pilots. It will explore the possible ways to use Reserve pilots, present the benefits and shortcomings of reservists flying the B-2, and make a recommendation whether the Total Force concept should be extended to the B-2 Spirit pilot force.

Notes

[1] John T. Correll, "Future Total Force," *Air Force Magazine* 82 no. 7, July 1999, n.p.; on-line, Internet, 14 March 2001, available from http://www.afa.org/magazine/0799future.html.

[2] Headquarters Air Force Reserve Command, *Fighter and Bomber Operations*, (Fact Sheet 00-11), April 2000, 1.

[3] Maj Gen James E. Sherrard III, "Reserve Essential Part of Military Strategy and Capability," *The Officer* 76, no.1 (Jan/Feb 2000): 56.

Chapter 2

Background

> *Our goal, as we move into the 21st century, must be a seamless Total Force that provides the National Command Authorities the flexibility and interoperability necessary for the full range of military operations.*
>
> —William Cohen
> Former Secretary of Defense

This Chapter will introduce some of the contextual elements underlying the B-2 pilot Reserve concept. It will explain where the Air Force Reserve has been and where the Department of Defense envisions they will go. It will also explain how the pilot shortage impacts the Air Force.

Total Force History

The Department of Defense adopted the term "Total Force" 21 August 1970 under Defense Secretary Melvin Laird. He directed that the Total Force, meaning both active and reserve components, be considered when budgeting and equipping the United States military forces. In 1973 Defense Secretary James Schlesinger directed each military service to provide the manning, equipment and training for all Guard and Reserve units to meet deployment times. In 1982 Defense Secretary Caspar Weinberger stated "Units that fight first shall be equipped first, regardless of component."[1] Defense Secretary William Perry further stressed in 1995 that the

increased reliance on the reserve components required better training, planning and funding to make them a fully capable teammate.

Despite the direction from several secretaries of defense, the nation's military establishment never fully integrated the reserve components with the active components. Several cultural and structural barriers have prevented the full implementation of the 31 year-old concept. It is the intention of the current Total Force concept to break down these barriers in attitude, manning, training, and equipping to better integrate the active and reserve components.

Future Total Force

The Future Total Force concept would seamlessly integrate active and reserve components by intermingling reservists within active duty squadrons and placing active duty members within Reserve squadrons. The active duty squadrons currently have too many young pilots while the Reserve squadrons have a preponderance of experienced pilots. The redistribution will evenly spread the experience levels and increase training efficiency within all the units.

A second advantage of the Future Total Force is the perstempo distribution. Reserve component fighter and bomber units traditionally train within the United States while active duty units deploy for contingencies overseas, stressing the active duty units. By re-distributing active and Reserve members within each other's respective units the reservists will help ease the burden on the active duty units.

As mentioned earlier, the Future Total Force concept was tested at Shaw AFB, South Carolina in the form of the FRAT program. The reservists worked seamlessly alongside active duty members. When the 78th Fighter Squadron (FS) deployed their F-16CJ fighters and personnel to Southwest Asia in the fall of 1998, the reservists deployed beside the active duty members. In April 1999 the reservists again deployed with the 78th FS, this time to Aviano Air

Base, Italy for Operation ALLIED FORCE in support of the Kosovo contingency. The reservists successfully integrated with the active duty squadron, increasing the 78th FS experience levels while decreasing their perstempo.

Pilot Shortage

The Air Force has not produced sufficient pilots to fill all of its needs. As of January 2001, the Air Force was 1,200 pilots short of its requirements and projected a shortage through at least 2017 (see Figure 1).[2]

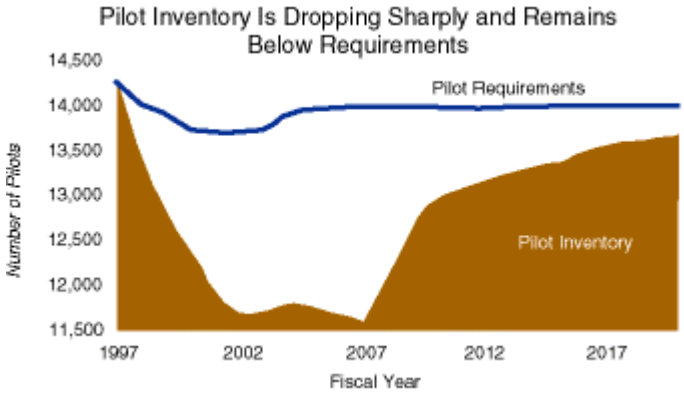

Figure 1 Pilot Inventory versus Requirements

This shortage has impacted the pilot community in many ways. The Air Force cannot satisfy all the requirements for pilots on the non-flying staff positions, intermediate service school in-residence slots, and still fill all of the cockpits open in the squadrons. The Air Force chose to continue manning the cockpits at 100 percent and did not fill all the openings on the non-flying staffs and schools. This action had the effect of retaining combat capability at the expense of pilots' career broadening assignments. This negatively impacted pilots' morale and the leadership-building opportunities, reducing their chances for promotion and career advancement.

