

JANUARY 1996/\$3

# AIR FORCE

PUBLISHED BY THE AIR FORCE ASSOCIATION

MAGAZINE

## **Some Assembly Required Building the C-130J**

**The Air Force Today and Tomorrow  
Civilian Drawdown, Hard and Fast**



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# MAGAZINE

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By John T. Correll, Editor in Chief

## The Quality of Life

**N**OT since the creation of the All-Volunteer Force in the 1970s have the services and the Department of Defense given such concentrated attention to the quality of military life. Major studies done in the past year confirm that the armed forces have fallen behind in providing for service members and their families. The warning signs are abundant. Recruiting, retention, and readiness troubles lie ahead unless conditions improve.

The defense drawdown, which reduced active-duty military strength by almost thirty percent, has been hard on the troops. A lot of good people who wanted to stay in the service were pushed out. Those who did stay were subject to the turbulence of unit realignments, deactivations, and base closures. The smaller force pulled back from overseas bases, but it was soon deploying abroad to one distant contingency after another. Military compensation already lags pay in the private sector by 12.6 percent, and the gap is getting wider. Access to medical care, which military people regard as their single most important noncash benefit, is diminishing.

More than a year ago, Secretary of Defense William J. Perry appointed a task force to examine the military quality of life. The findings of that study were announced in October, shortly after USAF released the results of its own Quality-of-Life Survey, which drew 356,409 responses. These reports give a detailed analysis of problems in housing, operations tempo, and base-level services. They also demonstrate that personnel support programs have not kept up with changing force demographics.

More military people are married today than ever before in the history of the armed forces. There has been a steady increase in the number of dependent children. Service members now have about one million children younger than age twelve. Single parents, once a rare phenomenon in the military, now account for about five percent of the force. This force has definite needs, such as child

care, that the services are not able to meet.

■ **Housing.** Much of the government housing for families is old, cramped, and run down. The Department of Defense rates sixty-four percent of its housing units as "unsuitable." Even so, there is brisk demand for them. By recent count, the Air Force had 39,000 families on waiting lists to move on base. The reason, no doubt, is that military quarters allowances fall twenty-two percent short of actual housing costs off base, where many military families live in less-than-desirable places.

Mos: single enlisted members live in a barracks, sharing a room with

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the Department of  
Defense and the  
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ing away because the  
solutions are difficult.**

at least one other person and with a communal bathroom and a telephone down the hall. The Air Force, well ahead of the other services in providing barracks privacy and amenities, can house only forty percent of its enlisted personnel one person to a room. At a meeting last summer, one of the Quality-of-Life Task Force members asked his colleagues, "Would you drop your son or daughter off at a college dorm if it looked like some of the barracks we've seen?"

The task force was disturbed enough by what it saw to propose a radical solution: Establish a Military Housing Authority, a nonprofit corporation that would build, maintain, and operate all military housing. It would also provide assistance to service members in purchasing homes. (The task force also proposed an increase in housing allowances.)

■ **Operations and Deployments.**

The task force called the personnel tempo problem "unsustainable." The armed forces are constantly engaged in operations overseas. An Air Force white paper illustrated the impact of these "long and multiple deployments" with the case of the 429th Electronic Combat Squadron at Cannon AFB, N. M. The previous year, some members of that unit spent 200 days deployed. The Air Force survey found some members having personal and financial problems because they were away from home so much. Proposals include calling on Guard and Reserve volunteers to handle some of the deployment action, but no general solution is in sight for the operations tempo problem.

■ **Needs of Families.** The armed forces today consist primarily of married members with families. (Sixty-one percent, compared to forty-two percent in 1955. In the Air Force, sixty-eight percent are married.) About two-thirds of military spouses are employed. Ninety percent of the preschool children live in homes where both parents work full time. A leading consequence of this demographic shift is that the demand for child care far exceeds the supply. (The Air Force, for example, presently meets only fifty-three percent of the calculated need for child care and has 8,000 children, most of them under three years old, on waiting lists.) DoD hopes to be covering eighty percent of the demand by 1999.

Secretary Perry says that the Quality-of-Life Survey findings "will not sit on the shelf." To their credit, the Department of Defense and the services are not shying away just because solutions are difficult and expensive. Quality of life clearly influences recruiting and retention, but those are only the immediately visible manifestations. At a deeper level, it has a profound effect on morale, attitude, and, ultimately, readiness. Call it an investment in national security. As an Air Force sergeant at an NCO Academy in Germany said when the task force visited, "Sir, we are ready to go anywhere as long as you take care of our families." ■



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## Economical EW

"Electronic Warfare, Economy Style" [November 1995, p. 24] was excellent, covering many issues in the electronic combat arena. As one who has worked on the High-Speed Antiradiation Missile Targeting System (HTS) in the area of pilot-vehicle interface since its inception in 1991, I wish to clarify three points about the HTS.

First, the Navy and Marine Corps F/A-18 strike fighter carries nothing comparable to the HTS. It has a command launch computer, which controls the employment of HARM in a prebriefed mode or target of opportunity mode, but, unlike HTS, the CLC does not provide the capability to determine an emitter's location autonomously.

Second, the term "pop-up," describing the SAM threats that HTS-equipped F-16s counter, implies that HTS is primarily a self-protection system rather than a force-protection asset that contends with any emitters threatening a strike group.

Third, the first major HTS software upgrade has already been developed and will be fielded shortly. Another software and hardware update will be fielded in a few years. According to several pilots from the four bases that fly with the HTS, it is precise enough to employ Mavericks (with their narrow field of view) and is very user-friendly, with a well-defined and intuitive mechanization.

As the HTS capability improves, the mechanization that allows a single-seat aircraft to employ HARM effectively will keep pace.

David H. Scire  
Bedford, Tex.

I hope everyone reading "Electronic Warfare, Economy Style" was frightened.

I was at Mountain Home AFB, Idaho, many years ago (1976-79) during a time of great economic turmoil in the Air Force. Hollow forces were a genuine problem. While I was there, the 366th Tactical Fighter Wing changed from F-111Fs to F-111As. Later, we learned some of those F-111As would become EF-111s.

At a wing commander's call shortly after the announcement, someone asked why we needed the EF-111. The commander said we needed it so the guys dropping the bombs could have a chance to come home.

The EF-111, fifteen-plus years later, is still the premier platform for the task it was designed to do. Leadership knows it and is trying to stretch the phaseout as far as possible. EA-6Bs are OK—only OK. The stuff that Ravens and F-4G "Wild Weasels" do is as irreplaceable as the men and women flying strike missions are. We are not a nation of *kamikazes* willing to go on one-way missions.

A senior staff officer notes that concerns about changing the processes we've successfully used in the past are a "microview" and that new technology will reduce the threat (except for some "dormant SAMs that you miss"). He also contends that the rest of the strategy should work well enough to diminish the need for what he calls the "reactive" response (*i.e.*, Ravens and "Wild Weasels"). "Should work"? "Diminish the need"? Pilots hug your crew chiefs—crew chiefs hug your pilots.

CMSgt. David E. Smith,  
USAF (Ret.)  
Tacoma, Wash.

It is sheer folly to replace the EF-111A electronic support aircraft with the Navy EA-6B Prowler. The Prowler is far too slow and is unable to keep up with aircraft in a typical USAF strike package. (Even the Navy is studying an electronic countermea-

sures version of the new F/A-18F Hornet.) This lack of speed also translates into an inability to outmaneuver enemy SAMs and fighter aircraft.

The best option is not only to retain EF-111s but to convert more F-111Fs into EF-111s (along with upgrades to the basic ECM/Suppression of Enemy Air Defenses). In addition, we should procure surplus British Tornado fighters in order to convert them to real, offensive, "Wild Weasel" platforms. This will ensure that incidents like the shooting down of Capt. Scott F. O'Grady will not be repeated.

Anthony O. Macaluso  
Cincinnati, Ohio

If there are doubts about the viability of the F-16-plus-HTS combination as an F-4G replacement, why not an F-15E-plus-HTS as sort of an "F-15G," in much the same way the F-4G was developed out of the F-4E? If F-15E assets are considered fully committed (in view of the impending retirement of the F-111 fleet) for the long-range strike mission, perhaps the two-seat F-15D or F-15B could be modified as a suitable alternative.

I recall from my service as an F-15 technical representative in the mid-1970s that every seventh or eighth F-15 built (prior to F-15E production) was a two-seat F-15B or F-15D, and all had the capability to handle F-15E "fast-pack" conformal fuel tanks, which would leave the pylons free for whatever mission equipment or missiles were required to accompany and protect the strike force.

T. J. Gibson  
Mesa, Ariz.

## A Raid Remembered

I wish to correct and clarify several items in "The Son Tay Raid" [November 1995, p. 64].

As I recall, an HH-53's eleven transmissions do not have red warning lights. All are yellow caution lights.

The author implies that flying C-130s at low airspeeds with heavy-lift helicopters was a new requirement. Not so. We had been doing this during aerial refueling maneuvers ever since the HH-3 and HH-53 entered

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## Letters

combat in southeast Asia, perhaps as early as 1967. The same for the A-1s. They had been flying escort and cover for helicopter combat rescue attempts during the same period.

Mr. Glines's account of the final assault leg is wanting. After the MC-130 (designated "EC" then, I believe) left us at the initial point (IP), the four remaining helicopters strung out at forty-five-second intervals so as not to interfere with the mission of the helicopter ahead. Intelligence sources had made us all aware of the look-alike compound south of Son Tay.

Apparently, Maj. Frederic Donohue's attention was briefly diverted as we approached the compound, and he likely drifted south because of it. We were flying blacked out and under radio silence.

When Major Donohue realized he was attacking the wrong target, he corrected course but never radioed his error. Consequently, Maj. Herbert Kalen, following in the HH-3, made the same mistake and almost landed there. Major Kalen made the proper course correction just in time but also failed to warn those of us trailing.

In Apple 2, which carried Army Lt. Col. Elliott Sydnor and the second half of the assault force, I had done much of the flying en route. At the IP, Lt. Col. Jack Allison took the controls, and I reverted to navigating. As we got closer, I warned Colonel Allison that the track we were making in the dim light looked wrong, until suddenly I was sure of it. I broke radio silence to warn Apple 1 he was in the wrong place, but it was too late.

As practiced, we immediately took over Apple 1's mission as did Colonel Sydnor's force. As he was offloading, we destroyed a key guard barracks with our left minigun. Several minutes later, Lt. Col. Warner Britton got Army Col. Arthur Simons and his men back into the fray.

As the article stated, Lt. Col. Herb Zehnder was a primary crew member on the HH-3. However, Maj. David Vaughn was primary throughout the preparation and practiced for that role. Zehnder was the alternate up to the final day of departure. Zehnder asked Britton if he could go at the last possible moment, and David was bumped just before we left from Takhli RTAFB, Thailand. What a bummer!

Some circles still hold that Britton's landing in the wrong place was fortuitous because the enemy there could have raced to Son Tay and played havoc with us. However, in May 1990, Sydnor and I compared notes for the first time since the mission. He told

me that Simons's men had left only sixteen casualties—hardly a big fight or much of a threat.

I don't want my commentary to serve as criticism of this daring, dangerous, yet tactically successful mission. Rather, it is meant to serve as lessons learned: Regardless of how many times a mission is practiced, it is impossible to predict human behavior under the stress of battle. On the other hand, outstanding planning and on-site initiatives made the mission succeed. . . .

Had the POWs been there, would we have succeeded? You bet!

Col. Jay M. Strayer, USAF (Ret.)  
Apple 3 Pilot  
Jamestown, Ohio

## The Death of High One?

What great news—to read *Air Force Magazine's* obituary on the High One Plan [*"High One' Defeated," November 1995 "Aerospace World," p. 15*]. But will it remain in the grave? The plan called for averaging the last year of pay instead of using the final month as the basis for pay computation, but policymakers did not consider the effect High One would have on those who are NCOs but will retire as officers. What might "the last twelve months of service" really mean for the NCO-to-officer retiree? I'll use my case (O-3E retirement in 1998 with 22.5 years for pay purposes) as an example.

If "last twelve" meant the last twelve months of active duty as an NCO, I would lose \$8,300 per year (thirty-four percent) by having to retire with E-7 pay rather than with O-3E pay. If "last twelve" meant "highest twelve," then I would retire with O-3E pay based on the 1988 pay chart, a loss of \$5,900 per year (twenty-four percent). Only if I received the same retirement pay as someone whose last twelve months of service were as an O-3E would I have to sacrifice a "mere" \$154 per year (one percent).

*Air Force Magazine* was correct in wondering "when or where the next hit [on the retirement system] may come." After all, High One raised nothing less than the specter of the "Eisenhower Bubble," which created a second-class retirement pay system for those (including my father) who were unfortunate enough to retire in the mid-1950s. Let's make sure another bubble does not arise in a different form to haunt us in the future.

MSgt. Douglas K. Fidler,  
USAF  
Maryville, Tenn.



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## Letters

### Your Grandfather's BUFF

Lt. Col. Morris Betry [*"Your Grandfather's Aircraft," November 1995 "Letters," p. 10*] finds it disturbing that B-52s are included in US defense plans well into the next century. What I find disturbing is his apparent lack of understanding of the capabilities of the B-52.

He states that we "need credible delivery platforms" because "if by some miracle they keep B-52s flying until 2030, the B-52s will not be able to penetrate any plausible defense system." He apparently does not share the same respect for the B-52 that thousands of North Vietnamese and Iraqi soldiers do. They have seen this weapon system destroy their military targets, armies, and comrades with speed and precision.

The B-52 is the most lethal and flexible weapon system ever developed, thanks to the foresight of our previous military leaders and the genius of Boeing engineers. From their efforts, a weapon system was born that could evolve and persevere as the nation's defense strategy dictated. The B-52 sat silently as the final decisive option of the Cold War. It brought the North Vietnamese to the bargaining table, and it completely devastated the Iraqi Republican Guard.

Some call it ugly and want to replace it with newer, prettier aircraft, but it continues to win the wars it fights. In the hands of skilled professionals—maintainers and flyers—the B-52 is a thing of beauty that commands world attention while working "miracles." Make no mistake—it is a potent weapon system that will be feared, hated, and respected by our enemies for many years to come.

Despite its longevity, the B-52 is a young airframe. It has spent much of its life on alert, receiving meticulous attention and maintenance. Upgrades to the airframe and systems have allowed it to carry every strike munition in the DoD arsenal, and it fights side by side with weapon systems thirty years its junior. Its maintenance and operational procedures are well understood, and, through countless structural assessments, it has proven to be a textbook example for airframe designers to follow.

Despite flying low-altitude missions where turbulence takes its toll, the airframe is considered to be only halfway through its life span. The B-52 can endure several more decades of rough service, but it cannot survive the guillotine at the boneyard.

If anything, Colonel Betry's proposed slogan, "Fly the Plane Your

Grandfather Flew," is a tribute to the flexibility and durability of this giant. Thank you, it's a well-deserved compliment.

As for the B-52's inability to "penetrate any plausible defense system," that statement is simply uninformed. If technology continues its revolutionary advances (and every indicator predicts it will), no airframe will be a lone penetrator forty years from now—including our stealth aircraft. Penetration will require careful planning and employment of numerous aircraft. Our leaders and tacticians recognize this. That's why we train and fight with other aircraft in integrated strike packages.

However, unlike many aircraft, the B-52 can also be a lone operator. It can employ numerous standoff munitions to gain a foothold on foreign soil. The B-52 is fully capable of either integrated or solitary missions for any level of warfare from anywhere in the world.

The "reality check" Colonel Betry calls for has already come. We're broke and can no longer afford costly programs that attempt to replace the B-52. We've had a sound and proven weapon system in service for years, and it is far from being relegated to pasture. Colonel Betry should enjoy his retirement and let our informed leaders make the intelligent decisions regarding our nation's defense strategy. Don't underestimate the capabilities of the B-52.

