

**This concept could put Guard and Reserve units at active fighter wings—and active duty associate units at Guard and Reserve wings.**

# Future Total Force

By John T. Correll, Editor in Chief

*A Reserve F-16 pilot from Shaw AFB, S.C., waits to start the fighter's engine at Aviano AB, Italy, before flying an Operation Allied Force combat mission.*

**R**ESERVE associate units have long been a standard part of Air Mobility Command. Every strategic airlift wing has one. So do KC-10 air refueling units.

These associate crews form separate Air Force Reserve elements in the active duty organizations. They fly the same missions as their active duty counterparts, and they share the active unit's aircraft rather than possessing their own as Reserve UE (Unit-Equipped) squadrons do.



More than a third of the total crew force for airlifters and tankers comes from the associate units.

When he was Chief of Staff, Gen. Ronald R. Fogleman ordered up an experiment to see whether associate units might also work with fighters. That program, called the Fighter Reserve Associate Test, placed a small group of Reservists inside an active duty fighter squadron to determine if that would improve experience levels and reduce manning shortfalls during crisis or conflict.

That experiment is now in its second year at Shaw AFB, S.C., where an associate unit of 14 Air Force Reservists is assigned to the 78th Fighter Squadron. The Reserve pilots, all of them seasoned veterans, provide the squadron with much-welcomed depth in experienced pilots.

When active duty crews went to Southwest Asia last fall, Reserve crews went, too. And this April, when F-16CJ fighters from Shaw were sent to Aviano AB, Italy, for operations in Kosovo, pilots from the associate unit were among those who deployed.

The Fighter Reserve Associate Test at Shaw may be a harbinger of things to come.

An ongoing study called "Future

Total Force," currently making the rounds of the Air Staff, has raised the possibility of regularly assigning elements of the Air Reserve Components (the Air National Guard and Air Force Reserve) to active duty fighter wings—as well as putting active duty associate units in Guard and Reserve wings.

"At the conceptual level, there is agreement that we're moving in the right direction," said Maj. Gen. Norton A. Schwartz, Air Force director of strategic planning. There is less consensus about specific initiatives, he said, although the general reaction has been "positive."

There are several reasons why the Air Force is considering these unusual variations in the force mix. Among the motives are what Schwartz described as "top-down imperatives," in which the Office of the Secretary of Defense and the Joint Staff have urged all of the services to make better use of their reserve components.

Another factor is the success of several force mix experiments, including the one at Shaw. "It became apparent that there was promise in doing things outside the norm," Schwartz said.

The possibilities were also expanded by the adoption last year

by the Air Force of the Expeditionary Aerospace Force concept, under which units will know well in advance the times during which they will be on tap for contingency deployments. Making the deployment schedules more predictable will bring greater participation in contingency operations within reach of the Air National Guard and the Air Force Reserve.

### **The Issue Catches Fire**

But what really lit the fires on Future Total Force was the pilot crisis.

The active duty Air Force will be short almost 1,400 pilots by the end of this year, with the shortfall soon expected to reach 2,000. If present trends continue, active duty fighter wings face a situation in which they will be unable to fill their cockpits. Barring some miracle in pilot retention, there will be no way to solve that problem with pilots coming along in the active duty system.

The pilot shortage—which is driven both by internal factors and by the lure of flying for the airlines—occurs at a time when a strategy of Global Engagement has pushed the peacetime operating tempo to an all-time high.

The Air Force has too few pilots chasing too many contingency deployments. That hurts retention, which leads to even fewer pilots staying in service to help carry the optempo. It is a downward spiral that feeds on itself.

Pilots with between six and eight years of service are of special concern. They are approaching the end of their active duty service commitment, after which they will be eligible to separate.

They are the largest concentration of pilots in the force, with an average of more than 1,100 pilots in each year group. The ranks coming along behind them, those with between one and five years of service, are much thinner by comparison, with an average of only about 500 pilots in each year group.