Notes

[1] Office of the Secretary of Defense, *Reserve component Programs: The Annual Report of the Reserve Forces Policy Board,* (Washington, D.C.: Government Printing Office, 2000), 3.

[2] Adam J. Hebert, "Learning to Live with the Pilot Retention Problem," *Air Force Magazine* 84, no. 1, Jan 2001, n.p.; on-line, Internet, 14 March 2001, available from http://www.afa.org/magazine/Jan2001/0101pilots.html.

Chapter 3

How to Best Utilize a B-2 Reserve Pilot

Study Limitations

Before placing a Reserve pilot in the 509th Bomb Wing, the Air Force Reserve Command (AFRC) must first acquire the pilot. This study is limited to pilots who separate from the active duty Air Force as a mission qualified B-2 pilot. Several reasons make this limitation a wise one.

The primary reason is that a pilot from another aircraft community will bring little to offer that is not already in the B-2 pilot community. Air Combat Command (ACC), the command responsible for all fighter and bomber aircraft in the Air Force, has placed pilots from every ACC aircraft in the B-2. Air Combat Command recently began hiring airlift pilots and Undergraduate Pilot Training instructors. Air Combat Command has not announced any plans to place pilots fresh out of pilot training into the B-2. The primary benefit of B-2 reservists (which will be further explained later) is to preserve B-2 experience within the Total Force. Bringing a pilot with no B-2 experience into the program will not preserve the experience base.

Secondary reasons to limit the B-2 reservists to previously trained B-2 pilots include security limitations and the lengthy training course. The B-2 is a Special Access Required (SAR) program requiring a Top Secret clearance. Current security clearance backlogs are extensive and would extend the time required to produce a mission ready B-2 pilot. Furthermore, the Initial Qualification Training course requires up to nine months in the

schoolhouse followed by another two months of Mission Qualification Training in the bomb squadron. Most reservists would have difficulty scheduling this amount of training time.

Two Possible Roles

The reserve component B-2 pilot could be used in two different roles. Assuming the reservist is an instructor pilot, he could be used to augment the schoolhouse. The reservist would provide in-flight instruction to B-2 student pilots and upgrade existing B-2 pilots to mission commander and instructor pilot. The second option would be to augment the bomb squadrons as a line pilot, preparing to fly, fight and win tomorrow's battles. Appendix A offers further background on the roles and makeup of the B-2 squadrons at Whiteman AFB.

Schoolhouse Instructor Pilot

The Air Force has demonstrated the Total Force by integrating active and Reserve pilots in Undergraduate Pilot Training (UPT). In 1997 AFRC began augmenting UPT and provided Air Education and Training Command (AETC) reserve component instructor pilots with fighter experience. This allowed AETC to triple the number of students in the UPT pipeline and the Air Force retained vital experience within the Total Force. The program has grown to six squadrons and provides 20 percent of the Air Force's instructor force in T-1s, T-37s, T-38s and AT-38s.[1]

Air Combat Command could similarly use Reserve B-2 instructors in the 394th Combat Training Squadron. These pilots would work three consecutive days, preferably Wednesday through Friday, at least twice a month. The schedule in Table 1 would allow the Reserve instructor to maintain his flying capabilities and provide his students quality instruction.

This schedule would allow the pilot to fly at least two sorties a month or twenty-four per year, which is the minimum required by Air Combat Command.[2] He would serve his six days

per month and one 14-day Annual Training (AT) period for a total of 86 days of service each year. This amount of participation by a part-time reservist is less than the average number of days each aircrew member serves per year (see Figure 2).[3]

Table 1 Instructor Pilot Schedule

Wednesday		Thursday		Friday	
Mission Plan	6 hrs	Pre-Flight Aircraft	2.5 hrs	Debrief Student	3 hrs
Mission Rehearsal Simulator	2 hrs	Fly Sortie	4 hrs	Write Gradesheet	1 hr
		Postflight	2 hrs	IP Standardization Meeting	2 hrs
				Safety Meeting or Commander's Call	1 hr