Maj. Donald W. Thompson,  
USAF  
Fairborn, Ohio

### In the Reserve's Hands

I write in reference to "Accurate Bombing in Reserve Hands" [*November 1995 "Aerospace World," p. 20*]. It was even more in the hands of the Reserve than the news item indicated.

The Light Detecting and Ranging equipment being tested was in the cargo bay of a C-141B flown by personnel of the 89th Airlift Squadron, 445th Airlift Wing, an AFRES unit stationed at Wright-Patterson AFB, Ohio. The mission to support the Wright Laboratory technicians caused some duty days to exceed eighteen hours for the maintenance team from the 445th Aircraft Generation Squadron to ensure 100 percent availability for the duration of the tests. The aircrews and maintenance team worked hard to make this mission a success and should not be neglected.

SSgt. Henry R. Harlow,  
AFRES  
Wright-Patterson AFB, Ohio

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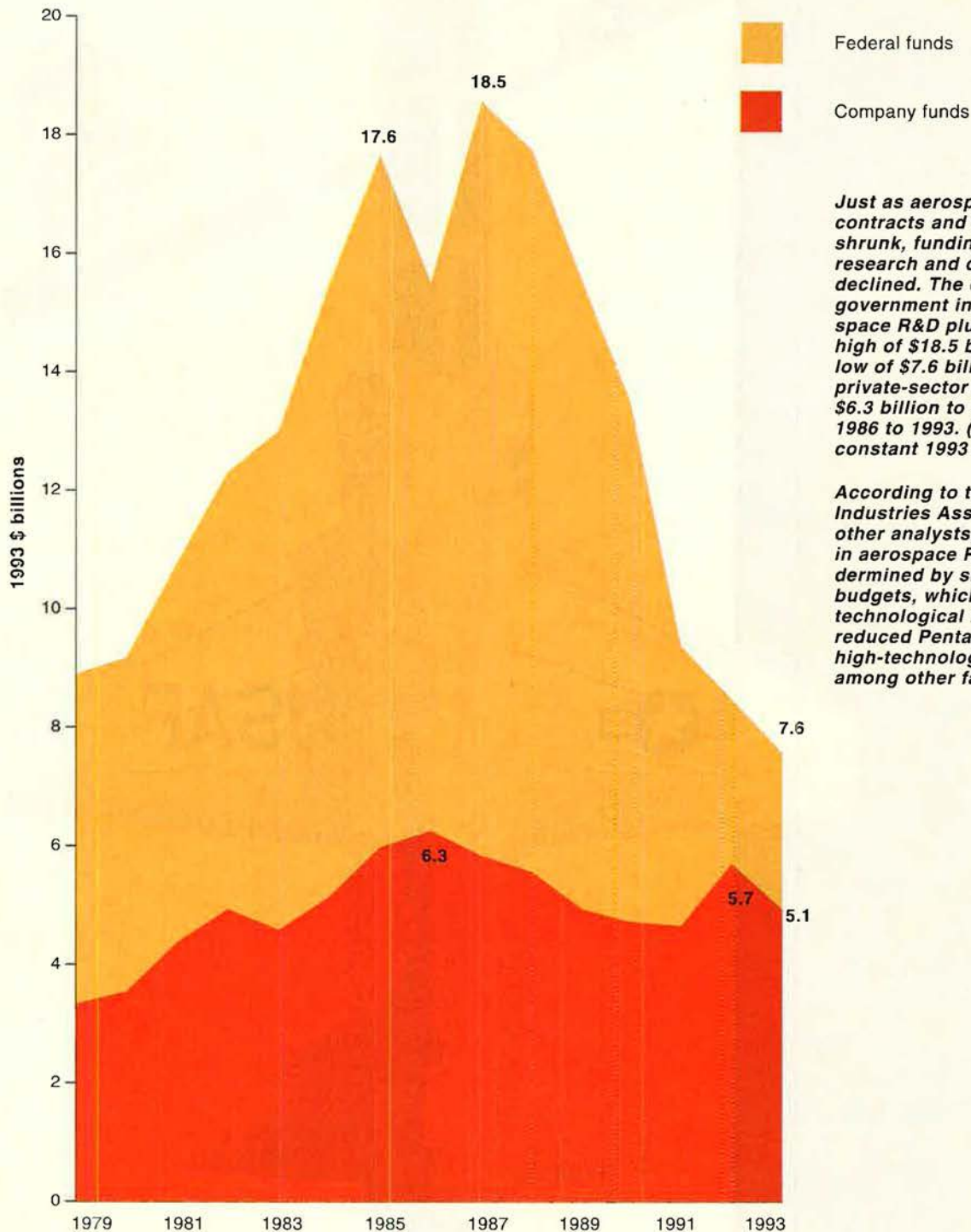
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# The Chart Page

By Tamar A. Mehuron, Associate Editor

## Shortfall in Aerospace R&D Funding

Tracking the Funding Drop



*Just as aerospace production contracts and employment have shrunk, funding for aerospace research and development has declined. The chart shows that government investment in aerospace R&D plunged from a 1987 high of \$18.5 billion to a 1993 low of \$7.6 billion. Meanwhile, private-sector funding fell from \$6.3 billion to \$5.1 billion from 1986 to 1993. (All figures are in constant 1993 dollars.)*

*According to the Aerospace Industries Association and other analysts, US investment in aerospace R&D is being undermined by small defense budgets, which slow the pace of technological innovation, and reduced Pentagon orders for high-technology products, among other factors.*

Source: Aerospace Industries Association Newsletter, October 1995, Volume 8, No. 4.

# Aerospace World

By Suzann Chapman, Associate Editor

## Resolving the Fighter Shortage

The Air Force has enough A-10s, F-117s, and F-15Cs, but it faces a shortage of F-15Es and F-16s, according to Gen. Joseph W. Ralston, commander of Air Combat Command.

General Ralston told defense reporters on November 2 that USAF has no attrition reserve for the F-15E dual-role fighter. In addition, he said, the Air Force will be short 120 F-16 multirole fighters in 2010 unless it takes corrective action.

The General said he expects USAF to include a solution to the fighter-deficit problem in its Fiscal 1998 program objective memorandum but that no decisions have been made.

A simple solution, said General Ralston, would be to convert existing air-superiority F-15s to a multirole configuration. Because the F-15 originally had air-to-ground capability—and necessary software that could be reinstalled—such a conversion would pose no major technical problem, he said. The Air Force would also have to fund pylons, bomb racks, and support equipment.

USAF could fund a life extension program for F-16s. Before it took that step, however, it would have to calculate whether it would be better to buy new F-16s, he continued.

The ACC leader said USAF also looks to the Joint Advanced Strike Technology program for an F-16 replacement. He added that USAF and Navy versions of this aircraft still have requirement differences.

General Ralston said that he is not pessimistic and that resolving those differences is not a "fundamental problem." He called the JAST program "critically important."

## Multiyear C-17 Buy Cuts Cost

Offers from two major subcontractors fall in line with the Pentagon's intention to review a multiyear buy as a potential cost-cutting move for the remaining production run of the C-17.

Under Secretary of Defense Paul G. Kaminski, DoD's top acquisition official, disclosed that the department would consider multiyear procurement for the nation's newest airlifter when



USAF photo by 1st Lt. Sonja Anne H. Beaudoin

*Despite the rain, A1C Stacy Scott (right), Amn. Colin Van Zile (left), and Amn. Joe Garza of the 100th Civil Engineer Squadron, RAF Mildenhall, UK, put the finishing touches on tents at Aviano AB, Italy, which has served as host to Operations Deny Flight and Deliberate Force participants.*

he announced the Defense Acquisition Board's airlift decision at a November 3 press briefing. He said the Defense Department wanted to review multiyear proposals as an alternative to year-to-year acquisition.

"Our opinion is that we're likely to get more attractive costs by looking at these multiyear commitments," said Dr. Kaminski. "If we do not get sufficiently more attractive costs, we won't exercise those options."

The DAB's decision, approved by the Secretary of Defense, was to purchase an additional eighty C-17s. [See "Aerospace World," December 1995, p. 14.]

Pratt & Whitney, maker of the C-17's engines, made the first publicly revealed price reduction—ten percent on its F117-PW-100 turbofans.

Northrop Grumman officials signed an agreement with McDonnell Douglas, the prime contractor, to slash about thirty-five percent from the cost of C-17 components. Northrop Grumman produces the engine nacelles, tail sections, and aerial refueling panels for the Air Force's newest airlifter.

## Where USAF Will Bed Down C-17s

The 172d Airlift Group, an Air National Guard unit in Jackson, Miss., will receive six of the total 120 C-17s the Pentagon plans to buy, according to a November 21 Air Force announcement. It became the fourth USAF unit to get C-17s.

With this announcement, the Air Force completed its planned disposition of the new aircraft.

The service earlier had revealed that it would deploy the following:

- Forty-eight C-17s to Charleston AFB, S. C., home of the 437th Airlift Wing.

- Forty-eight C-17s to McChord AFB, Wash., home of the 62d AW.

- Eight C-17s to a prospective C-17 training unit at Altus AFB, Okla., which belongs to Air Education and Training Command.

USAF also announced that the ten remaining C-17s would be apportioned to these four C-17 units as backup aircraft.

## B-1Bs: Sleek and Formidable

Despite criticism of the B-1B bomb-

## Defense Bill Swings on Bosnia Deployment

President Clinton accepted the \$243 billion defense appropriations legislation on November 30 with the understanding that Congress would provide funding from the bill to support the Bosnia-Herzegovina peacekeeping mission. However, he also noted his continued reservations about the defense bill's "excessive spending."

In a prepared statement announcing his decision, he said that Congressional leaders had agreed to fund the upcoming troop deployment and "other efforts to secure peace in Bosnia." "The pressing demands of peace and of our military servicemen and -women compel my approval of this measure," he added.

Although the statement did not mention specific programs, the President plans to send to Congress legislation to rescind funding for "projects that are not currently needed for our defense." The Administration has repeatedly stated it does not need extra funding for B-2 Stealth bombers.

The statement did cite the President's concern with the legislation's provision to restrict abortions at overseas military hospitals. It also stated his intention to make his own interpretation of Section 8117, which calls for increased participation by Congress before the President can authorize international peacekeeping or humanitarian assistance.

At press time, the defense bill was the seventh Fiscal 1996 appropriations bill the President had accepted. Another six remained undecided. The \$243 billion does not include military construction, which is appropriated separately.

er and the composite wing concept, Bright Star '95, a multinational exercise flown over the Egyptian desert from October 27 to November 19, demonstrated their value for the 366th Wing.

The composite wing, headquartered at Mountain Home AFB, Idaho, flies F-15s, F-16s, B-1Bs, and KC-135s.

The bombers are stationed at Ellsworth AFB, S. D., but the wing's assets fly together on a daily basis. Thus trained, "It's easier for us to get up and go and not miss a beat in combat preparation," said Col. (Brig. Gen. selectee) William A. "Ken" Peck, wing commander.

Members of units flying a single type of aircraft need time to get used to flying with another type. The composite wing doesn't need to make those kinds of adjustments, explained Colonel Peck, adding that the wing goes into battle as the well-coordinated core air force a theater commander must have.

He also credited the wing's B-1Bs, which can deliver 42,000 pounds of bombs, with adding a new dimension to the unit. He said that the wing "can bring a lot more firepower to bear on the enemy in a shorter period of time."

The B-1B multiplies the wing's ability to wage war, said Lt. Col. Tom Hopper, the 34th Bomb Squadron commander.

"One of the great assets of the B-1 is that it really fits well into the com-

posite force," he said, "because we can fly at the same altitude, the same speed, and [in] the same areas as the fighters."

### Promotion Rates Improve

As the Air Force had projected, enlisted promotion rates have begun to rise now that the Air Force has completed about ninety percent of its drawdown.

For the first time since 1991, all

grades have exceeded the desired minimum rates, according to personnel officials.

All 1995 rates are higher than in 1994, and 1996 rates should equal 1995's, said CMSgt. Constantine Sgagias, Airman Promotions Branch chief at the Air Force Personnel Center, Randolph AFB, Tex. "Since the force constantly changes," he added, "I can't tell people the rates will be higher [in 1996], but they could be."

In seven of the twenty-five promotion cycles held from 1991 to 1995, the Air Force did not promote at even its minimum rates. Those seven occasions included four reduced rates for chief master sergeant, two for senior master sergeant, and one for staff sergeant.

CMSgt. James T. Tanner, Jr., USAF's chief of Enlisted Evaluation and Promotion Policy, explained that the service did not meet its minimum rates because it had made a "conscious decision not to use enlisted reduction in force and/or Selective Early Retirement Boards to meet the targets" for the rapid cuts needed to meet Congressionally mandated end strengths.

### The Furlough Game

When the government shut down on November 14, some thirty-five percent of the Air Force civilian work force—about 76,000 people—had to leave work. They were deemed "non-essential." The remainder of USAF's civilian personnel, about 116,000, had



Assembly of USAF's first F-22 fighter started on schedule November 2 as Lockheed Martin workers in Marietta, Ga., began connecting elements of the nose landing gear wheel well, part of the forward fuselage. In all, the well consists of 168 parts.

F-22 Team photo by John Rossino

to continue to work. They were considered "essential."

Uniformed personnel and essential civilians had to work, but most did not know when their next paycheck would arrive. (USAF military members had received their first November checks.) They did know, however, that at some point they would be paid.

In the past, Congress had paid furloughed workers for time lost, but no guarantee of that was given this time around. The number of non-essential civilians would have grown if the furlough had lasted longer, as the previous year's balance in the Defense Business Operating Fund went down.

The furlough ended November 19, with passage of a one-day spending bill. The President and Congress then agreed to another bill November 20 that kept the government running until December 15. They also agreed to pay the furloughed workers.

On November 30, the President allowed the defense appropriations bill to become law automatically by not vetoing or signing the measure. With that move, the DoD work force is free from the furlough threat for the rest of this fiscal year.

### Ending the Source Tax?

The infamous "source tax" finally may be headed for oblivion. In late fall, the House and Senate approved measures to prohibit states from imposing taxes on the retirement income of their former residents. The protective measures would cover pensions and tax-deferred retirement accounts.

The Senate version of the legislation, sponsored by Sen. Harry M. Reid (D-Nev.), passed that chamber on October 27, the final day of debate on the budget reconciliation bill.

Rep. Barbara F. Vucanovich (R-Nev.), who has sponsored anti-source tax legislation for seven years, succeeded in getting her latest bill passed by the House Judiciary Committee on October 31. Contrary to previous efforts, her new bill does not include a \$30,000 cap on the amount retirees could protect.

For many legislators who backed the recent measures, a critical issue is the fact that, under current state laws, many retirees end up paying taxes on pension income in two states. Source tax supporters say it is unfair to prohibit states from collecting taxes on money earned in their states.

For their part, retirees argue that they paid for state services while they were working and should not have to



*Amid threatening weather, nineteen F-11Fs rolled down the Cannon AFB, N. M., runway November 2 at twenty-second intervals during a mass aircraft launch exercise. Capt. Will Reese of the 524th Fighter Squadron said that such bad weather would have scrubbed the mission for other USAF aircraft.*

divert money from their limited pensions to pay for services they no longer receive.

### Logistician Specialty Created

Broadly skilled logistics officers have become increasingly valuable to the Air Force. To generate more of them, USAF has developed a new breed—the logistician. The service officially merged five logistics specialties into one, beginning at the lieutenant colonel level, creating the logistician Air Force Specialty Code (AFSC) 21LX, on October 31.

In the future, young logistics officers will seek experience in two of five logistics disciplines—aircraft maintenance/munitions, space and missile maintenance, supply, transportation, or logistics plans—as the basis for attaining the logistician AFSC. Currently, out of some 4,700 logistics officers, only 716 have two AFSCs.

The impetus behind the consolidation was the overall Air Force reorganization. The move to objective wings created one logistics group where previously there had been separate units, thus heightening the need for more broadly based officers.