The unfortunate prospect is that many of the pilots from the sixth through the eighth year groups will get out and be lost to the Air Force. The Air Reserve Components are not in a position to pick them up. ARC units are fully manned with pilots and already have many qualified applicants for every cockpit that becomes available.

Because of the continuing losses, the ratio of experienced to inexperienced pilots in the active duty force has dropped to about 40-to-60. That is far below the desired level, which should be around 55-to-45, Schwartz said.

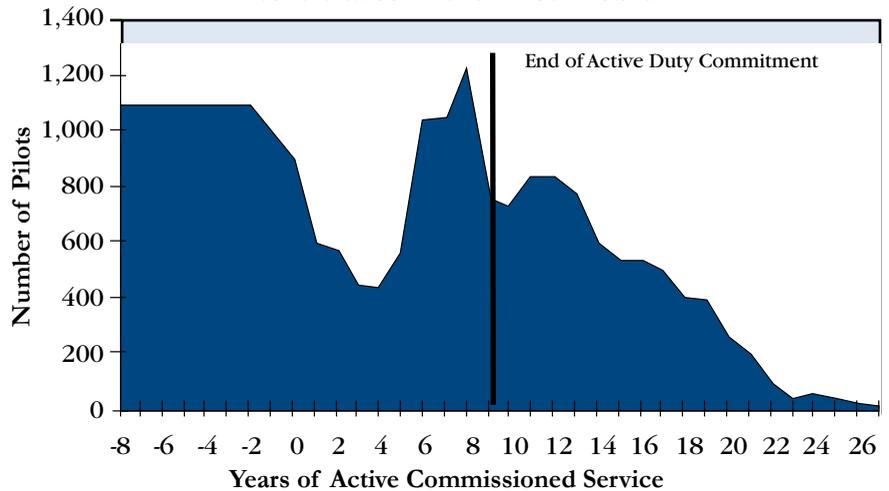
The diminishing experience level has several consequences, including the so-called “pilot absorption” problem—the difficulty in absorbing new pilots when the experience ratio in the force gets too low.

New pilots take about two years to reach the “experienced” level. During that time, experienced pilots must fly with them on training sorties. Inexperienced wingmen in F-16s, for example, need to fly 134 sorties a year, whereas experienced F-16 pilots need only 112 sorties a year to maintain readiness.

When the experience ratio gets low, the experienced pilots must fly more training sorties than they need themselves in order to accompany the younger pilots. In effect, the extra sorties by the veteran pilots are wasted. Among other consequences, the squadron cannot fly its training program within the regular allocation of flying hours.

Air Force has increased production

## Next Waves in the Pilot Problem



*The Air Force is concerned about potential losses as pilots reach the end of their active duty service commitment. Those with six to eight years of service are the largest concentration of pilots in the force, and they are nearing their eligibility to separate. The damage could be even more devastating when the next year groups coming along—and representing a pilot shortage—reach the separation point, because even moderate losses would be hard felt. The Air Force has increased the output of undergraduate pilot training to 1,100 per year, but it will take a long time to rebuild the pilot force from the bottom up.*

from Undergraduate Pilot Training. However, it will take a long time to replenish the ranks that way. And as the new pilots join their units, the experience ratio will fall further still.

### Active-ARC Symbiosis

Several years ago, when some of today’s problems were starting to loom on the horizon, a group of Air Staff planners began thinking whether some solutions might be found in different combinations of active and ARC resources.

They realized that the active and ARC forces often have counterbalancing strengths and weaknesses. For example, while the experience ratio for active pilots is presently low at 40 percent, the ratio in the ARC is high, at about 80 percent. And even as the active duty force is scrambling for enough pilots to fill its cockpits, the ARC might be able to attract and hold more of the pilots departing the active force—if there were cockpits somewhere to offer them.

The planners further noted that active duty fighter pilots average 86 days at TDY (Temporary Duty) locations a year, and that 38 of those days are on contingency deployments. The average ARC pilot gets paid for about 100 days a year. Half of that time is on TDY, but only two days a year are on contingency deployments. Most of the ARC pilot’s TDY flying is for exercises.