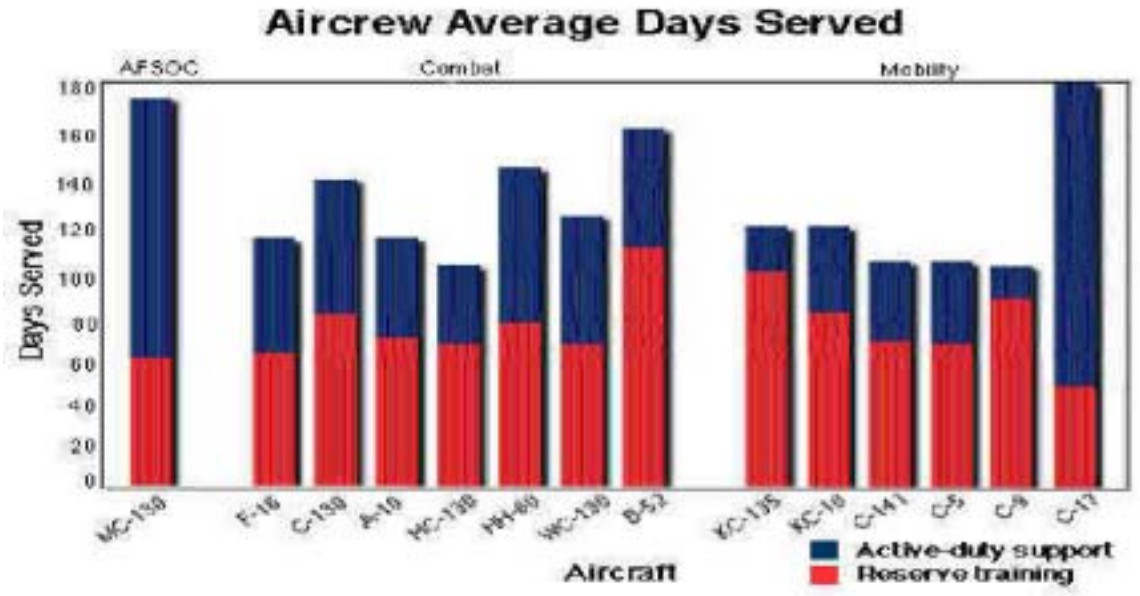

Figure 2 Aircrew Average Days Served

According to Lt Col Steve Kirkpatrick, the commander of the 93d Bomb Squadron (a Reserve unit-equipped B-52 squadron), aircrew members would gladly serve 86 days a year if they were told to expect that level of participation when they were hired. He also believed that

the airline pilots serving as part-time reservists would prefer working during weekdays. This schedule would allow the airline pilots to work during the high-demand weekends and holidays.[4]

The reserve component B-2 pilot program would substitute three Reserve instructors for one active duty instructor, maintaining roughly the same level of instruction per year. Each of the three Reserve instructors performs six days of instruction per month (by the schedule shown above) for a total of 18 days of instruction. Including each of the three instructor's 14-day Annual Tours would add another 3.5 days per month for a total of 21.5 days of Reserve instruction. The active duty instructor provides 22 days of instruction in the typical month (before federal holidays). The 394th CTS schoolhouse is authorized 18 active duty instructor pilots. By substituting three instructors the schoolhouse mix would round out at 17 active duty instructors and three Reserve instructors with a net loss of only one-half day of instruction per month.

The number of aircraft sorties generated and total flying hours for the organization would be unaffected by this increase in instructor pilot numbers. The limiting factor in how many sorties the schoolhouse requires is the number of students, which will remain fixed. The schoolhouse instructors average four sorties per month. Increasing the number of instructors from 18 active duty pilots to 17 active duty and three Reserve pilots will not necessitate an increase in sortie numbers so the instructors can fly their minimum number of two sorties per month. The increase in instructor numbers will not affect the wing's flying hour program or maintenance requirements.

Line Pilot

The second option would be to use the Reserve pilot in one of the bomb squadrons as a line pilot. This would be similar to the FRAT previously mentioned at Shaw AFB, South Carolina.

The stated goal of this test was to see if highly experienced reservists could augment the active duty squadron to increase overall squadron experience and wartime capability while reducing the perstempo for the Active duty members. The Reserve component B-2 pilot could similarly help the B-2 bomb squadrons.