"The key thing is that the AFSC [change] should suggest to young officers that we want them to be very good in a specialty when they are company grade officers, but by the time they are lieutenant colonels and colonels we expect them to be able to do a broad range of logistics jobs," said Lt. Gen. George T. Babbitt, Jr., USAF's deputy chief of staff for Logistics. He added, "As I came up in

my career, the logistics officers who were most successful had a broader view as senior officers."

However, the General also cautioned against racing to get more than two specialties. "This is not a square-filling exercise," he said.

In line with the new AFSC, the Air Force plans to provide bridge courses, under development by Air Education and Training Command, for those logistics officers with six to eight years of service who plan to work in a second discipline. At the major level, an officer will be eligible for an advanced logistics officer course, intended to begin the formal transition from specialist to logistician.

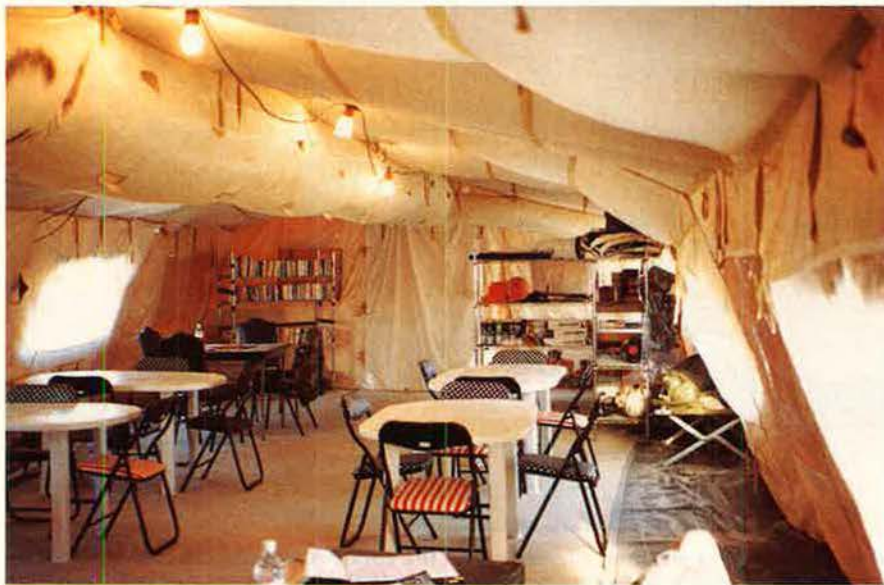
### Acquisition Nominee Testifies

Arthur L. Money, nominated by the President to be the next assistant secretary of the Air Force for Acquisition, told the Senate Armed Services Committee that the "opportunity for [acquisition] reform is greater than ever." Mr. Money, vice president and deputy general manager of TRW, testified November 14 at his confirmation hearing.

If confirmed, Mr. Money would replace Clark G. Fiester, who was killed in a C-21 crash in April 1995, as the top USAF acquisition official.

He also pledged to work with Congress "in a spirit of absolute candor" about the "good news and the bad." He intends to focus on three major areas:

- Analyzing USAF long-range strategic planning to prepare the service for the twenty-first century, as well as



*The 347th Wing, Moody AFB, Ga., and 78th Fighter Squadron, Shaw AFB, S. C., formed on Bahrain in mid-October to demonstrate USAF's mobilization ability. It took four days to set up about sixty tents, including this one for recreation, but their aircraft began Operation Southern Watch patrols immediately.*

"creating and forwarding the acquisition reform actions."

- Upgrading education and skills of USAF acquisition personnel.
- Ensuring that Defense Department "space architecture integrates space systems, eliminates duplication, and provides flexible and robust systems."

#### **First Command Board Meets**

In an attempt to level the playing field for colonels and colonel selectees who are vying for relatively few command positions, the Air Force will hold its first selection board this month, according to personnel officials.

There are approximately 450 wing and group command positions service-wide, but only about one-third to one-half of them become vacant each year. Previously, each major command selected people from within to fill its vacancies, usually overlooking qualified candidates from outside.

The new selection board will identify those officers who have demonstrated the greatest potential for leadership, said personnel officials.

To start the process, each major command will develop its projected vacancies for May 1, 1996, through April 30, 1997. Those vacancy listings will include such broad categories as fighter, tanker, airlift, space and missile, logistics, medical, and communications because varied job requirements will determine how many

officers of which background are needed.

The selection board will then determine the number of candidates needed in each field based on those projections. The board will cushion the number with an additional twenty percent "to ensure against unforeseen problems."

The board's nominations will then go to the Air Force Chief of Staff for approval. Once the Chief of Staff approves the list of candidates, each major command will select from those candidates to fill its projected vacancies. The Chief of Staff will also have final assignment approval.

Although the size of the board is not final, it will be chaired by a four-star general and include three- and two-star generals.

#### **Space, Missile Grads to Choose Assignments**

The first class of space and missile operators able to take advantage of Air Force Space Command's new assignment policy graduated October 20. Unlike their predecessors, the forty-three officers could choose their assignments based on their class standing.

Prior to Undergraduate Space and Missile Training Course 95-10's graduation, AFSPC had simply told its new operators what their first assignment would be. According to Maj. Mark Landers, space operations training flight commander for AETC's 392d Training Squadron at Vandenberg

AFB, Calif., the new matrix ranking system places space and missile training more in line with pilot training, whose graduates have used the class-standing system for years.

#### **Breakthrough in Skin Repair**

US Air Force Academy engineers teamed with a Dutch aerospace engineer to develop a new advanced composite bonded repair process that they believe will extend the life of aging aircraft and provide significant savings over traditional reskinning methods.

The American and Dutch team recently designed and installed two advanced composite bonded repairs to cracks in the skin on the fuselage "crown" of a twenty-six-year-old C-5A Galaxy at Kelly AFB, Tex. The "breakthrough solution" for corrosion and fatigue cracking—the key life-limiting factors in USAF's aging transport fleet—culminates five years' work by USAF and Delft University of Technology located in the Netherlands.

The USAFA engineers—Academy Project Director Maj. Rob Fredell and Capt. Jim Marr—worked with engineer Cornelius Guyt, on loan to the Academy from Delft. Major Fredell worked on his Ph.D. at Delft, which in 1980 invented the fatigue-resistant fiber metal laminates that are used today in production of the C-17 Globemaster III.

"We worked extensively on the analysis and laboratory testing of the problems of bonded crack repair during my three years in Delft," said Major Fredell. He then proposed the process to engineers at Kelly's San Antonio Air Logistics Center, which maintains the C-5 fleet and helped carry out the repair demonstration.

Other engineers from Wright Lab at Wright-Patterson AFB, Ohio, contributed a key technology for the project—surface preparation. Wright Lab recently developed a process to help ensure long-term environmental durability for the bonded repair.

The new process is under review for service-wide implementation. The repaired C-5 returns to service early this year.

#### **AFRES Launches InfoBase**

It took five years, but now Air Force Reserve members and civilian employees can forget those endless hours spent updating and retrieving information from paper copies of Air Force publications. They are now online.

Reserve officials estimate their new electronic publishing system, nick-



named InfoBase, will save more than \$8 million annually. It provides immediate access to all standard, unclassified Air Force, AFRES, and gaining major command publications via desktop computers. All that is needed is a modem or hard-wire connection directly to computer network servers at major unit locations. InfoBase "posts" new and revised publications electronically.

### DoD Meets Child-Care Needs

A summer study of military child-care centers showed that the services handle about ninety-three percent of requests for hourly child care, according to survey results released in November. The Pentagon tracked requests for care from June 12 to July 11, 1995, with responses from nearly 270 child-care centers worldwide.

During the study, the centers received more than 48,000 requests for hourly care and filled about 45,000, placing children in centers or private homes. Of the seven percent that did not receive care, nearly one-third of the parents had refused to leave their child or children in a private home with a certified care provider.

However, the survey results may not provide a true picture of the hourly child-care requirements, according to Linda K. Smith, the Pentagon's director of Family Policy.

She said that because they conducted the survey in the summer, when teenage babysitters are available, the number of requests was probably reduced. She also said that



Photo by Robert F. Dorr

*This T-1A Jayhawk from the 86th Flying Training Squadron, Laughlin AFB, Tex., flying over the Big Bend region of the state near the Mexican border, November 2, helped mark the 100,000th hour of service for the Raytheon Aircraft trainer. USAF began flying T-1As in 1992.*

people who had previously been turned away from the programs might not return to make new requests.

The Defense Department plans to conduct another survey during the school year.

### Twenty Years of Savings Recognized

It has been around for so long that most active-duty members cannot envision getting their pay any other way. But the direct-deposit scheme came to life just twenty years ago,

the brainchild of three men who were recognized in November by the Treasury Department.

Brig. Gen. Edwin S. Wittbrodt, USAF (Ret.), and two Defense Finance and Accounting Service (DFAS) associates, Ned Sworts and Art Samson, were honored for "conceptualizing and developing the Direct Deposit Program, the first electronic funds transfer [EFT] system."

Based on their concept, the Air Force Accounting and Finance Center in Denver, Colo. (now the DFAS-Denver Center), distributed the first electronic paychecks in 1974. Two years later, the Treasury Department sent the first federal benefit payments electronically.

The system helped usher in the electronic era for US financial institutions, as well. According to DFAS, determining the exact amount of cost savings is not possible because of the sweeping nature of the reforms the program created. In 1974, the Air Force alone estimated savings at \$400,000 per month. The Treasury Department today calculates that direct deposit and other EFT programs have saved taxpayers "billions of dollars."

### Forty-Year-Old Mystery Solved

The Cold War was not always "cold." Those who studied the circumstances surrounding the disappearance of an RB-29 and its aircrew, long classified "presumed dead" after a "nonbattle accident," found that "hot" spots existed.

When opened, the archives of Soviet documents revealed to research-



*The Navy's new F/A-18E-F "Super Hornet" takes off on its first flight November 29. This latest version of the McDonnell Douglas aircraft is twenty-five percent larger, with longer range, greater endurance, increased weapons- and fuel-carrying capability, and improved survivability.*

ers in 1993 that two MiG-15 fighters shot down the 91st Strategic Reconnaissance Squadron aircraft and its crew on June 13, 1952, during a mission over the Sea of Japan. After reviewing specifics of the mission and the shutdown, the Air Force reclassified the disappearance as a combat action.

Last September, the service authorized posthumous Purple Heart and Distinguished Flying Cross medals to the crewmen's next of kin. Members of today's descendant of the 91st SRS, the 91st Intelligence Squadron at Fort Meade, Md., arranged a formal military presentation, which eight families of the aircrew attended.

The crew of RB-29 were Maj. Samuel N. Busch, Capt. Samuel D. Service, Capt. James A. Sculley, 1st Lt. Robert J. McDonnell, MSgt. William R. Homer, MSgt. David L. Moore, SSgt. William A. Blizzard, SSgt. Miguel W. Monserrat, SSgt. Eddie R. Berg, SSgt. Leon F. Bonura, SSgt. Roscoe G. Becker, and A1C Danny H. Pillsbury.

#### Al Jaber Has "Come a Long Way"

November 2 marked the first anniversary of Al Jaber AB in the Kuwaiti desert, just forty-five miles from the Iraqi border. It is the most forward fixed-wing facility in southwest Asia. Its 75th Fighter Squadron A-10s fly every day and stay on thirty-minute alert whenever other allied aircraft fly in the area.

Although it still has tents and community latrines, it is a far cry from the initial bare-base condition, according to CMSgt. Randy Brown, who was there in the beginning.

He said the troops were initially housed in an old Kuwaiti schoolhouse, with no heat and a poor sewage system. They ate meals, ready-to-eat every day. There was limited recreational equipment and only one television, which the Kuwaitis monitored. There were no phones or mail. The troops had only one shower and three toilets. Morale was low.

One year later, the Chief said the troops live in tents furnished with TVs and VCRs. They have centralized showers and latrines. There is a new food contract, and government-purpose shelters are used as recreation centers. Morale is excellent.

#### Oldest Active Base Closed

Plattsburgh AFB, N. Y., closed its doors as an active military installation on September 30, 1995, as part of the 1993 base realignment and closure actions. The base had operated B-47s, KC-97s, B-52s, KC-135s, FB-111s, and finally just KC-135s. It also supported twelve Atlas missile silos, rushed into service during the Cuban missile crisis.

The Air Force broke ground for the base forty-one years ago on January 29, 1954. Before that, the Navy had received the Plattsburgh Barracks from the Army in February 1944. The Army had maintained a military force

in the barracks since just after the War of 1812, when the town of Plattsburgh sold 200 acres to the federal government to keep the military there.

However, the base dates its military history back nearly 400 years to colonial times, when "Lake Champlain was part of the 'path of empire' in northern New York and Canada," when "it was used by the French and British and later by the Americans to move men and supplies," according to a press release. The area was also the site of battles during the American Revolution and the War of 1812.

#### USAF Wins Energy Awards

The Air Force took five of the sixty-seven awards presented to federal agencies November 3 as part of the 1995 Federal Energy and Water Management Awards program.

MSgt. Gary Gentz, 18th Civil Engineering Squadron, Kadena AB, Japan, won an individual award for his efforts to revitalize an old Okinawan water plant to supply water to Kadena, thus eliminating long periods of rationing.

David M. Sumner, a community planner at Davis-Monthan AFB, Ariz., won an award for his plan to plant trees strategically to shade air-conditioning units in the base housing area, thus reducing energy use by ten to thirty percent. The program became the national model for other federal installations.

The 12th Flying Training Wing at Randolph AFB, Tex., received an award for implementing the Air Force's first shared energy savings contract to replace the base's almost 27,000 lighting fixtures with state-of-the-art technology, saving millions of dollars.

Helen Lerner, Donald J. Loureiro, Charles Meshako, Warren P. Savignano, and Sean Shayan of the 66th Civil Engineering Squadron, Hanscom AFB, Mass., were recognized for teaming with the local power company to install nearly \$300,000 worth of energy conservation measures, securing \$90,000 in direct rebates from the power company, and cutting energy spending by \$124,000.

Capt. Jay D. Glascock, Steven Klimm, Michael J. Noret, and Clifford E. Richardson of the 377th Civil Engineering Squadron at Kirtland AFB, N. M., won an award for cutting Kirtland's water consumption by ten percent, saving 150 million gallons and \$75,000.

#### World War II Memorial Site Approved

A significant step toward realiza-

## Senior Staff Changes

**RETIREMENTS:** M/G Lewis E. Curtis III, B/G James L. Higham.

**CHANGES:** M/G John P. Casciano, from Cmdr., AIA, and Dir., Jt. Command and Control Warfare Ctr., Kelly AFB, Tex., to Ass't C/S, Intel., Hq. USAF, Washington, D. C., replacing AFRES M/G A. Bowen Ballard . . . B/G Howard J. Ingersoll, from Cmdr., 60th AMW, AMC, Travis AFB, Calif., to Vice Cmdr., Hq. AFSOC, Hurlburt Field, Fla., replacing retired B/G James L. Higham . . . B/G David R. Love, from Cmdr., 375th AW, Hq. AMC, Scott AFB, Ill., to Cmdr., 97th AMW, AETC, Altus AFB, Okla., replacing B/G George N. Williams . . . B/G George N. Williams, from Cmdr., 97th AMW, AETC, Altus AFB, Okla., to Cmdr., 60th AMW, AMC, Travis AFB, Calif., replacing B/G Howard J. Ingersoll.

**SENIOR ENLISTED ADVISOR (SEA) RETIREMENT:** CMSgt. Thomas K. Sanford.

**SEA CHANGE:** CMSgt. Annette M. Barber, to SEA, Hq. AETC, Randolph AFB, Tex., replacing retired CMSgt. Thomas K. Sanford.