Among the leading issues in the Air Staff inquiry were these:

- Keeping more of the pilots—in either the active or reserve components—as they reach eligibility to leave service.
- Absorbing the imbalance of inexperienced pilots who are coming along in the active duty force.
- Spreading peacetime contingency deployments across the Total Force.

### New Options

The Air Staff project led to the program now known as Future Total Force. It is being worked by the National Defense Review Planning Staff (AF/XPXQ) and presents a “range of options for an FTF Fighter Unit as a keystone for our Aerospace Expeditionary Force.”

It adapts and expands on the Reserve associate concept and combines fighter units in non-traditional ways. A hybrid active duty wing might have two active duty squadrons with ARC associate units—and one ARC squadron with an active associate unit. Hybrid ARC fighter wings might have active associate units.

“When you put the ARC crew members in the active wing, they come in with the experience ratio that the active wing is already hurting for,” said retired Maj. Gen. Charles D. Link, who laid some of the early

groundwork for the concept before he left the Air Force in 1997. “When you put the less experienced active pilots in the ARC unit, you are contributing to a healthy experience ratio. It solves problems going both ways.”

The prevailing practice is to man active and ARC units with the same aircrew ratio—1.25 pilots per aircraft. In reality, ARC units, more of whose pilots are experienced and who therefore require fewer annual sorties to maintain proficiency, could probably be manned at a 1.5 or higher ratio.

The effect of a high experience ratio in the ARC is to create what the Future Total Force team calls “virtual cockpits.” A squadron of experienced pilots can get their proficiency sorties flown with fewer aircraft, producing a net dividend of cockpits not used.

“One potential, short-term solution to the departure of experienced pilots in active flying units may be to increase crew ratios or overman selected Guard and Reserve units,” Schwartz said. “This would provide ARC unit spaces with which to ‘capture’ experienced pilots leaving active duty. What’s happened, typically, is that the reserves attract about a third of the pilots who leave active duty. If you can push that to 50 percent or more, that’s a substantial combat resource retained in the Air Force family.

“Under an FTF construct, on the other hand, we could exploit the pool of experienced pilots in the ARC to balance unit experience levels across the force. We can absorb some of the pilots graduating from ramped-up active duty pilot training over the next few years and carefully integrate them into selected Guard and Reserve units for experiencing.

“Yet another potential model is an active associate arrangement where active aviators populate ARC UE units, much as traditional ARC associate personnel do with the active wing.”

### Building Blocks

The basic building blocks of force structure are active duty, Air National Guard, and Air Force Reserve UE units. (Since the Air National Guard does not have any associate units, it is currently 100 percent Unit Equipped.)

A typical active duty fighter wing

has 72 aircraft and 96 pilots, counting squadron commanders and ops officers. An ARC fighter wing has 15 aircraft and 21 pilots—but a direct comparison is invalid. It takes several Guard or Reserve fighter wings to constitute a standard “fighter wing equivalent” in the force structure nomenclature.

The present force structure consists of 13 active duty fighter wing equivalents, plus six from the Air National Guard and one from the Air Force Reserve.

Another kind of building block—and the prototype for the new arrangements proposed—is the Reserve associate unit. Reserve associates account for large portions of the airlift and tanker crew force: nearly 50 percent of the aircrew capability in C-141s and C-5s, 43 percent in KC-10s, 32 percent in C-9s, and 36 percent in C-17s.

The test at Shaw adapts the associate concept to a fighter squadron. The Reservists there, led by Col. Tom King, are organized as Det. 1, Fighter Reserve Associate Test. They report operationally to the 78th Fighter Squadron but administratively they are part of Air Force Reserve Command’s 10th Air Force.

The Shaw detachment has six pilots, seven maintenance people, and one administrative member. The

pilots, all of them experienced, fly regularly with the newer active duty pilots on training missions. They have also taken their turns on the contingency deployments.