The Reserve B-2 line pilot would serve alongside active duty B-2 pilots within the bomb squadrons. The reservist would serve two consecutive days, twice a month. Since he is not flying with a student he can fly a "show-and-go" profile where the aircrew mission-plans, flies and debriefs on the same day. The second day would be used for simulator training and annual classroom ground training classes. This schedule of four days participation per month would equate to two sorties per month or twenty-four sorties in one year. This also satisfies the ACC requirement for all combat mission ready pilots to fly 24 sorties a year.[5] Should maintenance problems or poor weather cancel some of the sorties, they could be made up during the reservist's 14-day training period during the year.

Bomb squadrons are manned at a 1.5 crew to aircraft ratio. Based on an authorization of 8 aircraft each squadron is assigned 12 aircrews, which equates to 24 pilots. The squadron commander and operations officer do not count against the aircrews, thus both squadrons are authorized 26 pilots.[6] Squadrons would substitute two Reserve pilots for each active pilot position they desire to transform. For example, by reducing the number of active pilots from 26 to 22 the squadron would add eight Reserve pilots, for a new total of 30 pilots.

This chapter has introduced two ways B-2 Reserve pilots could serve within the 509th Bomb Wing. The next chapter will delve into these two options and state their benefits to the Air Force.

Notes

[1] Sherrard, 56.

[2] Air Force Instruction 11-2B-2, vol. 1, *B-2 Aircrew Training*, Jul 2000, 14.

[3] Dr. Charles F. O'Connell Jr., Historian, Air Force Reserve Command, "Air Force Reserve Historical Perspective," lecture, Air Command and Staff College Total Force Elective, Maxwell AFB, Al., 23 January 2001.

[4] Lt Col Steve Kirkpatrick, 93d Bomb Squadron Commander, interviewed by author, 9 March 2001.

[5] Ibid.

[6] Maj Glen VanHerck, 393d Bomb Squadron Assistant Director of Operations, interviewed by author, 12 March 2001.

Chapter 4

Benefits of the B-2 Reserve Pilot

This chapter will examine the specific benefits of the B-2 Reserve pilot concept. The benefits will be discussed individually and the advantages will be presented. The next chapter will present the disadvantages.

Brain Drain

The B-2 community has experienced "brain drain." The Air Force hires and trains pilots to fly the B-2, but then loses the pilot for several different reasons. This is a detriment to the B-2 pilot community as it develops tactics and procedures in the Air Force's newest aircraft, fusing stealth technology with the latest precision guided munitions technology has to offer. The B-2 Reserve pilot concept would capture some of this lost experience and keep it within the Total Force, improving the capabilities of the Air Force's most advanced weapons system.

The Air Force is very selective when assigning pilots to the B-2. The aircraft is the Air Force's newest bomber, costing over $1.3 billion per aircraft.[1] For this reason, the Air Force only hires pilots who have already gained experience in other aircraft. These pilots typically enter B-2 training around their tenth year of service in the Air Force. The pilot will fly the B-2 and advance to B-2 instructor pilot status after two years, placing him at 12 years of service. This is the point that the Air Force desires its officers to fill career-broadening staff jobs and intermediate service schools that do not involve flying aircraft. These jobs are required for

advancement; the Air Force will discharge individuals once they fail to advance in rank. The B-2 pilot desiring a twenty-year career and retirement is compelled to move out of the flying position by his fourteenth year of service because of career concerns.

The second reason a pilot would leave the B-2 community would be if he chooses to separate from active duty service with the Air Force. Most pilots currently flying the B-2 have accepted a pilot bonus payment in exchange for service through the end of their fourteenth year of service. The first opportunity a B-2 pilot has to explore other career options is at the fourteenth year of service, again after serving four years in the B-2.

Many B-2 pilots have taken advantage of their options after 14 years of service and chosen other careers. The Air Force began B-2 training in 1994 and trained 34 company grade officers (all officers held the rank of captain) to fly the B-2 between 1994 and 1998. The author performed a detailed study based on personal knowledge and determined 28 of these 34 pilots had reached their fourteenth year of service by the spring of 2001. Seven of these 28 pilots chose to separate from active duty. All seven have acquired positions with major airlines except one person who chose to fly for a large investment company. Twenty-five percent (7 of 28 pilots) of the company grade officers in the initial B-2 cadre were lost before they reached five years of flying the B-2. Of these seven pilots who separated from active duty, five chose to continue service to their country in an Air National Guard or Air Force Reserve unit, flying T-1s, T-38s and C-130s.