**SENIOR EXECUTIVE SERVICE CHANGES:** James Barone, to Exec. Dir., Sacramento ALC, AFMC, McClellan AFB, Calif., replacing Keith Dumas . . . Samuel R. Hilker, to Principal Dep. Staff Judge Advocate, Hq. AFMC, Wright-Patterson AFB, Ohio, replacing Anthony Perfilio . . . Kenneth I. Percell, to Dir., Technical and Industrial Support, Sacramento ALC, AFMC, McClellan AFB, Calif., replacing Frank Tuck. ■

tion of a national monument to World War II veterans came with approval by the National Capital Planning Commission of the memorial's location on a 5.5-acre site between the Lincoln Memorial and the Washington Monument.

The next step in the seven-year process, which began when President Clinton signed Public Law 103-23 on March 25, 1993, is to select a design, which could take up to two years, said a project officer. According to current plans, the completed memorial would be dedicated in 2000. Funds for the project must come from private or corporate contributions. However, proceeds from World War II commemorative coin sales have provided a base of \$5 million.

#### News Notes

■ A Titan IV Centaur successfully carried the second Milstar satellite into space from Cape Canaveral AS, Fla., November 6. This was the third 1995 launch from the Cape for the Lockheed Martin-built Titan IV, the nation's largest expendable booster.

■ USAF's Aeronautical Systems Center at Wright-Patterson AFB, Ohio, now has an unmanned aerial vehicle (UAV) system program office—the Joint Endurance UAV SPO—to manage the Tier II Plus and Tier III Minus UAVs and to work with Air Combat Command's recently created UAV unit, the 11th Reconnaissance Squadron at Nellis AFB, Nev.

■ Shortly after celebrating its first year as part of the composite wing at Moody AFB, Ga., the 52d Airlift Squadron reached another milestone by "zeroing out." The C-130 unit used the exact number of hours allocated for flight training—a feat that takes some squadrons several years to accomplish.

■ The Secure Communications Integration System, developed by Electronic Systems Center, Hanscom AFB, Mass., achieved operational acceptance seventy-eight days ahead of schedule, according to an ESC release. SCIS uses jam-resistant secure communications lines to provide reliable data transfer between US Space Command operations at Cheyenne Mountain AS, Colo., and remote locations worldwide.

■ The last of fifty-six KC-135Qs in the Air Force, #58-0099, left Fairchild AFB, Wash., in early fall with a tell-tale trail of black smoke and a thunderous roar, on its way to be refurbished as a KC-135T. The aircraft will feature the new CFM56 engines now seen on KC-135Rs but will retain its special ability to isolate two separate fuel types within its fuel cells,

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an adaptation needed to refuel SR-71s.

■ Venerable aircraft are increasingly common in USAF. The latest is a thirty-two-year-old C-130, #63-7837, from the 36th Airlift Squadron, Yokota AB, Japan. It reached a total of 25,000 flying hours on September 28. Over the years, it has operated from bases in the continental US, Taiwan, Alaska—where it suffered heavy belly, fuselage, and landing

gear damage—and finally back to Asia in 1986. It now sports a longevity plaque above the left passenger door.

■ USAF selected 632 of 3,850 eligible senior master sergeants for promotion to chief master sergeant for an overall 16.42 percent selection rate in the 1995 cycle.

■ A 1995 selection board chose 3,123 out of 3,146 lieutenants for promotion to captain. Among those were 3,111 line officers selected from

3,123 in the promotion zone, for a ninety-nine percent selection rate, and eight line officers selected out of nineteen above the promotion zone for a forty-two percent rate. All four eligible chaplains were selected.

■ Another 1995 board selected 3,099 captains out of 3,613 line officers, chaplains, and health professionals for regular Air Force appointments. The selection rates for line officers were ninety-five percent each for pilots and navigators and eighty-five percent for nonrated officers. The rate for chaplains was eighty-five percent and seventy percent for health professionals.

■ As of November 16, the voluntary pilot recall program begun in April was still open, but in early 1996 the Air Force will reevaluate its need for additional fighter pilots in instructor pilot positions. Of the 202 applications USAF has received from the Air Force Reserve, Air National Guard, and former pilots who have separated but still retain their reserve status, the service has made offers to ninety-four officers. Forty-seven of those accepted the offer, twenty-three declined, and twenty-four were pending.

■ Air Force Space Command's eight-

person Security Police team won first place in the handgun and combat rifle marksmanship events and the Defender Challenge combat tactics exercise during the fourteenth annual Peacekeeper Challenge at Kirtland AFB, N. M., in mid-September.

■ An AFSPC financial team from Peterson AFB, Colo., took two first-place spots to become the overall winner during the 1995 Top Dollar competition, held at Fairchild AFB, Wash., September 17-23. Top Dollar tests each seven-member team's ability to conduct budget, financial services, accounting, and contracting in contingency or wartime settings.

■ The AFRES Band's ten-member "Reserve Generation" group's multimedia musical show, promoting an antidrug message and seen by some 80,000 young people across America, won the 1995 DoD Military Services Community Drug-Awareness Award.

■ USAF's 1995 Lance P. Sijan Leadership Award winners are Lt. Col. Janice K. Rauker, former commander of the 817th Munitions Support Squadron, Büchel AB, Germany; Capt. Christopher B. Ayers, 4th Space Warning Squadron, Holloman AFB,

N. M.; SMSgt. Arthur L. Campbell, 654th Combat Logistics Support Squadron, Tinker AFB, Okla.; MSgt. (then TSgt.) Richard W. Downing, 12th Operations Support Squadron, Randolph AFB, Tex.

■ DoD presented the Commander in Chief's Special Recognition for Installation Excellence Awards in November to the 20th Civil Engineer Squadron and 78th Fighter Squadron, both at Shaw AFB, S. C.

■ On November 2, Lt. Col. Greg Feest, 9th Fighter Squadron commander at Holloman AFB, N. M., became the first operational Air Force pilot to log 1,000 hours in the F-117A Nighthawk fighter. He also has 130 combat hours in the F-117 and flew the opening missions of both Operations Just Cause and Desert Storm.

■ The AGM-130 System Program Office, Eglin AFB, Fla., was one of twenty-four organizations to win an Environmental Protection Agency award in October. The EPA recognized the Air Force Materiel Command unit for its work in eliminating 100 percent of the ozone-depleting chemicals (ODCs) formerly used in the manufacturing of AGM-130 rocket motors.

■ AFMC's Aerospace Guidance and



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Metrology Center at Newark AFB, Ohio, also has developed a program to eliminate ODCs from its work in cleaning and repairing missile guidance systems and aircraft navigation systems. The Newark program was one of six federal programs that won a 1995 Innovations in American Government Award by the Ford Foundation and Harvard University's John F. Kennedy School of Government.

■ Laughlin AFB, Tex., and Hanscom AFB, Mass., are the first recipients of the Commander's Award from the Air Force Recruiting Service for their outstanding support of the "We Are All Recruiters" program.

■ The 341st Recruiting Squadron at Lackland AFB, Tex., became USAF's top recruiting squadron for 1995, exceeding its enlistment goals for the second straight year.

■ Col. Walter Stewart, USAF (Ret.), received the Distinguished Service Cross on October 21, more than fifty years after he led a bombing raid on a Ploesti, Romania, oil refinery during World War II. His original DSC was given mistakenly to another pilot, which Colonel Stewart did not realize until he saw a 1993 television documentary, "Wing and a Prayer."

■ An Air Force suggestion led to a Defense Department policy change for space-available travel privileges for family members. The new policy, which took effect October 20, allows dependents to travel within the US with their sponsor on emergency leave and on permissive temporary-duty house-hunting trips for permanent change of station moves. It also allows dependents to travel without their sponsor overseas, when on a command-sponsored overseas assignment.

■ When DoD recently honored six-



**Lt. Col. Greg Feest, 9th Fighter Squadron commander, arrives in a hangar at Holloman AFB, N. M., November 2 after becoming the first operational Air Force pilot to log 1,000 hours flying the F-117A (see "News Notes," p. 18).**

USAF photo by SRA Brian K. Wear

teen employees who have disabilities, among them were four people employed at Air Force installations: Gene Eary, a base exchange sales associate at Patrick AFB, Fla.; Joel T. Gordon, a Defense Commissary Agency accounting technician at Little Rock AFB, Ark.; Craig J. Hegemann, an electronics engineer at the Defense Information Systems Agency at Scott AFB, Ill.; and Kathleen B. O'Connell, an Air Force contracting officer at Peterson AFB, Colo.

■ Col. (Brig. Gen. selectee) John H. Campbell and his wife, Marky, won the Gen. and Mrs. Jerome F. O'Malley Award, named after the former Tactical Air Command commander and his wife, Diane, who were

killed in an aircraft crash April 20, 1985. The award recognizes a wing commander and spouse who "exemplify the highest ideals and positive leadership in a key Air Force position." Colonel Campbell is the former 31st Fighter Wing commander at Aviano AB, Italy, the home base for Deny Flight operations.

■ Air Force Services units have a new motto: "Combat Support and Community Service," which reflects their mission of providing "life-sustaining and morale-enhancing" combat support to fighting forces and serving the community by improving the quality of life, according to Brig. Gen. Patrick O. Adams, the director.

#### Obituaries

**Ivonette Wright Miller**, niece of the Wright brothers, died October 5 at her home in Dayton, Ohio. The ninety-nine-year-old had been a frequent visitor to Wright-Patterson AFB, Ohio, near Huffman Prairie, the site of the Wright brothers' early flying. She took her first flight in 1911 in a Wright B Flyer and her last at age ninety-five in 1991 in a modern-day replica of the famous aircraft.

**Maj. Gen. John D. Stevenson** died November 2 in his home at Augusta, Ga. The eighty-one-year-old World War II veteran commanded the first all-jet bomber force capable of carrying out a nuclear strike from England in the 1950s. After retiring from the Air Force in 1966, he worked with NASA, becoming director of Mission Operations for the Manned Space Flight Office in 1967. ■

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**USAF is already thinking about the capabilities it will field thirty years from now.**

# The Air Force Today and Tomorrow

By John A. Tirpak, Senior Editor

## Secretary Widnall

### The New Way of War

DON'T wait for the "coming" Revolution in Military Affairs, because it's already happened, and the Air Force led it, Air Force Secretary Sheila E. Widnall told attendees at AFA's Los Angeles symposium in October.

"There already was a revolution," Secretary Widnall asserted. "Warfare changed. In short, 'Been there; done that.'"

The Air Force, she said, anticipated the new way of war—exemplified by "stealth, global mobility, long-range precision strike, information warfare, and the effective use of space." The Air Force was ready for it because of "vision, systematic planning and investing in our people, and the right modernization programs," Secretary Widnall observed. "It . . . was no accident, and it was not dumb luck."

Not content to rest on its Persian Gulf War and Cold War laurels, USAF is shaping its vision for the next thirty years in an effort to anticipate future revolutions in warfare and to be ready for threats that may not even exist yet.

"In the last year alone, we have published 'Global Presence,' distributed Air Force Executive Guidance, and worked on [a study called] 'Air Force 2020' to help us focus beyond the horizon," she said. By the end of 1995, the Secretary added, the Air Force Scientific Advisory Board was expected to complete a study called "New World Vistas," which, she said, "will provide a glimpse of the major technologies affecting air- and space-power for the next several decades."

Secretary Widnall noted the Air Force's establishment of a temporary position—the special assistant to the chief of staff for Long-Range Planning—"to focus and synthesize our efforts at molding ourselves for the next century."

The planning is being done with an unwavering eye on USAF's "core competencies," meaning air superiority, space superiority, precision weapons employment, global mobility, and information dominance, she continued.

Each of the core competencies has a hardware program or programs associated with it, "so we can turn those plans into weapons for future warfighters," the Secretary explained. In



Secretary Widnall



General Fogleman



General Ralston



General Rutherford



Acting Assistant Secretary Druyun



General Ashy



General Lorber

air superiority, for example, it's the F-22 fighter; in space, it's the Space-based Infrared system, the Evolved Expendable Launch Vehicle, Milstar, and the Global Positioning System.

For future precision employment, the Joint Direct Attack Munition (JDAM) is an "acquisition success story" that will be ready ahead of schedule and at a far lower cost than expected, she said. In global mobility, the C-17 has made "the comeback of the decade," she asserted. In information dominance, the first E-8 Joint Surveillance and Target Attack Radar System (Joint STARS) squadron will be operational in less than two years. The first Air Force unmanned aerial vehicle (UAV) squadron has been established at Nellis AFB, Nev., the Secretary observed, and USAF "has just published 'Cornerstones of Information Warfare,' laying the groundwork for a new paradigm in information operations."

Among the "seeds" being planted for future capability is the airborne laser (ABL). Secretary Widnall said the ABL may be in the same "league" with the jet engine, stealth, the microchip, and the atomic bomb as a breakthrough that could "revolution-

**USAF's success in coping with the Revolution in Military Affairs "was no accident, and it was not dumb luck."— Secretary Widnall**

ize . . . our operational concepts, tactics, and strategies."

The ABL "attacks at the speed of light, costs about \$1,000 per shot, will kill chemical and biological weapons over enemy territory, and frees up many of our attack aircraft from 'Scud-hunting' duty for other war-fighting requirements," she explained. "The potential is staggering." [See "The Airborne Laser," p. 54.]

Such seeds will never grow, how-

ever, if they are "strangled by the weeds of obsolescent procurement practices, debilitating acquisition regs, and unnecessary oversight," Secretary Widnall asserted.

"We've attacked acquisition reform with a vengeance," she said, cutting paperwork and unneeded steps wherever possible. She proudly noted that sixty-eight percent of acquisition policy documents or policies have been eliminated, and she detailed a long list of programs on which paperwork, milspecs, or personnel have been reduced or eliminated completely, saving money or permitting the program in question to be accelerated.

Secretary Widnall also asked for industry's help in eliminating the barriers between the "military" and "commercial" industrial bases. She asserted that "it is clear this nation can only afford a defense[-specific] industrial base in those areas where there is no commercial activity."

#### General Fogleman

##### The Air Force in 2025

It is time for the Air Force to "take some bearings" on where it is and what its priorities ought to be for the coming years, Air Force Chief of Staff Gen. Ronald R. Fogleman told symposium attendees.

"This is an unusual time in our history," he said, "because it offers a chance at a period of relative stability," given that the American defense drawdown is "largely over" and that the United States faces "no direct threats to our national security."

He foresees no further base closures until after the turn of the century and feels that the sorting out of roles and missions among the services has largely been accomplished. Moreover, the American people are "supportive of defense," and the long decline in military spending appears to be at "pause."

Though the contraction in the uniformed force will be completed over the next two years without further "catastrophic" involuntary separations, the news is not as good in the Air Force's civilian work force. There, he said, USAF has already taken most of the "easy" cuts—workers nearing retirement or willing to accept incentive packages—but 30,000 more will have to go "over the next couple of

**The Air Force must "avoid attempts to package airpower into neat little stovepipes based on yesterday's thinking."— General Fogleman**

years." [See "Civilian Drawdown, Hard and Fast," p. 28.]

Though it appears that funding has finally stabilized, General Fogleman warned his listeners not to get too comfortable. Within the next two years, sharp cuts in nondefense portions of the federal budget will be felt, and then the service will find out "how well the support . . . for our defense program being shown by the Congress today" will be maintained.

Still, he noted, "the opportunity exists" to cast an unusually penetrating look into the emerging technologies and capabilities that will give the Air Force its future edge.

General Fogleman said that maintaining the stability of the force will be one of his top priorities because, without it, "we will be captured by near-term priorities," and "it will be very difficult" to do the long-range planning he feels is so crucial.