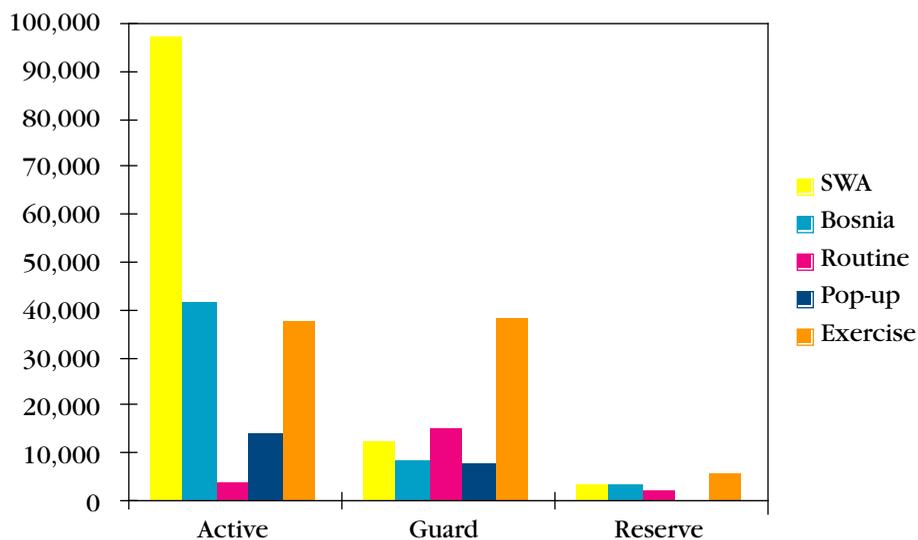
The next step, described by the Future Total Force package, would be an active duty fighter squadron with an ARC associate unit. After that would come the final kind of building block: a Guard or Reserve unit—either an ARC squadron that is part of an active duty wing or a hybrid ARC wing—with an active duty associate unit assigned to it.

For the past year or so, the Air Force has had analysts from the Betac Corp. running analyses of experimental force structures. Mindful that they are working in what could be a very controversial area, the analysts emphasize that both the baselines and the alternative units in the Future Total Force study are “notional.”

Their purpose is to examine how various force structure combinations might work, not to lay down an exact organizational chart for fighter wings of the future. Planners also said there was no intention to alter the overall balance between active and ARC fighter wing equivalents in the force structure.

The baseline for the study (*see “The FTF Concept” chart*) was the combination of an enhanced active