The Air Force began hiring younger B-2 pilots in 2000. The Air Force made this change to reduce some of the B-2 pilot attrition due to career concerns. These pilots are typically just finishing their first assignment in their initial aircraft after pilot training and are completing their fifth year of service. The pilots who will choose remain on active duty will remain in the B-2

pilot community for a longer period because they will not reach the career-broadening point of their career for another seven years. The pilots who will eventually depart active duty will still only be in the B-2 pilot community for five years. These younger pilots are serving out their initial ten-year commitment they agreed to in exchange for pilot training and have five years of service remaining before they can separate from active duty. If the historical trends depicted in Figure 1 continue, many will choose to fly for the airlines and take their five years of B-2 experience with them.

The Reserve B-2 pilot concept will capture the experience of the pilots who choose to separate from active duty. This would prevent the B-2 community from "reinventing the wheel" as they grow from the Air Force's youngest and most complex weapons system into a mature weapons system. As noted above 71 percent (5 of 7) of the B-2 pilots who separated active duty desired to serve with a reserve component. The B-2 Reserve pilot concept will capture experience within the Total Force and prevent "brain drain" of the B-2 community.

Manage Pilot Shortage

The Total Force concept is another tool to manage the pilot shortage. As shown earlier, the Air Force is 1,200 pilots short of its requirements with no end in sight. Augmenting active duty squadrons with reservists will lessen the requirement for active component pilots. This will give more pilots the opportunity to attend intermediate service school in-residence and accept non-flying staff assignments to expand their career opportunities. The potential number of aviators involved in a B-2 Reserve augmentation role are small; any number will help reduce the pilot deficit. Further, a successful Reserve augmentation in the relatively small B-2 ranks will send a signal to other aircraft communities that the concept is valid and has potential for application in other squadrons.

Improve Academic Instruction

The creation of B-2 Reserve pilots could drastically improve the academic instruction every B-2 student pilot receives. During the fall of 2000 Northrop Grumman Aerospace became the contractor responsible for providing all B-2 schoolhouse academic instruction. They developed the syllabus, instructional materials and began providing the classroom instruction for all new B-2 student pilots and those pilots upgrading to the mission commander position in the right seat of the aircraft.

The Northrop Grumman Aerospace instructors, while top-notch individuals, lack credibility in their instructional field. They have never flown the B-2 and the students are not receiving the same instructional perspective they previously received from B-2 instructor pilots in the classroom. Contract academic instruction is credible in other airframes such as the C-141 and C-5 because the contractors hire retired aviators with thousands of hours in the respective aircraft.

The B-2 Reserve program provides a unique opportunity to improve the contractor's classroom instruction. A B-2 reservist may choose to work with for the academic instruction contractor and fill a part-time B-2 pilot role with the Air Force Reserve. If he were an instructor pilot, he could work Monday and Tuesday as a contract academic instructor and report as a reservist to teach flight instruction on Wednesday, Thursday and Friday according to the schedule proposed in Chapter 2. He would do this twice a month and work 16 days as a contractor and six days as a reservist flight instructor during a 22 workday month.

This combination of reservist and contractor would reap many benefits. The contractor's instruction would improve once they begin using current B-2 pilots who are up to date on the latest changes in systems and techniques. The instructors would have credibility, especially over

the long run as these individuals amass flight hours and become the most experienced B-2 pilots in the Air Force. The students would receive quality instruction, be better prepared for training flights, and be better prepared to become a mission qualified combat aviator when they graduate to the flying squadrons.

Notes

[1] Air Combat Command, "B-2 Spirit," *USAF Fact Sheet,* March 1999, 3; on-line, Internet, 4 April 2001, available from http://www.af.mil/news/factsheets/B_2_Spirit.html.

Chapter 5

Drawbacks of B-2 Reserve Pilots

The B-2 Reserve pilot concept is not without fault. As with any program, there are drawbacks to be examined before passing judgement. This chapter will examine potential drawbacks of the B-2 Reserve pilot concept.

Active Duty Retention

One potential drawback of the B-2 Reserve pilot concept is that it could negatively affect active duty retention. Active duty B-2 pilots who may consider separating from the Air Force could possibly be swayed by the existence of a Reserve B-2 pilot option. The mere existence of the program could make it easier for an uncommitted active duty pilot to separate and begin the major airline interview process while earning income as a B-2 Reservist.