General Fogleman chartered a new study called "Air Force 2025" to look at "alternative futures . . . and possible changes in doctrine," he noted. "My directive to them is to engage in maverick, 'out-of-the-box' thinking." This study and Secretary Widnall's "New World Vistas" panel were chartered to "develop a truly independent, futuristic view of how the exponential rate of technological change will shape the twenty-first-century Air Force." A counterpart group has been installed on the Air Staff to accelerate the adoption of revolutionary new concepts, "to speed their development, and to get



them into the field quickly without the laborious staffing process," General Fogleman reported. He has appointed Maj. Gen. John A. Gordon to be the temporary long-range planning "czar" on the Chief's staff "to integrate all the great work that's under way."

Overall, the General said, the Air Force must "avoid attempts to package airpower into neat little stovepipes based on yesterday's thinking" and must draw away from such obsolescent concepts as "strategic" and "tactical" airpower.

"All these attempts to put airpower into boxes, . . . in the end, inhibit our inherent flexibility. We've made this mistake before, and I'm determined that we won't repeat it on my watch," General Fogleman asserted.

The current period of stability is also a time to "tell the Air Force story," he added, and explain to the American people and other services "both the capabilities and limitations of air- and spacepower."

General Fogleman was asked whether "Global Reach, Global Power," USAF's basic blueprint, should be updated to reflect the concepts of global presence and information warfare. He answered, "The fact of the matter is . . . the Air Staff has rewritten 'Global Reach, Global Power,' but I am reluctant at this time to have that published."

The "core competencies" outlined in the white paper "drove the reorganization and the modernization plan," General Fogleman explained. "I would like to get us focused on those core capabilities, . . . augmented by information warfare, and not get confused with a new document, with a new title." He suggested that the new document will be released "when we . . . complete our long-range planning initiative." Once that is accomplished, "and we have a corporate buy-in on this, then we will come out with a new doctrinal manual."

General Fogleman noted that the white paper, published in 1990 and updated in 1992, had "absolutely no mention of information warfare, which shows you how rapidly this has burst onto the scene."

## General Ashy

### Space in the Mainstream

Making access to space assets "rou-

tine and reliable" for warfighters is the current focus of US Space Command, Gen. Joseph W. Ashy, the commander in chief of US Space Command and NORAD and commander of Air Force Space Command, told symposium attendees.

The twin guidelines in making this happen are "normalization" and "operationalization" of Space Command's resources and organizations, General Ashy said.

"Normalization" takes the form of removing the supersecret mystique from space operations and making it a career field parallel to the rest of the Air Force.

"We do not want to be a separate, distinctive force," he maintained.

These changes include giving assignment preference to those who finish at the top of their classes, much as top pilots can pick their airplane when they graduate from undergraduate pilot training. It involves offering "more career-broadening opportunities and choices" in moving back and forth between the missile and space fields. It also entails providing more initial instruction, so that they arrive at their duty station ready to go to work, rather than ready for more training, General Ashy said.

"We have discovered that we have not paid enough attention to this

**"Space warfare capabilities are key to winning in today's modern battlespace."—  
General Ashy**

area," he acknowledged. A program is already in place to beef up initial training, "so our people can reach their units near-mission-ready."

Another "normalizing" step is the creation of user manuals for missile and space crews. "What we have now is tech data, but we can improve

these products to make them more user-friendly to our crews," General Ashy said.

Though the emphasis in the past has been on training personnel "on the actual equipment" they will use, "we have discovered that we have some voids" in training that can be filled by more extensive groundbased training systems, including simulators, "which we don't have now."

Moreover, General Ashy said his command has moved to "decentralize authority" and give young officers a chance "to command and supervise at earlier stages in their careers. This will make us stronger."

Concurrently, Space Command is focused on making "space support understandable, usable, and accessible" to the warfighters. Toward that end, General Ashy wants to merge the graduate schools in space warfare with the weapons courses at Nellis AFB, Nev., "much like we did with air weapons controllers and the intelligence" career fields.

"Space warfare capabilities are key to winning in today's modern battlespace, and we need to better integrate our thinking on this," the General said.

He also reported that a new system called the Theater Support Operations Cell has been fielded. It gives regional CINCs an unprecedented view and understanding of the space assets available to them, "which will lead to the use of space in a routine way," he said.

Meanwhile, space launches are getting more on a schedule that is agreed to by the "shooter, customer, builder, and acquirer" and the "customers are satisfied," he reported.

General Ashy provided a snapshot of some promising new programs that will further make space assets more usable down to the most basic levels of the service. These include:

- Project Hook, which allows a downed airman to send a short-burst, low-probability-of-intercept message to rescuers, including a Global Positioning System fix.

- Project Strike, which feeds real-time threat, weather, sensor, and targeting data directly into the cockpits of F-15Es and B-1Bs.

- Project Spectrum, which exploits multisource imagery from both commercial and military sources in mission planning.

- Project Nike, which conveys in-

telligence data directly to warfighters at remote, austere locations.

■ **Combat Track**, which allows the constant tracking of transports and their cargo toward “end-to-end, depot-to-foxhole visibility of military assets,” General Ashy said.

■ **Project High Ground**, which gives tactical situational awareness to deployed elements, enhancing the effectiveness of surveillance and battle-management aircraft.

## General Lorber

### China Looms Large

Adjust your ideas about the Pacific Rim, because they are probably out of date, Gen. John G. Lorber, commander of Pacific Air Forces, told AFA symposium attendees.

“There are no more rickshaws and dirty streets,” he said. “The economic growth is unbelievable. . . . The standard of living is really going up.”

With explosive economic growth in the Pacific has come economic clout—and the desire for military clout to go with it, General Lorber said.

“They’re not looking for our old castoffs. . . . They have the money for new systems,” such as F-16s and Advanced Medium-Range Air-to-Air Missile (AMRAAM), the General said. Foreign military sales have always been a key tool in influencing the region, but the “reactive” system of dealing with requests for hardware has not kept up with the sophistication or changing realities there, he said.

“We need to have a program that allows us . . . to be proactive . . . when they start bringing money to the table.” Decisions about whether certain types of hardware will be sold should be made before the request is received, General Lorber said.

In addition to buying more sophisticated systems, “they are also . . . finally understanding airpower,” and the US has taken a role, through exercises and military-to-military contacts, of teaching its friends in the region “how to set up a [Joint Force Air Component Commander]” and other modern aspects of air warfare.

General Lorber provided capsule summaries of the military situation faced by most of the forty nations under his area of operations. The

nation bearing the most watching, he said, is North Korea, which he described as “an economic basket case.” It will have “a window of opportunity” lasting perhaps one or two more years before the government there “destroys itself” and the military “dissipates to the point where it cannot really attack us.” In the

**“All the nations in the region see China as the threat of the future.”—**

**General Lorber**

meantime, all sectors of the North Korean economy are being robbed to sustain the military, he said.

“All the nations in the region see China as the threat of the future, and they’re very concerned with a building military capability in China,” he continued. China has made some unsettling advances in weapon guidance—General Lorber cited the Chinese use of GPS on one of their ballistic missiles—and “now they’re getting to the position where they can get fairly good . . . accuracy with them.” He added, though, that “it’s probably ten years away” before the Chinese develop true precision munitions.

He also revealed that there is a “bigger deal in the works” as a follow-on to China’s recent purchase of Russian Su-27 “Flankers.”

In exercises with Malaysia, which has Russian MiG-29s, General Lorber said he came away impressed.

“We found out the MiG-29 is much more of an airplane than we expected it to be. We flew with a clean F-15, and the MiG-29 stayed right with us.” He also said the MiG-29 is so similar in appearance to the F-15 at a distance that it could pose a problem in getting “a visual ID when we have to go into a fight with those airplanes.”

In Russia, which the General re-

minded attendees is also a Pacific Rim country, air force leaders are “trying to keep their airplanes [and] force structure up, but they’re not able to maintain them or keep them up in flying condition.”

General Lorber said that exercises with allies have tended to concentrate on Thailand, Korea, and Japan and that, in the near future, “we’re going to spread out the exercises a bit” with other countries. He also said there will be more military-to-military contacts around the area, especially with “countries we haven’t visited in ages.”

The Pacific Rim is “where our economic future is,” General Lorber said, adding that it will be increasingly important to “remain engaged” there and maintain good relations with all its diverse nations, some of which “don’t get along.”

## General Ralston

### Learning From the Past

Air Combat Command won’t make the same “disastrous” choices about its force structure that the service made when it last faced severe fiscal restraints, ACC Commander Gen. Joseph W. Ralston asserted.

In the post-Vietnam drawdown, the Air Force held onto every base and squadron, while its budget “just flat would not support that,” he said.

“We cut flying hours, we cut spare

**“We have to divest ourselves of . . . older systems that are expensive to maintain and operate.”—**

**General Ralston**

parts,” and it was a “disastrous set of choices,” he added. Pilots “knew they were not combat-ready, and they got out in great numbers.” Meanwhile, maintenance people were “demoralized, and retention was bad.”

Squadron commanders at the time, General Ralston among them, resolved that if they were "ever in a position of senior leadership, we would make different choices," such as closing bases and cutting force structure. But whatever force structure remained would be provided "the flying hours and spare parts that it takes to be truly combat-ready. We would rather have one squadron where we are truly combat-ready than to have ten sick ones on the books," he asserted.

The cuts made in the last five years—half the fighters, two-thirds of the bomber force, and a third of bases—"have not been without pain," General Ralston acknowledged. Operating tempo has remained high throughout the drawdown, and, ironically, the constant deployments to world hot spots have made it difficult for flying crews to get combat training.

Sometimes the decisions to eliminate force structure are hard, General Ralston said, but sometimes they are "obvious." With regard to the EF-111 Raven versus the Navy's EA-6B Prowler, General Ralston said it would have cost \$1.5 billion over five years to keep twenty-four Ravens flying, each of which has an average age of thirty years. The Prowler, by contrast, "is a much younger airframe," averaging twelve years, and the Navy has 127 of them, making for a more useful fleet.

He also went to Air Force threat-simulation crews at Nellis AFB, who confessed to him that the EA-6B "gave them a much harder time" as a jammer than the EF-111 did.

"We have to divest ourselves of those older systems that are expensive to maintain and operate" and are less capable than alternatives, he declared.

The F-4G "Wild Weasel," which has "served us well," has been replaced by Block 50 F-16s with the High-Speed Antiradiation Missile Targeting System. The F-16 HTS "has tremendous capabilities over the F-4: longer range, more loiter, greater maneuverability, greater self-protection capability with the AMRAAM, greater sensitivity" with the HTS, General Ralston asserted. "The field of view is not 360° the way the F-4 Wild Weasel was," he conceded, "but you can work around that with tactics."

### **The Civil Reserve Air Fleet "is a great deal for America and the airlines."**—

**General Rutherford**

The Air Force is still two years away from initial operational capability (IOC) with the E-8 Joint STARS—despite launching the system in 1985 and using a developmental version to grand effect in the Gulf War—because "we are still screwing around testing it," General Ralston said, complaining bitterly about the long time it takes to get a new weapon through the acquisition system.

He compared Joint STARS and the F-22—which will have taken more than twenty years from contract signing to IOC—to the F-117, which went from drawing board to IOC in four years. The only difference between the F-117 and F-22 programs "was not technology, and not dollars. It was the acquisition rules," General Ralston maintained. This, he said, "is the most compelling argument I can make for acquisition reform."

He also said that while the Air Force and Marine Corps are "100 percent in agreement" on their requirements for the next strike fighter—in terms of range, payload, stealth, and price—"we still have a way to go with the Navy" toward harmonizing requirements. The Navy, he said, probably needs a larger and stealthier aircraft, which the Air Force "cannot afford in the numbers we need: thousands."

#### **General Rutherford**

#### **More Than the C-17**

"The weight of the paperwork finally equals the weight of the air-

plane, so it must be time to make a decision and get on with the program," Gen. Robert L. Rutherford, head of both Air Mobility Command and US Transportation Command, joked at the AFA conference.

Addressing the symposium on the eve of the C-17/Nondevelopmental Airlift Aircraft decision, General Rutherford detailed a long list of studies and analyses conducted to provide the Defense Acquisition Board with all the information it would need to decide whether to proceed with the planned C-17 Globemaster III buy of 120 aircraft or opt for a mix of C-17s and either 747-400s or C-5D Galaxys.

In early November, the decision came down for the full buy of 120 C-17s, but final decisions on airlift capability beyond that will wait until this spring.

General Rutherford explained the results of the Mobility Requirements Study/Bottom-Up Review Update (MRS BURU) and Strategic Airlift Force-Mix Analysis (SAFMA).

"All these acronyms," he reported, "identified a requirement for between 49.4 million and 51.8 million ton-miles a day" in airlift capability, comparable to moving all the people of Austin, Tex., and their personal effects in less than ninety days. Currently, AMC possesses a capability for forty-eight million ton-miles a day "at maximum effort."

The MRS BURU assumed some warning time and a full call-up of both the Civil Reserve Air Fleet (CRAF) and the Air Force Reserve. The SAFMA involved a "very sophisticated airlift model" developed by the Institute for Defense Analysis and the Office of the Secretary of Defense (OSD) and run on a Cray supercomputer.

"We then negotiated ready-to-sign contracts for the C-17 and the NDAA, then used that cost data to compute twenty-five-year life-cycle costs" provided by the Air Force and validated by OSD, General Rutherford explained.

This was coupled with the results of the thirty-day reliability, maintainability, and availability evaluation run on the C-17 during the summer—in which it scored a "99.2 percent departure rate, . . . surpassing our most optimistic projections."

After fourteen years of work on a C-141 StarLifter replacement, "it's

about time" a decision was made, General Rutherford asserted.

He acknowledged that the C-17 was not the answer to all of the nation's mobility deficiencies and pitched for completion of various upgrades to the C-5, C-141, and KC-135 Stratotanker fleets to keep them "viable" while the C-17s are delivered.

Under current plans, the last C-141 will retire in 2006, the General reported. The fleet is old and fatigued, and "we are managing them by tail number for now," assigning missions to airplanes, based on the number and type of hours they've flown and the degree of problems they have. Some "will be transferred to the [Guard and Reserve] to extend their life."

Other key modifications include engine and landing gear enhancements for the C-5, purchase of cargo rollers for KC-135s, and avionics updates throughout the cargo fleet.

He noted that CRAF, which provides 260 wide-body aircraft in an emergency, represents a third of USTRANSCOM's air cargo capability and ninety percent of its passenger capability, remaining the most vital aspect of the airlift force.

"CRAF is a great deal for America and the airlines," General Rutherford said. Over the past three years, efforts have been made to boost the business given to CRAF participants to \$1.4 billion annually, "and we are in the final stages of a program that will allow CRAF people to use DoD facilities," he reported.

### Acting Assistant Secretary Druyun

#### Guerrilla War on Waste

If the Air Force is to afford all the new systems it must have for the next century, the service must wage a "guerrilla war" against wasteful contracting and management practices, said Darleen A. Druyun, the service's acting assistant secretary for Acquisition.

"Future force modernization cannot be accomplished unless we first reform Air Force acquisition practices, procedures, and principles," Ms. Druyun said. The need to reform is urgent, she noted, because the Air Force's "investment spending" in new systems accounts for only one-third of total spending, compared with one-half in 1985, when the over-

all budget was much higher. More "hidden costs" in contracting and management must be exposed, and more real capability squeezed from every dollar, she said.

She exhorted the contractors in the audience to become "acquisition warriors" in the crusade against wasteful practices, rather than "whiners or wimps" who merely complain about unwieldy programs without doing anything to fix them.

Ms. Druyun also warned that those who stubbornly resist the streamlin-

### The "lean, mean Air Force of the next decade does not have room for the oversize acquisition corps of the 1980s."—

Ms. Druyun

ing efforts being applied will be swept away, along with other outdated elements of the acquisition bureaucracy.

The Air Force has had stellar success in applying basic principles of acquisition reform staked out by Defense Secretary William J. Perry in 1993: eliminating military specifications and standards, creating government-contractor relationships, reducing program cycle time, and treating cost as an independent variable in development programs.