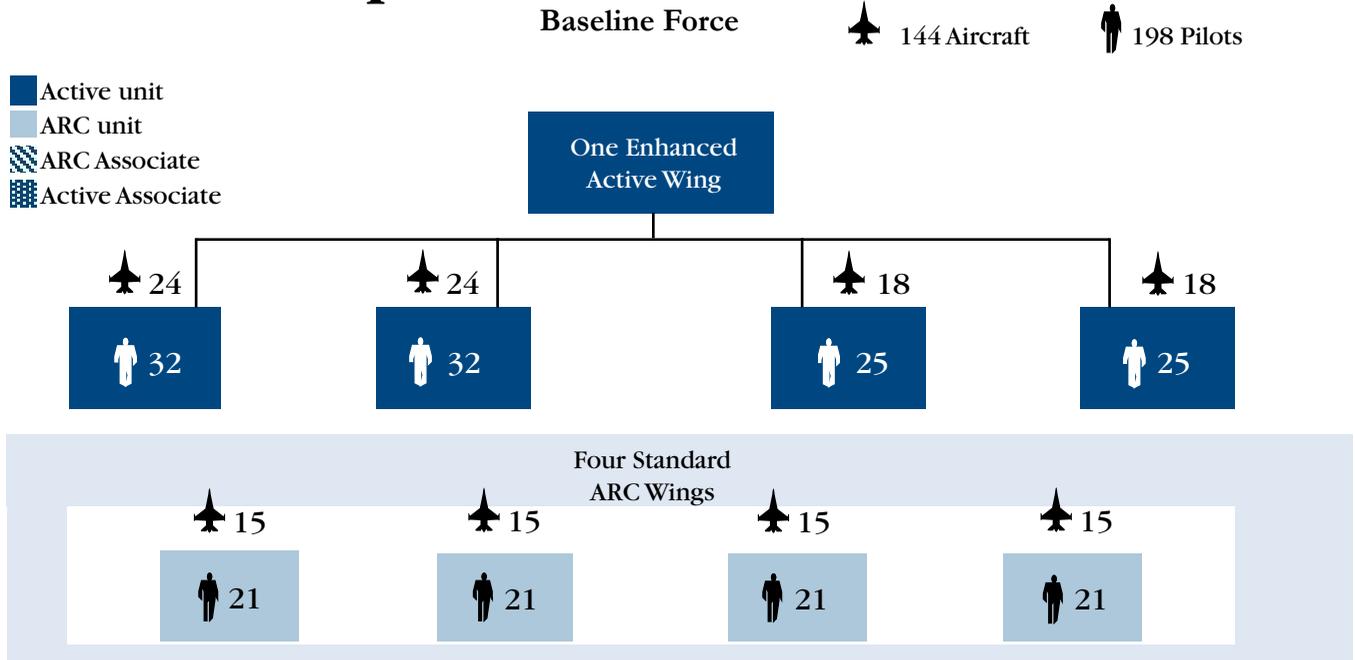
Aircraft Days Deployed



Note: Does not include airlift or tanker assets. Source: DFI database

**Air Reserve Component forces—especially Air Guard units—do a considerable amount of flying in Temporary Duty locations, but not much of it has been in support of contingency deployments. The Future Total Force study indicates that it is possible to shift some of the ARC capability now expended in exercises to contingency operations.**

# The FTF Concept



duty wing and four standard ARC wings. Together, the units in the baseline force have 144 aircraft and 198 pilots.

The analysis pitted that combination against other alternatives. Criteria included the number of pilots that would be available in wartime and for peacetime contingency deployments, the effect on pilot absorption, and relative cost.

The alternative that produced the best results, both in comparison to the baseline and to the other alternatives tested, is depicted on the chart. In this combination, both the active and ARC wings take on associate units from the other component, and the available force is 144 aircraft and 216 pilots.

There is a hybrid active wing, which has two active squadrons with ARC associate units and one ARC squadron with an active associate. There are four hybrid ARC wings. In these, the Guard and Reserve numbers are the same as before, but each hybrid ARC wing would add three aircraft and an active duty associate unit with six active duty pilots.

This alternative force produces more contingency deployment capability than the baseline force does—a total of 5,034 days per

year compared to 4,500, said Col. Ron Bath, whose Air Staff directorate is in charge of the project. Aircrew experience and workload are redistributed, and flight leaders and instructor pilots would fly fewer excess sorties.

Eighty percent of the pilots in the active associate units would be inexperienced. The Future Total Force arrangement would pair them up with the abundance of instructor pilots in the ARC units. Although cost was not a primary consideration in the study, the FTF alternative saves about \$834,000 a year in personnel costs and flying hours on aging fighter airframes.

Because the National Guard reports in peacetime to state governors, “legislative relief would be required if we go to the full recommendation on active associate units with Air Guard units,” Schwartz said. He did not anticipate difficulty in securing such relief if it becomes necessary.

### What Can the ARC Cover?

A key question is how much of the optempo can the ARC cover?

Future Total Force approaches that by considering the circumstances under which Guard and Reserve units

are best able to respond. Deployments most suited to the ARC are those in which there is long lead time (six months or more), and in which the operation is of short duration (six days or less), requiring a small force package (12 aircraft or less), and in which the scheduling is flexible.

Analysis of fighter deployments between 1995 and 1997 found long lead time in more than 80 percent of the cases. More than 75 percent of the total deployments were long duration, which is a complication. On the other hand, almost 60 percent of the total fighter deployments were small force packages, which is a fit.

Retired Maj. Gen. Donald W. Shepperd, former director of the Air National Guard, has been working with the Future Total Force team to smooth the way for greater Air Reserve Component participation in deployments.