This idea of reserve components affecting active duty retention has been studied and found not to be a contributory factor in active duty members' separation decisions. The 513th Air Control Group was activated 15 March 1996 as an Air Force Reserve associate unit flying the E-3 airborne warning and control system (AWACS) aircraft. The study found 26 of the 48 Reserve associate unit Air Battle Managers (ABMs) came from active duty units; the remaining 22 ABMs came from the Air National Guard, Air Force Reserve, or cross-trained from other career fields. The statistics appear to present a heavy draw from active duty units, but active

duty ABM retention rates have actually increased since the inception of the Reserve associate unit.[1]

More specifically, pilot retention in the active duty does not appear to be influenced by the Reserve components. The ABM study explored this concept and stated "the most recent analysis of pilot bonus surveys list a number of "pushes" and "pulls" regarding active duty pilot retention – the aspect of ANG or Air Force Reserve was non-existent."[2] Active duty members appear to make separation decisions regardless of the possibility of reserve component employment. Additionally, the Air Force Reserve does not directly recruit from active duty squadrons, they recruit from the personnel as they attend the Transition Assistance Program briefings that assist active duty members as they separate or retire from active duty.

In light of the pilot shortage, pilot retention is a factor that must be considered. But the evidence does not support the argument that a Reserve unit would reduce retention. The ABM community's retention rates did not decline when the AWACS Reserve unit stood up and pilots throughout the Air Force have not even identified the existence of the Reserves as a possible "pull" to influence separation. Based upon these factors, active duty component retention will not be affected by a B-2 Reserve augmentation program.

Nuclear Weapons

The B-2 aircraft is capable of carrying nuclear weapons and may be included in the Single Integrated Operations Plan (SIOP) for nuclear war. To comply with wartime taskings squadrons must have a sufficient number of qualified aircrews to carry out any tasked nuclear mission. Decreasing the number of active component pilots could affect the ability of the squadrons to execute the SIOP because reservists are not certified to perform the nuclear mission.

This issue has not prevented the B-52 community from utilizing the Reserve component. The 93d Bomb Squadron at Barksdale AFB, Louisiana "supports theater commanders-in-chief in their wartime taskings and trains using the same conventional and nuclear weapons, tactics and procedures as its active duty counterparts."[3] They accomplished this training with an aircraft capable of carrying nuclear weapons in spite of the prohibition against reservists working with nuclear weapons. The B-52 community managed this by maintaining a sufficient number of active duty aircrews to answer all nuclear taskings. Whether or not the B-2 community can manage the mix of active duty and reserve component pilots similarly remains to be seen. The classification of this area is beyond the scope of this paper and cannot be explored in this forum.

This limitation prohibiting reservists from accessing and using nuclear weapons may change in the near future. The Department of Defense (DOD) changed DOD Directive 5210.42 on 8 January 2001 to include reservists under the Personnel Reliability Program (PRP).[4] This will allow reservists to be certified to work with nuclear weapons. Although this DOD Directive change allows reservists to be certified under PRP the United States Strategic Command (USSTRATCOM), the unified command responsible for nuclear warfare, has not issued guidance on how to use reservists. USSTRATCOM policy will determine if units may use reservists for the nuclear mission.

Meaningful Contributors or "Just" a Combat Capability?

The Air Force has successfully placed reservists in many roles where they excel as part-time reservists and add to the capabilities of the Air Force. Reservists provide 71 percent of the Air Force's theater airlift, 65 percent of its air-refueling tankers and 19 percent of the T-1, T-37 and T-38 instructor pilots.[5] These aircrews provide a great capability the Air Force relies on in times of peace and war.

The B-2 is the Air Force's newest production aircraft. It is an aircraft like no other that takes advantage of low-observable stealth technology, new avionics systems and over 30 independent on-board computers. The aircraft employs the Air Force's latest weapons including the Joint Direct Attack Munition (JDAM) and Joint Standoff Weapon (JSOW). The B-2 pilot force is heavily involved in developing tactics and procedures to take advantage of the synergy obtained between the low-observable characteristics of the B-2 aircraft and the flexibility of the new weapons. The pilots are not just flying B-2 aircraft and maintaining basic bombing, air-refueling and flying skills. They are in a continuous process of discussing new techniques in meetings, testing these techniques in the simulator, trying them in the aircraft, reviewing videotapes after flights and sharing the results with the rest of the pilot force. The entire pilot force is involved in this process from the newest B-2 pilot to the squadron commander.

A concern is the B-2 Reserve pilot would not have time available to take part in the tactics improvement process. He would fly a sufficient number of sorties to maintain proficiency in the aircraft and could learn the new techniques from others, but would not be able to add to the collective knowledge himself.