Pilot programs putting these ideas into practice have resulted in remarkable achievements, permitting the services to do things "better, faster, and cheaper," Ms. Druyun said. By far, the big cost elements are "people costs and paper costs."

Number one on her "hit parade" of successes is the Joint Direct Attack Munition (JDAM), a bomb guidance kit, which has realized extensive savings in time and money by using commercial practices instead of "the old, rigid acquisition system."

She cited the reduction of military standards or specifications on JDAM

from eighty-seven to zero, use of a two-page statement of objectives rather than the original 137-page statement of work, and cutting the Contract Data Requirements List from 243 items to twenty-nine, thus "tailoring the real information need to the specified program elements."

Also implemented was a "carrot-and-stick" approach to contracting, which rewards the contractor for good performance by reducing oversight—"staying out of the contractor's hair"—and guaranteeing a long-term program commitment. The "stick" was the promise that "maximum oversight" would be restored if performance slipped, and JDAM prime contractor McDonnell Douglas would have to establish a second source—its own competition—at no cost to the government.

The benefits were impressive, Ms. Druyun asserted.

"The warranty was increased from five years to twenty," she said. Simplification of the process allowed the System Program Office to cut its staff from seventy to forty, "developmental funds were slashed from \$380 million to \$310 million, . . . and, best of all, the unit price was reduced from \$68,000 [per kit] to \$18,000 [per kit]."

The streamlining saved not only money—\$1.57 billion—but also time. "Developmental time went from forty-six to thirty months, and production time went from fifteen to eleven years," Ms. Druyun reported. The JDAM—which provides precision strike capability at low cost—will be in the hands of the strike forces in 1997 rather than in 1999 or later.

Ms. Druyun offered a similar success story on the Milstar satellite system, which previously had been an unwieldy affair with too much government oversight and too much red tape. Costs have been cut by \$236 million, and much time has been saved.

"I've had folks tell me you can't take an existing program and go back and change that contract," she said, "and I have news for you: You can, you should, you must."

The "lean, mean Air Force of the next decade does not have room for the oversize acquisition corps of the 1980s," she asserted, saying she wants to halve the size of program offices over the next five years. "I believe we can do it." ■

# Flashback

## “Window or . . . Window?”



Photo courtesy C. V. Glines

Forget the carry-on items—but there's great visibility from every seat. Roger Sommer (far left) and five other people got the aerial view of a lifetime on this flight. He also took up seven people for one hour and six minutes on a record-setting flight on October 28, 1911. Inspired by the Wright brothers' success in 1903, pilots were breaking records for distance, altitude, endur-

ance, and passenger-carrying seemingly every day in the early 1900s. In March 1910, an airplane piloted by famed English airman Henri Farman carried three people for one hour and two minutes. In March 1911, Louis Bréguet took eleven passengers aloft for a three-mile flight. Later that month, Sommer set another record, carrying twelve people 2,625 feet.

**The end of the military force cuts is in sight, but for Air Force civil servants, the reductions roll on.**

# Civilian Drawdown, Hard and Fast

By Suzann Chapman, Associate Editor

**T**HE surge of military personnel reductions has peaked and now has begun to ebb. However, the civilian drawdown continues in full force, with many painful actions yet to be taken.

Over the six-year period from Fiscal 1989 to 1995, the Air Force eliminated 71,508 of its 249,000 civilian jobs—that is, 28.7 percent of the US civilian force that was in place at the start of the decade. Now Air Force personnel officials plan to cut about 25,000 more civilians over the next six years. When all the cutting is done, the number of civilian workers will be down to only 153,000, about thirty-nine percent fewer than in 1990.

The harshest reality, though, is that the Air Force has already taken the easy cuts. Much of the Fiscal 1989–95 reduction was achieved in the shift of personnel from USAF to other Pentagon agencies, such as the Defense Finance and Accounting Service and the Defense Commissary Agency, and through cuts based on force-structure changes. The next round of civilian cuts will have to come out of hide.

So far, various personnel actions have helped to keep the actual num-

ber of civilian workers forced “out the gate” relatively low. Civilians caught in the latest round may not be so fortunate, however.

The Defense Department is the federal government’s largest employer, with its payroll supporting nearly half of all federal civil servants. DoD will have reduced that work force from 1.1 million in Fiscal 1989 to about 758,000 in Fiscal 1999. Through Fiscal 1994, the Pentagon already had cut some 174,000 civilian workers; of this number, it had to force out 26,000, or about fifteen percent of the total.

During the Fiscal 1993–95 period, the Air Force separated about 29,000 workers, but only 3,800 of them—about thirteen percent—lost jobs as a result of involuntary reductions in force. Personnel officials credit the fairly low RIF numbers to use of such measures as separation incentives, early retirements, and aggressive placement actions.

Defense Department and Air Force officials believed that RIFs should be the last resort. Initially, though, DoD policy did not provide for separation incentives, and even though USAF wanted to offer enticements for vol-

*Before the drawdown is done, the Air Force civilian work force will be smaller by almost 100,000 employees. Especially hard hit were workers at USAF's air logistics centers. Opposite, technician Jimmy Vowell works on a KC-135 at Sacramento ALC, McClellan AFB, Calif., which lost many jobs during the most recent round of downsizing.*



Staff photo by Guy Acello

untary separations, the Pentagon did not authorize them until March 1993. Until then, DoD relied on hiring freezes and voluntary attrition, along with some RIFs, to reduce the force.

In a May 1993 report, the General Accounting Office pointed out that the lack of incentives hampered DoD's ability to plan an orderly downsizing. The GAO warned that the process created "skill imbalances and an increasingly more senior and relatively more costly per capita work force," as more senior civilians practiced what is called "bumping and retreating." This term refers to a process in which a senior employee with prior experience in a lower graded position can "bump" a junior employee out of the junior position and "retreat" into the job. The senior employee retains his or her former pay grade for two years and possibly longer.

#### **Incentives Spared RIF Actions**

Since the Air Force implemented the separation incentive program, it has approved 14,900 payments. Incentives have helped significantly reduce the number of people who would have been RIFed, according to USAF personnel officials.

"I think that—although, for every person who has been separated, this is a hard pill to swallow—I really feel, to date, [that] the Air Force has done a very good job of alleviating the large-scale turbulence associated with all this downsizing," said Jack Schrader, an official of the Air Force Personnel Operations Agency. "My personal opinion is that, if you look at the numbers we've downsized and look at the number of potential reductions in force vs. what we've separated, . . . it's a success story."

Measuring success, in this instance, is based on the fact that the Air Force has had to impose fewer involuntary separations than had been projected.

For instance, USAF officials at Hill AFB, Utah, projected that they would have to RIF about 800 civilian employees in Fiscal 1994 to meet their portion of civilian reductions for that year. However, the base then started a "mock RIF" to let people know who might be in line to lose their jobs. These were the people whom personnel officials made the primary target of early retirement, separation incentives, or placement actions. By working these programs, Hill AFB man-

aged to cut its potential RIFs from the original 800 to only 264.

Other bases took similar steps to reduce their RIF actions. Castle AFB, Calif., initially projected it would have to RIF 400 employees but wound up firing only fifty-six. Griffiss AFB, N. Y., expected to involuntarily separate 300 but wound up with 136 RIFs. McClellan AFB, Calif., projected 218 RIFs but ended with only seven. Wright-Patterson AFB, Ohio, planned for 360 RIF actions; instead the base involuntarily separated seventeen employees.

RIF projections usually forecast the worst possible case, according to Paul Hutchins, chief of USAF's Civilian Workforce Management Division. Each base must calculate the number of RIF actions it would need to meet its share of employee cuts, based on upcoming fiscal reductions. USAF civilian personnel officials take those potential RIF numbers, and, if the number is greater than fifty employees at one location, they prepare Congressional and public notices. The coordination chain runs from the personnel office through the Secretary of the Air Force and DoD to the White House.

Under current rules, said Mr. Hutchins, DoD must give 120 days' notice of intent to RIF an employee if there are more than fifty such actions at one base. He added that the 120-day rule was unique to DoD and that the four-month lead provides "a lot of opportunity to try to get people placed."

### Downsizing Ripple Widens

In the early going, the bases hardest hit by the drawdown were those operating Air Force Materiel Command depots. Last year, however, the civilian drawdown affected every base to some extent.

"It's a different era now," said Diane Van Bavel, a personnel specialist in the Civilian Workforce Management Division. "We've been doing incentives since March 1993, and last year it touched every base for the first time." Given the recent spate of publicity about budget cuts and incentives, she said, some civilian workers are beginning to realize that they may not be able to hold their job until normal retirement. This realization is especially acute, she said, for "some folks close to being retirement-eligible, but not quite."

Spreading the word about employee options in the new environment has become a large task for headquarters and base-level civilian personnel officials. According to Mr. Hutchins, each facility on a base realignment and closure (BRAC) list gets a visit from a team led by the Secretary of the Air Force. Other bases also have town hall meetings and emphasize drawdown options in employee newsletters and commander's calls.

"Employees have to be aware of the pros and cons," said Mr. Hutchins. He added that the employees get the information in broad terms at mass meetings, but "for specifics, it's really kind of a one-on-one," for which they need to talk with base civilian employee relations specialists.

Every employee needs to consider and analyze options and penalties. Each case will be different for each employee, with the variables being length of service, age, and family or personal considerations.

The volunteer early retirement program is a federal government-wide program for workers of any age with twenty-five years of service or people at least fifty years old with twenty years of service. The kicker, Mr. Hutchins noted, is the two percent

## Fewer USAF Civilians

Fiscal Year	End Strength	One-Year Loss	Cumulative Loss	Cumulative Percent Change
1989	248,666	—	—	—
1990	237,844	10,822	10,822	4.35
1991	222,489	15,355	26,177	10.53
1992	205,757	16,732	42,909	17.26
1993	193,416	12,341	55,250	22.22
1994	188,846	4,570	59,820	24.06
1995	177,158	11,688	71,508	28.76

### The Next Wave

1996	174,164	2,994	74,502	29.96
1997	168,505	5,659	80,161	32.24
1998	162,516	5,989	86,150	34.64
1999	157,434	5,082	91,232	36.69
2000	154,595	2,839	94,071	37.83
2001	153,325	1,270	95,341	38.34

Numbers include only US direct-hire civilians, not foreign nationals.

penalty in annuity payments for every year under age fifty-five. However, those who retire may also receive a payment of up to \$25,000 under the separation incentive program.

People not eligible to retire may also elect to resign under the Voluntary Separation Incentive program. They may receive up to \$25,000; the exact amount is based on the amount of severance pay an individual would merit. However, some restrictions are placed on those who take this payment. For example, a recipient would not be able to work for the government again for five years or would have to repay the incentive money.

Some may decide to pass up both voluntary options and let the involuntary RIF run its course. They might get slightly more money because they would presumably stay on the rolls for a few more months, adding to their severance pay. They also would get some continuation of health benefits and be eligible for unemployment compensation.

Each base has employee specialists trained to use special computer programs to crunch an individual's "numbers." "They have to know what their severance pay would be, have to know what the rules are, and the incentives, what the early retirement penalties are," emphasized Mr. Hutchins. "All those things are critical to a person's decision."

There will always be some RIF actions, whether by choice or necessity. What has enabled the Air Force to keep those numbers down is that, when it processes potential separations, it considers the total civilian force, not just those whose jobs will be cut.

According to Mr. Schrader, USAF civilian personnel specialists will start up to a year in advance trying to find a way to spare a worker by paying someone else an incentive to leave, "which is within what the law allows." He said the Air Force has often used incentives to pay individuals who were not in RIF positions but were in better situations to leave civil service, thus creating a vacancy for a targeted individual whose circumstances were not as good.

### Job Umbrella Threatened

The Air Force also has used DoD's Priority Placement Program (PPP) to help find defense employment for qualified Air Force people. The Pentagon's placement program has been around for about thirty years but has seen an enormous jump in registrations with the onset of the drawdown. Today, the PPP processes about 19,000 people a year, up from just a few thousand several years ago.

The PPP is a worldwide job referral program that crosses lines between services and DoD agencies.



Any employee with a RIF notice can register and will remain on the PPP list up to a year after separation. Being on the PPP list puts an employee on a "stopper list," said Mr. Schrader. That means if a vacancy occurs anywhere in the DoD system and the employee is qualified, he or she becomes a mandatory placement.

So far, the Air Force has made the system work fairly well, even getting Air Force civilians into local vacancies before non-USAF employees. Mr. Schrader said that the service has tried first to place "well-qualified Air Force employees or employees we can cross-train into vacancies at the same installation."

The Air Force's civilian personnel specialists, creating what they call "daisy chains," use the incentive programs and the PPP to reassign qualified employees within various positions and to voluntarily separate others. Mr. Schrader said that the "daisy chain" approach allows the Air Force to do some skill balancing and save knowledgeable people who otherwise would have been separated.

"We've been very successful at the installation level with those kinds of movements to get to that one person who might have been separated," he said. "In some cases, we've even done it within major commands, where you have the same type of work, say in an air logistics center."

Another measure USAF personnel officials use under the PPP is the "job swap." The process is to swap an employee at a base slated to close with an employee at a base with an ongoing mission. The central element here is that the first employee wants to remain with civil service and the second, based on age or other personal considerations, would rather leave.

Mr. Schrader pointed out, "To date, the umbrella system we've had in place has been effective," though he quickly added that "it's going to become increasingly more difficult because the PPP [list] is not going to shrink." As the downsizing proceeds, he concluded, "the numbers will continue to be high," and the Air Force's ability to use incentives and early outs will decline.

The Air Force Chief of Staff agrees. In an October 27 speech to AFA's Los Angeles symposium, Gen. Ronald R. Fogleman said that the upcoming civilian cuts may be the hard-

est that USAF has yet experienced. General Fogleman warned, "If there is a bad news story in the personnel area, it may be in the civilian personnel side of the house," where, he said, USAF now is "down to a very difficult situation."

### To Stay Federal, Be Mobile

Personnel officials say that mobility is critical to success. If a civilian employee is ready to move to where the job is, he or she will be more likely to survive the next wave of civilian force reductions.

"I think the key to this is the mobility—that's really the thing we emphasize the most when we're talking with employees," said Mr. Hutchins. "Some of it depends on your skills; some skills are obviously in more demand than others. In some areas, we have more turnover than in others. But with people who are willing to relocate, we've had a very good success rate."

Once again, however, he raised the caution flag, pointing out that the next round of cuts will be different. "As the drawdown continues, and as we close more bases, the opportunities will shrink, obviously," said Mr. Hutchins.

In addition to the PPP, the Air Force has a central skills bank, which matches qualified people with jobs throughout the Air Force, much like the larger PPP does with Defense Department jobs. Here again, mobile employees maximize their potential for locating new USAF jobs.

Under the PPP, employees with RIF notices must register for specific geographical locations. "If they register for local only and it's a base closure—the handwriting is on the wall," Mr. Schrader commented. He added that for BRAC bases, the process starts up to two years before actual closure. He urged people to "register early and register wide."

PPP's catch is that an employee gets only one chance at employment; there is no opportunity to pick and choose among jobs. Once an individual turns down an offered job, he or she is bumped out of the system. That kind of information is part of the advice offered by civilian personnel specialists at each base.

Those who choose to remain in a specific geographical area can expect a bit of assistance from federal and state governments.

### Joining the Private Sector

Each base now has some sort of networking system with the local community and uses it to help displaced employees find jobs within the local private sector. Base Family Support Centers are the focal points for such efforts and provide "one-stop shopping" for transition assistance for civilian and military personnel.

Initially, FSC programs dealt almost exclusively with military personnel. Lately, however, personnel officials said they have been getting more civilians.

FSCs do not help employees find jobs; rather, they provide some of the modern, real-world tools, such as résumé writing, instruction in interview techniques, and even how to dress in the business world. Like their military counterparts, many senior civilian employees who have been in federal civil service for ten or more years are not prepared to hunt for jobs outside the government.