“Give the ARC a location,” Shepperd said. “Say, ‘We want you to cover this location for 90 days—or 180 days. Can you figure out how to rotate your people through, using 15-day tours?’ The answer is, ‘A piece of cake.’ It’s so much easier than what we’re doing today, it’s incredible. It will solve so many problems for the ARC by going

## Alternative Force

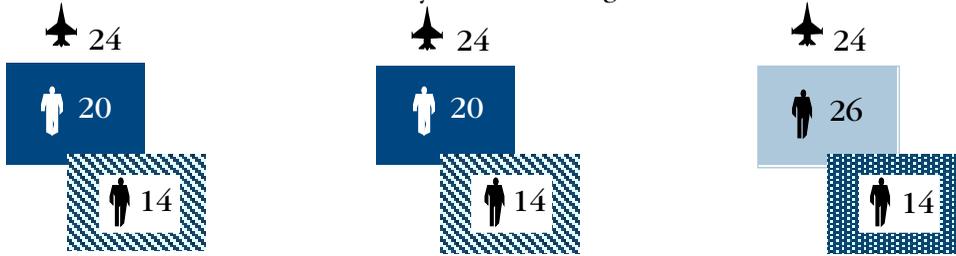


144 Aircraft

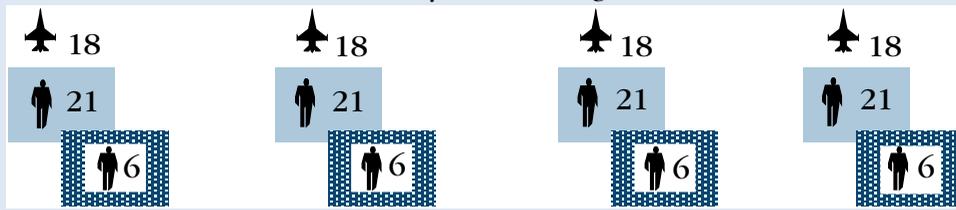


216 Pilots

### One Hybrid Active Wing



### Four Hybrid ARC Wings



to the Aerospace Expeditionary Force concept if we can solve some equipment problems.

“Another reason Guard and Reserve participation [in contingency deployments] has been low is that they don’t have the modern equipment to be interactive. They don’t have the Precision Guided Munitions. If you have Guard and Reserve guys in active units flying those PGMs, that means they are going to participate more.”

A stated assumption of the Future Total Force study is that “when substituted for active pilots, ARC pilots average 15 days per year in support of contingency deployments.”

Since average participation by ARC pilots today is two days a year for contingencies, that sounds like a big jump. What the planners have in mind, though, is making it easier for the ARC to allocate more of its total TDY flying time—which now averages 48 days per year per

pilot—to contingency operations rather than to exercises and other activities.

“We’re not asking for any more from the ARC,” Shepperd said. “We’re asking for different. The ARC tempo doesn’t increase, it just goes to different places. The AEF construct lets us schedule in advance.”

### Evolution in Total Force

Thus far, the Future Total Force study has dealt only with fighters, but further analysis is on the way. Eventually, the project will look at other types of Air Force flying units, as well as at space, support, and information operations.

The Air Force is well ahead of the other services in its application of the Total Force policy, under which active duty, Guard, and Reserve elements are to be combined and integrated for the best total effect. The Future Total Force project may point to even more possibilities.

“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,’” Bath said.

“We are the United States Air Force, and that says it all.” ■

### Contingency Deployment Days Per Year

	Baseline			FTF Alternative		
	Pilots	Days Each	Total Days	Pilots	Days Each	Total Days
Active Duty	114	38	4,332	78	38	2,964
ARC	84	2	168	138	15	2,070
Total	198		4,500	216		5,034

*In the Baseline Force, 198 pilots fly 4,500 days a year in support of contingency deployments. Nearly all of these deployments are by the active duty component. The FTF alternative makes it possible for ARC crews to take on more of the deployment workload. Furthermore, the alternative force can fly 5,034 days a year in deployments, a gain of almost 12 percent in total combined capability.*