The "meaningful contributor" versus "just a combat capability" concern is a valid one, particularly for the B-2 Reserve line pilot option. The reservist line pilot would spend most of his participation flying sorties or in the simulator, limiting his time in the squadron where much of the brainstorming and learning occurs. His schedule would not allow him to take part in the tactics development process. The reservist line pilot would also have a limited span of influence because he would fly with his fellow squadron members, reducing exposure to the sister squadron's pilots. The reservist line pilot would not meet and get to know the younger pilots as they enter the B-2 pilot force. The younger pilots would not be as apt to seek out the reservist

for advice and feedback on their ideas because they do not have a personal relationship with the line pilot reservists.

The concern is not as valid for the B-2 Reserve schoolhouse instructor pilot. These pilots spend only two of their six days of participation in the aircraft. The rest of the time they are in the schoolhouse where they can be part of tactics discussions and share their experience. Their presence in the schoolhouse also allows them to meet and fly with all the young B-2 pilots as they pass through the single training squadron to one of the two operational bomb squadrons. These new B-2 aviators will be more apt to call over to the schoolhouse and get the reservist's opinions when trying new ideas because they've built a relationship with the reservist during their training. Should the reservist work for the academic contractor he would spend even more time with the students in the classroom and on the flightline, making himself as accessible as any active duty instructor pilot.

Notes

[1] Maj Carl D. Rehberg, "Analysis of the AWACS Reserve Associate Program (RAP) & Active Duty Retention with a Focus on Air Battle Managers," (Pentagon, Washington D.C.: Programs Division, Office of Air Force Reserve, 1999), 7.

[2] Ibid., 8.

[3] Headquarters Air Force Reserve Command, 1.

[4] Department of Defense Directive 5210.42, *Nuclear Weapons Personnel Reliability Program (PRP),* 8 January 2001, 3.

[5] O'Connell.

Chapter 6

Recommendation

This is clearly a key theme for updating the Air Force vision and the Air Force future, a future where we no longer have to say "Total Force." We are the United States Air Force, and that says it all.

—Col Ron Bath
Speaking on the Future Total Force Concept

The B-2 pilot community is experiencing many difficulties that may be negated by implementing a B-2 Reserve pilot program. The pilot force is plagued by rapid turnover as pilots advance their careers or choose to separate from active duty service. As a result, the B-2 pilot community does not retain and enlarge its experience base as well as other aircraft. Additionally, academic instruction of the B-2 student pilots suffered when the Air Force contracted for academic classroom instruction.

The Air Force should implement the B-2 Reserve pilot program to strengthen the foundation of the B-2 pilot community. The Total Force concept will excel in this area as it has in other weapons systems. The best way to take advantage of the B-2 reservist is to place him in the 394th CTS schoolhouse. The schoolhouse would exchange one active duty instructor for three part-time Reserve instructors. This would open the door for an even better option where these reservists might seek and be awarded employment with the contractor responsible for classroom instruction, producing a synergy that benefits the Air Force, Air Force Reserve and contractor.

The B-2 Reserve schoolhouse instructor pilot option has many advantages. The reservist will be the continuity of the B-2 program. He will build flight hours and work with the aircraft for the rest of his career. He will become intimately familiar with the aircraft's strengths and faults, and be able to share these with others. He will be a recognized expert on the aircraft; the schoolhouse is where the experts belong. As a schoolhouse instructor he will build relationships with every B-2 student pilot as they enter the B-2 community. When these student pilots graduate and begin developing new ideas they will seek out the advice of these reservists.

The second option presented in Chapter 2, the Reserve line pilot option, is not as strong an option. The Reserve line pilot in the bomb squadrons would not participate as many days as the Reserve schoolhouse instructor pilot. He would be maintaining a combat capability but not increasing the level of B-2 pilot knowledge as much as a schoolhouse instructor pilot. The reservist line pilot would only know the pilots in his squadron, not the pilots in the other line squadron or schoolhouse, limiting his span of influence.

Regardless of the implementation option, the B-2 Reserve pilot program has few drawbacks. Retention of the active duty component will not be affected. The pilots who choose to separate have already made their decision. The initial cadre of B-2 pilots, the "brightest and shiniest" separated without a B-2 Reserve option and many moved across the country to continue service with a Reserve component in a different aircraft. Pilots will continue to separate; the existence of a B-2 Reserve option will not cause more pilots to separate. The B-2 Reserve option will capture some of these pilots and retain their expertise for the benefit of the entire Total Force.

Appendix A

Background

The entire B-2 fleet is based at Whiteman AFB, Missouri. Twenty-one aircraft have been built and sixteen aircraft are assigned to the base at any given time. The remaining five aircraft are either in test phase at Edwards AFB, California or in depot level maintenance or upgrade status at Palmdale, California.