Some bases, particularly those that are closing, work with state unemployment offices to get Department of Labor grant money for retraining, adult education courses, college courses, technical training, and other skills needed in the local area.

The programs are run by the state, not the Air Force, according to Mr. Hutchins. "It's in [the states'] interest to reduce the unemployment rolls," he said. He added that the program had been very successful at bases that were closing, particularly Lowry AFB, Colo., and Williams AFB, Ariz. He also noted that "some early growing pains" were felt in California, where the state was not certain, initially, where to place its priorities—with displaced aerospace industry workers or with government employees.

Now being tested is another potential aid for people located at closing bases—the nonfederal incentive pilot program. It will allow the Defense Department to pay nonfederal employers up to \$10,000 if they hire and retain separated DoD employees.

The Pentagon is still developing implementation guidelines, but the new program will apply only to employees with RIF notices who have worked for DoD for at least one year in a position that did not have a time limit. ■

Totally revamped, this year's Gunsmoke competition still required teamwork and cooperation for a crew to come out on top.

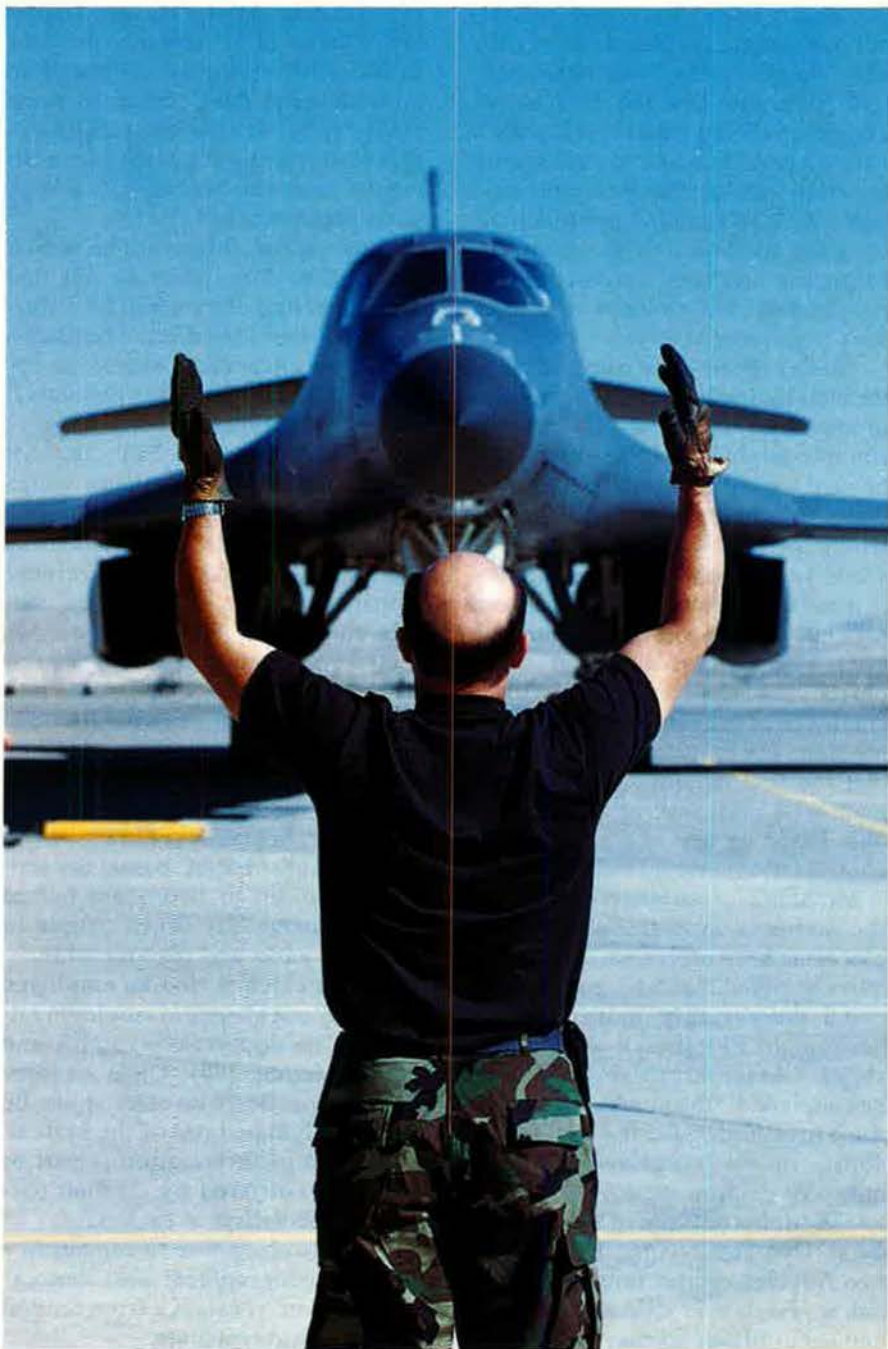
# The New Gunsmoke

**T**he Air Force has seen its share of changes. This year, so did Gunsmoke, USAF's premier air-to-ground competition. Gunsmoke '95 was entirely redesigned to emphasize team effort and featured a wide range of aircraft. Teams departed from their home bases or forward-deployed bases on October 26, flying at least a four-and-one-half-hour mission profile before dropping bombs on ranges at Nellis AFB, Nev. They had one only chance to strike the defended target. They then landed at Nellis, and after a mass debriefing and awards ceremony on October 28, they returned home.

USAF photo by SSgt. Joe Springfield



At right, a crew chief marshals a B-1B into its parking place on the Nellis AFB ramp. Above, F-15s from Missouri ANG's 131st Fighter Wing, Lambert-Saint Louis Airport, Mo., and the 33d FW, Eglin AFB, Fla., share ramp space. This year, members of more than thirty individual squadrons were divided into six integrated, composite-force teams, representing four major commands, ANG, and AFRES. For the first time in this air-to-ground exercise, the teams included air-superiority fighters, such as the F-15s above. By cutting the meet's size and eliminating much of the traditional weapons-load and maintenance segments of the competition, the usual ten-day TDY was reduced to a three-day affair, saving about \$500,000.



USAF photo by SrA. Kim Price



The first-place winner, Pacific Air Forces, scored 61.4 percent of the 6,850 total possible points, with the second-place AFRES team only a few points behind. Each team of nineteen aircraft had a different set of AWACS controllers so that fewer people would be familiar with the tactical scenario. Above, an F-16 pilot dismounts, as (right) dedicated ground crew wait for their charges to arrive at Nellis. Below, a crew chief looks over his A-10's TF34 turbofan, and a B-52 roars down the Nellis runway.



USAF photos by SrA. Kim Price



At right, F-15E Weapon System Officer Capt. Wes Kremer from the 492d Fighter Squadron at RAF Lakenheath, UK, fills out post-strike paperwork before attending the USAFE team's debrief. For Gunsmoke '95, overseas commands deployed to operating bases a predetermined distance from the target ranges at Nellis. Combat-length sorties made aircraft reliability and crew fatigue factors in the competition. Also new was a scoring system that, for only the second Gunsmoke, scored every bomb dropped—not just the best of the team's sortie.



USAF photo by SSgt. Jim Green

### 1 Pacific Air Forces

19th Fighter Squadron, Elmendorf AFB, Alaska, four F-15Cs

13th and 14th Fighter Squadrons, Misawa AB, Japan, four F-16Cs

18th Fighter Squadron, Eielson AFB, Alaska, four F-16Cs

355th Fighter Squadron, Eielson AFB, Alaska, four A-10As

23d and 72d Bomb Squadrons, Minot AFB, N. D., two B-52Hs

9th Fighter Squadron, Holloman AFB, N. M., one F-117

### 2 Air Force Reserve

302d Fighter Squadron, Luke AFB, Ariz., four F-16Cs

457th Fighter Squadron, Carswell Field, Tex., four F-16Cs

522d and 523d Fighter Squadrons, Cannon AFB, N. M., four F-111Fs

47th Fighter Squadron, Barksdale AFB, La., four A-10As

93d Bomb Squadron, Barksdale AFB, La., two B-52Hs

8th Fighter Squadron, Holloman AFB, N. M., one F-117

### 3 US Air Forces in Europe

493d Fighter Squadron, RAF Lakenheath, UK, four F-15Cs

23d Fighter Squadron, Spangdahlem AB, Germany, four F-16Cs

492d and 494th Fighter Squadrons, RAF Lakenheath, UK, four F-15Es

70th Fighter Squadron, Moody AFB, Ga., four A-10As

9th Bomb Squadron, Dyess AFB, Tex., two B-1Bs

9th Fighter Squadron, Holloman AFB, N. M., one F-117

### 4 Air Combat Command

59th Fighter Squadron, Eglin AFB, Fla., four F-15Cs

34th and 421st Fighter Squadrons, Hill AFB, Utah, four F-16Cs

336th Fighter Squadron, Seymour Johnson AFB, N. C., four F-15Es

354th, 357th, and 358th Fighter Squadrons, Davis-Monthan AFB, Ariz., four A-10As

37th Bomb Squadron, Ellsworth AFB, S. D., two B-1Bs

7th Fighter Squadron, Holloman AFB, N. M., one F-117

### 5 Air Education and Training Command

1st, 2d, and 95th Fighter Squadrons, Tyndall AFB, Fla., four F-15Cs

152d Fighter Squadron, Tucson IAP, Ariz., four F-16Cs

310th Fighter Squadron, Luke AFB, Ariz., four F-16Cs

309th Fighter Squadron, Luke AFB, Ariz., four F-16Cs

34th Bomb Squadron, Ellsworth AFB, S. D., two B-1Bs

8th Fighter Squadron, Holloman AFB, N. M., one F-117

### 6 Air National Guard

110th Fighter Squadron, Lambert-Saint Louis Airport, Mo., four F-15Cs

157th Fighter Squadron, McEntire ANGB, S. C., four F-16Cs

188th Fighter Squadron, Kirtland AFB, N. M., four F-16Cs

104th Fighter Squadron, Baltimore, Md., four A-10s

127th Bomb Squadron, McConnell AFB, Kan., two B-1Bs

7th Fighter Squadron, Holloman AFB, N. M., one F-117

### Gunsmoke Results

The twenty-seven pilots and aircrew members of the nineteen-aircraft PACAF team were the overall winners after scoring 61.4 percent of the total possible 6,850 points. The order and composition of the six participating teams is listed at left.



USAF photo by SrA. Kim Price



USAF photo by SrA. Kim Price

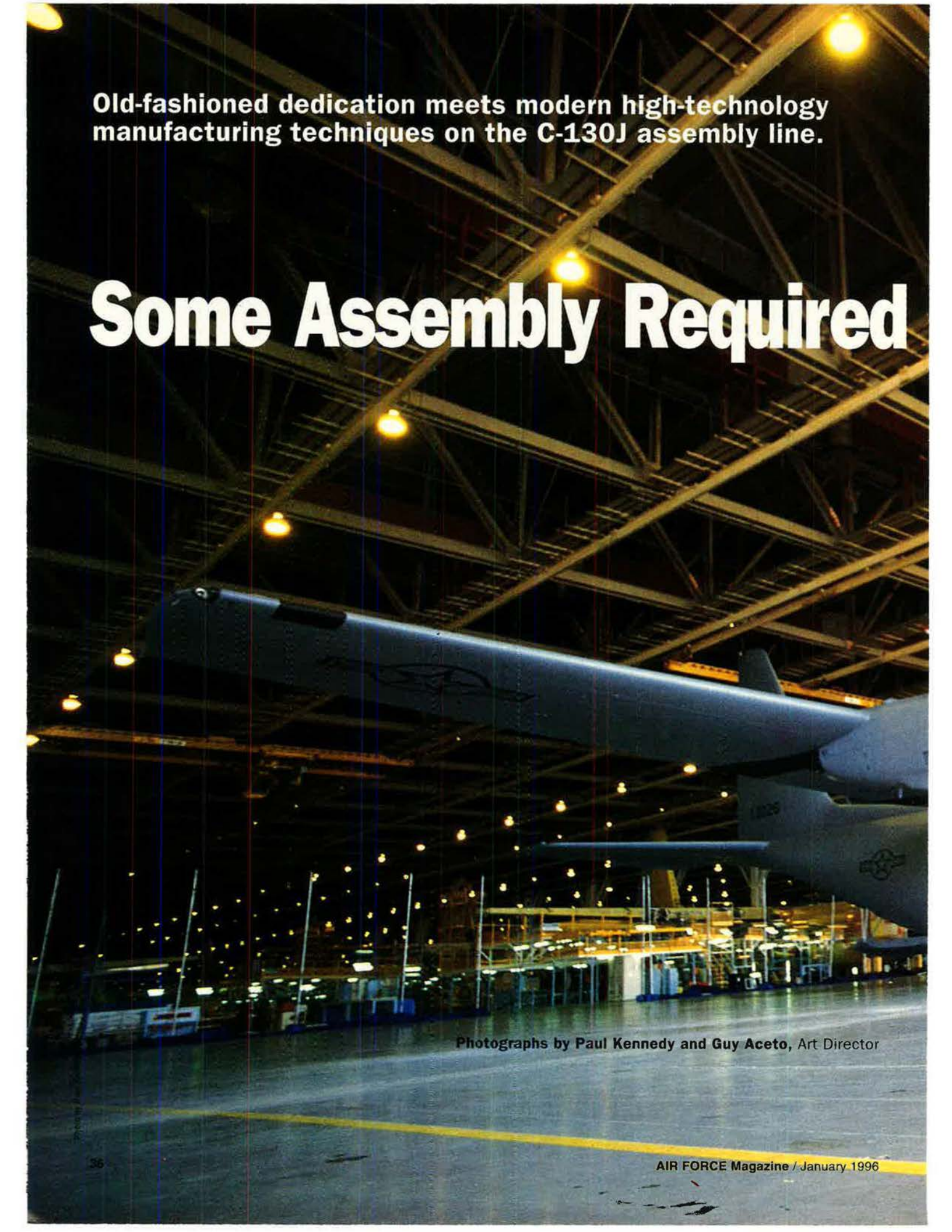


The 49th Fighter Wing at Holloman AFB, N. M. (above) "gave" each team an F-117. In coordination with the rest of the team, the stealth fighter dropped one laser-guided bomb ten minutes before the bombing window for the rest of the strike package. Gunsmoke '95 was the first time precision weapons or the F-117 were used at the meet. At left, SSgt. William Kaufman, from the 70th Fighter Squadron, Moody AFB, Ga., takes care of an A-10's canopy. The 70th FS aircraft were assigned to the USAF team. Some units outside of a team's major command were assigned units to balance the capability of each composite team.

The tightened schedule and defended target made Gunsmoke '95 even more like an actual combat deployment, less of a test of individual vs. individual. With planners striving to make such competitions increasingly demanding and realistic, more changes lie ahead for Gunsmoke exercises. Planners have said that future meets may include space assets, post-strike reconnaissance, and possibly the B-2 Stealth bomber—reflections of a leaner force working together effectively. ■

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Old-fashioned dedication meets modern high-technology manufacturing techniques on the C-130J assembly line.

# Some Assembly Required

Photographs by Paul Kennedy and Guy Aceto, Art Director



**T**he newest version of the legendary Lockheed Martin C-130 Hercules transport is the advanced-technology C-130J. The journey from the start of assembly to rollout takes thirteen months. Two C-130s roll out the door of Air Force Plant Six, in Marietta, Ga., every month, crafted by a Lockheed Martin Aeronautical Systems "family," many of whom are the sons and daughters of those who built this aircraft's predecessors.

For construction milestones, such as this October 1995 rollout of the C-130J at right, the eight-million-square-foot, 918-acre Plant Six falls quiet for a moment. It is one of the few times the workers have a chance to admire their handiwork. Then a work bell sounds, and it's back to the next C-130, moving down one of the longest-running aircraft production lines in history.