Whiteman AFB is the home of the 509th Bomb Wing. The flying units within the wing that are assigned B-2 aircraft are the 325th and 393rd Bomb Squadrons (BS). Both squadrons have a Primary Assigned Aircraft (PAA) of eight aircraft. These squadrons are the line squadrons with both nuclear and conventional warfare missions. The squadrons are not responsible for training their pilots how to fly the B-2, but teach them how to fly the B-2 better, including developing new tactics and weapons delivery techniques.

The 394th Combat Training Squadron (CTS) is the schoolhouse for B-2 pilots. The 394th CTS is responsible for the simulator and flight training of new B-2 pilots, as well as upgrade training for B-2 aviators from pilot to mission commander and instructor pilot qualifications. The 394th CTS is not assigned any B-2 aircraft but "borrows" sorties generated by both bomb squadrons. The 394th CTS is authorized 18 instructor pilots.

The Air Force recently awarded a contract for the academic classroom instruction to Northrop Grumman Aerospace. The contractor works hand-in-hand with the 394th to integrate

the classroom instruction with simulator and flight training. In February 2001 the contractor hired their first retired B-2 pilot, which will lend credibility to their instructor staff.

The B-2 flight crew is composed of only two pilots. These aviators typically enter the B-2 force in the left seat and serve in the "pilot" role doing the majority of the flying. After approximately one year they upgrade to "mission commander" and fly in the right seat and are responsible for the weapons delivery functions. After a year in the mission commander role they upgrade to instructor pilot and may fly in either seat.

The Air Force is currently only placing experienced pilots in the B-2 cockpit. The majority of B-2 pilots come from the B-52 and B-1 communities. They were instructor pilots in their previous aircraft and typically have over 2,000 total flight hours. There are a number of fighter pilots that have cross-trained to the B-2 bomber. These pilots were highly experienced instructors and 4-ship lead pilots within their respective communities. In 2000 the Air Force hired the first T-38 First Assignment Instructor Pilot (FAIP). This is the first pilot to come to the B-2 with only trainer experience. The Air Force does not currently place pilots in the B-2 as their first assignment after Undergraduate Pilot Training.

Glossary

Airborne Warning and Control System (AWACS) aircraft. An aircraft (designated E-3 by the Air Force) which acts as an airborne command and control aircraft. Personnel onboard the aircraft search for enemy fighter aircraft and direct friendly fighter aircraft to intercept the enemy aircraft. The aircraft is unique in appearance; it has a large rotary radar disc on top of the aircraft.

Air Battle Manager. The officer onboard the AWACS aircraft who is responsible for directing friendly fighters against enemy fighters.

Air Combat Command (ACC). The organization responsible for the majority of the Air Force's fighter and bomber aircraft.

associate Reserve unit. A Reserve unit which does not own their own aircraft and flies a colocated active duty unit's aircraft, as opposed to a unit-equipped Reserve unit which "owns" their own aircraft.

company grade officer. An officer in the rank of second lieutenant, first lieutenant or captain.

Intermediate Service School. A school such as Air Command and Staff College that fulfills the military's requirements for professional military education. The officers who attend typically hold the rank of major.

mission commander. The pilot responsible for releasing weapons in the B-2. He flies in the right seat of the aircraft and is senior to the pilot in the left seat.

Personnel Reliability Program (PRP). A program designed to ensure the reliability of the personnel authorized access to nuclear weapons and critical nuclear weapons systems. The program relies on each certified individual monitoring himself and those PRP personnel around him for reliability.

perstempo. The amount of work required by one individual to complete his required duties in a given amount of time. A high perstempo would require a large amount of work to be completed in a relatively short amount of time.

United States Strategic Command (USSTRATCOM). The organization responsible for developing and, if necessary, executing nuclear war plans.

Undergraduate Pilot Training (UPT). The first year of pilot training for Air Force officers. After UPT new pilots will either remain at their UPT base and instruct new students or move to another base to learn to fly an airlift, attack, bomber, fighter or refueling aircraft.

unified command. A command with a broad continuing mission under a single commander and composed of two or more departments.

unit-equipped Reserve unit. A Reserve unit which "owns" its own aircraft, as opposed to an "associate unit" which flies a colocated active duty unit's aircraft.

weapons system. An aircraft and all of the support equipment, from training simulators and mission-planning computers to bomb-loading equipment and fueling apparatus.

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