Staff photo by Guy Azeilo

Photo by Paul Kennedy



No matter how automated the production process becomes, it still takes people to build aircraft. Computers and high-tech design systems help determine the most efficient way to design, cut, and assemble the parts, but it is experienced men and women who ultimately create the aircraft. The process begins with such workers as Randy Ledford (left), who prepares a newly crafted part for its next stop in the C-130 assembly process.

The C-130's communications, avionics, navigation, and information systems require hundreds of miles of wiring, carefully laid out on pattern boards. A technician works on one at right. Once the wiring has been arranged and cut to length, the wiring bundles move on to the installation in subassemblies.



Photo by Paul Kennedy





*In a compact section overlooking the 3.5-million-square-foot main assembly area, electronics technicians assemble, check, and install wiring bundles to some of the avionics boxes for later installation on the floor below. At right, Freda M. Wingard and other workers install some of the wiring in the cockpit subassembly. This requires squeezing into some tight corners where even a future crew chief will never have to go. Nearly 9,700 people work at this Marietta plant, more than 6,000 of them in the Hercules program.*



*Aluminum scrap material (right) gets routed out from major structural parts during the aircraft assembly. It will be recycled.*



Staff photo by Guy Aceto



Feeder plants in Clarksburg, W. Va., and Meridian, Miss., produce some of the C-130J's components, such as the cargo bay floor, and subcontractors fabricate some parts, but most of the actual assembly takes place in the cavernous Plant Six. At left, a row of nose subassemblies faces a row of tail subassemblies. One of each will eventually be part of the same C-130, separated by about 100 feet of aircraft.

A single person on the shop floor can operate one of the huge five-ton- or ten-ton-capacity cranes suspended from the plant's ceiling, and it will take only two people—like crane operator Mike Longano and mechanic Cherie Jones—to move a 2,000-pound vertical stabilizer into position on the tail assembly. Once it is in position, two more mechanics will install it, and another pair will finish the job. While awaiting this installation, the huge vertical pieces must always be stored in an east-west direction so the wind won't knock them over when the hangar doors at each end of the building are opened.

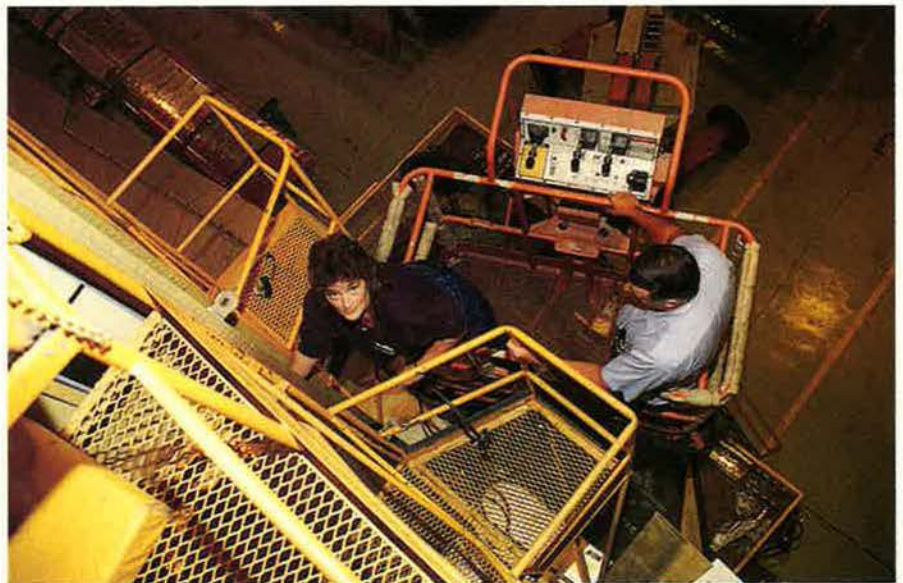


One of the next major steps is adding the engines. The C-130J has four new Allison AE 2100D3 engines that will be eighteen percent more fuel-efficient and will provide thirty-one percent more takeoff thrust. They also turn the transport's most visible new item—a Dowty Aerospace R391 all-composite six-blade propeller. The C-130J shares some technology with modern fighters: two mission computers, power-by-wire technology for the engines and propellers, and head-up displays for both pilots. At left, C. J. Stegall-Evans works on an Allison T56 engine before its installation on a C-130H.



*On average, an aircraft moves on to the next step on the production floor every ten days. A computer simulation program helps ensure the consistent flow of fabrication work in the back shops, determining what tasks need to be done each day. Above: The view from thirty feet up on a Hercules's tail shows that the addition of wings, engines, and other assemblies has moved the aircraft closer to rollout.*

*At right, Ms. Jones and Senior Structural Mechanic Darryl Scroggs attach an identification plate before the rudder is installed.*



*The tail assemblies at right reflect the various options ordered by some of the C-130's customers. The basic Hercules transport serves sixty-four countries and is called the most popular tactical airlifter in the world.*



Staff photo by Guy Aceto



*Air Force Plant Six also houses the F-22 production line. The next-generation fighter requires far more security than the C-130J. Beyond these coded-entry turnstiles, the future of air combat is being assembled in the same building that fifty years ago produced B-29s, now produces P-3s, and continues to build C-130 transports.*

*The Manufacturing Assembly Tracking System for work assignments means that C-130 workers check a computer terminal in their area to learn what their day's tasks will be. Most tasks in the assembly process are performed by individuals or teams of two to four people. The plant is nearly finished converting to a Focused Factory system, in which all operations for a particular manufacturing operation are brought together in one area, reducing time and costs.*



*Lockheed Martin has produced seventy-four versions of the Hercules. Once an aircraft moves out of the plant, it is towed to the paint hangar. This factory-fresh LC-130H, with a special ski-and-wheel landing gear system, is headed for the 109th Airlift Group (ANG), Schenectady Airport, N. Y., which has an Arctic resupply mission.*



Whether it's a fighter, a bomber, or a transport, the first wholly different version of an aircraft type is cause for celebration. The rollout of this next-generation C-130J Hercules, after months of redesign and construction, gave everyone a chance to tour the new airlifter (above). After the ceremony and speeches (left), company crews will inspect and fly the airplane before it is handed over to the customer. The first of the new C-130Js will be built in two versions, one for the Royal Air Force and another built to USAF's specifications. After testing, the first two USAF C-130Js will join Air Combat Command's 314th Airlift Wing, Little Rock AFB, Ark., for further evaluation.



Preceded by more than 2,000 of its ancestors, some of which have been flying since the 1950s, the C-130J takes its place as the latest in the long line of Hercules transports. ■

**US intelligence warns of the spread of poison gas, anthrax, "gas gangrene," camel pox, and other evils.**

# Horror Weapons

**By Bill Gertz**

**I**N FUTURE conflicts, US forces may well come face to face with a sickening array of biological and chemical weapons.

At least twenty countries either possess or are developing weapons of mass destruction. The Pentagon and the CIA identified five of these as being especially dangerous threats: North Korea, Iran, Iraq, Libya, and Syria.

No fewer than fifteen nations have offensive poison gas programs, according to a white paper prepared by US intelligence agencies and released late last year. However, biological warfare (BW) weapons are inherently the more toxic type of armament and can affect vast battle areas or civilian population centers. Known biological weapons agents include anthrax, botulism, tularemia, plague, and Q-fever.

These pathogens, such as bacteria, viruses, and fungi, are widely recognized as having military utility.

"They are incredibly lethal," warns John Holum, director of the US Arms Control and Disarmament Agency. "They are also not that difficult to make, so I think we have to anticipate a very high risk of these being more widely available."

Biological arms are preferred by developing countries who see them as a "poor man's atom bomb." For a sense of what might await US forces in the future, one need look no further than the special weapons program recently uncovered in Iraq.

Iraq managed to conceal the true extent of its biological weapons program from the end of Operation Desert Storm until late last year, when Baghdad finally revealed it. It featured some of the deadliest pathogens known to man.

## **Iraq's First Germs**

Iraq's biological warfare program began with the development of bacteria strains in 1986. The two key agents being developed were anthrax and botulinum toxin—both extremely deadly, disease-causing material.

Botulism takes only three days to incubate. Experts have reported that botulinum toxin is 100,000 times more deadly than sarin nerve gas, the type allegedly released by religious fanatics in Japan's Tokyo subway last year.

Minute quantities of bacillus anthracis could kill a person in a week. Quantities of several hundred pounds

*From Ypres in World War I to Khafji in the Persian Gulf War, soldiers have had to prepare for an enemy's use of "special weapons." Some nations perceive biological weapons as the poor man's atom bomb, and some military planners see lasers, radiological weapons, and sound-wave guns as emerging dangers.*



of anthrax spores dispersed from aircraft could cause thousands of deaths.

An outbreak of pulmonary anthrax in 1979 killed hundreds of residents of the Soviet city of Sverdlovsk, now renamed Ekaterinberg. The Sverdlovsk tragedy sprang from an accident at a Soviet military BW facility, where dry virulent anthrax spores were released into the air. Victims suffered from the sudden onset of very high fever and respiratory distress that led to death.

US intelligence agencies that have examined the effects of anthrax, which is weaponized as spores and can be sprayed from a truck or aircraft, say the spores are inhaled or ingested and cause pulmonary anthrax.

It is highly lethal because by the time the first flu-like symptoms caused by the bacteria appear, enough toxins have been produced to kill a person, even if the bacteria are killed off with high doses of antibiotics.

According to the CIA, anthrax proves fatal in eighty percent of cases.

Plague affects its victims in one to three days and is ninety percent fatal, says the CIA. Less lethal bugs include tularemia and cholera, which

can take up to ten days to affect victims and are anywhere from five to fifty percent fatal.

A United Nations report, released October 11, 1995, states that the Iraqi military conducted tests of BW agents on sheep, donkeys, monkeys, and dogs and that weapons field trials were held in 1988. Production began in 1989, with Iraqi plants producing their first 1,500 liters of anthrax agent. The UN report adds that in 1990, Iraq produced 6,000 liters of concentrated botulinum toxin and 8,425 liters of anthrax toxin.

Iraq also worked on a new agent—*Clostridium perfringens*—which causes “gas gangrene.” This malady features the rotting of flesh commonly seen in war casualties, requiring the amputation of affected limbs. This BW agent, when placed within artillery or mortar rounds, would be spread by shrapnel and would cause wounds to develop gas gangrene.

Another BW agent studied by the Iraqis was aflatoxin—a poison common to fungus-contaminated food grains and known to cause liver cancers—which they loaded into bombs. The Iraqis also studied other tricho-

thecene mycotoxins, such as T-2 and DAS. The mycotoxins cause nausea, vomiting, diarrhea, and skin irritations.

Ricin toxin, derived from the common castor bean, also was being developed. This poison causes bleeding pneumonia.

### Production of Viruses

Iraq also developed three distinct viral agents: hemorrhagic conjunctivitis virus, rotavirus, and camel pox virus.

The first of these experimental agents causes a disease whose symptoms are extreme pain and temporary blindness, resulting from bleeding eyeballs. The second causes severe diarrhea that can lead to dehydration and death. The third causes fever and skin rash. Camel pox, endemic to Iraq, also causes pus-filled skin eruptions. Iraqis appear not to be affected, though the malady is lethal for foreigners.

BW viruses are submicroscopic infective agents made up of DNA or RNA that need living cells to reproduce. These agents can produce a range of afflictions with varying degrees of toxicity and incubation

## Chemical Warfare Agents

Agent Class	Agent	Persistence	Rate of Action
Nerve	Tabun	Low	Very rapid
	Sarin	Low	Very rapid
	Soman	Moderate	Very rapid
	GF	Moderate	Very rapid
	VX	Very high	Rapid
Blister	Sulfur mustard	Very high	Delayed
	Nitrogen mustard	Moderate-very high	Delayed
	Phosgene oxime	Low	Immediate
	Lewisite	High	Rapid
	Phenyldichloroarsine	Low-moderate	Rapid
	Ethylchloroarsine	Moderate	Delayed
Choking	Methylchloroarsine	Low	Rapid
	Phosgene	Low	Delayed
	Diphosgene	Low	Variable
Blood	Hydrogen cyanide	Low	Rapid
	Cyanogen chloride	Low	Rapid
	Arsine	Low	Delayed
Riot control (vomiting)	Diphenylchloroarsine	Low	Rapid
	Diphenylcyanoarsine	Low	Rapid
	Adamsite	Low	Rapid
Riot control (tear gas)	Chloroacetophenone	Low	Immediate
	Chloropicrin	Low-high	Immediate
	Bromobenzylcyanide	Moderate-very high	Immediate
	O-chlorobenzylidene malononitrile	Low-high	Immediate
Psychochemicals	3-Quinuclidinyl benzilate	High	Delayed

Source: US intelligence agencies



## Biological Warfare Agents

Disease	Causative Agent	Incubation time (days)	Fatalities (percent)
Anthrax	Bacillus anthracis	1-5	80
Plague	Yersinia Pestis	1-3	90
Tularemia	Francisella tularensis	1-10	5-20
Cholera	Vibrio cholerae	2-5	25-50
Venezuelan equine encephalitis	VEE virus	2-5	less than 1
Q-fever	Coxiella burnetti	12-21	less than 1
Botulism	Clostridium botulinum toxin	3	30
Staphylococcal enterotoxemia (food poisoning)	Staphylococcus enterotoxin type B	1-6	less than 1
Multiple organ toxicity	Trichothecene mycotoxin	Dose dependent	Dose dependent

Source: US intelligence agencies

periods. They are introduced into victims through contact with the skin, eating or breathing, or as a result of breaking the skin with agent-coated shrapnel, for example. The list of potential BW agents is long and includes the deadly Ebola virus that broke out in Africa last year.

Iraq's final deployed BW arsenal included at least 19,000 liters of concentrated botulinum toxin—10,000 liters of which were loaded into munitions—and 8,500 liters of concentrated anthrax toxin, with 6,500 liters loaded into munitions.

Some 2,200 liters of concentrated aflatoxin were deployed, with 1,580 liters in munitions, according to the UN report.

"Given the Iraqi claim that only five years had elapsed since [the BW program's] declared inception in 1985, the [program's] achievements . . . were remarkable," the UN concludes.

Dr. Richard Spertzel, a US biological weapons expert who is part of the UN team that investigated the Iraqi program, says the weaponization effort may not have produced ideal weapons, but they would have been effective had they been used in the Persian Gulf War.

"They could have been used against US troops," Dr. Spertzel says. "These weapons . . . were not designed for tactical situations; they were for strategic purposes, deployed in both bombs and Al Hussein missiles."

The weapons were armed with impact-fuze detonators—not an ideal way to disseminate BW agents but one that clearly would have produced casualties, Dr. Spertzel says.

He contends that the Iraqi BW program should be viewed as an in-

dicator that other nations may seek such arms as a relatively easy way to develop their own version of strategic weapons.

"There may be some that already have done that," he notes. The Iraqi program, in just five years, showed remarkable progress and demonstrated how easy it is for a rogue nation to develop these types of arms, he says.

### Snakes, Insects, Spiders

Toxins are poisons derived from plants or animals and can be developed into BW protein agents capable of acting on specific receptors in the human body. Toxin weapons are relatively unstable and can be affected by heat or other environmental factors. Developers rely on a variety of sources for toxins, including microbes, snakes, insects, spiders, sea creatures, and plants.

Toxins can also be derived from fungi. Algal toxins, for example, are highly poisonous and difficult to halt with vaccines or other medical treatment. They are also very difficult to detect. Another toxin, saxitoxin, is produced from marine algae and affects nerve cells, eventually causing the victim to stop breathing.

Weapon experts also are looking at the possibility that bioregulators—organic chemicals that regulate cell processes—and physiologically active catalysts and enzymes will be weaponized for BW use in the future.

Bioregulators are produced in small quantities by the body and are essential for controlling normal bodily functions, such as breathing, blood vessel dilation, muscle contraction, blood pressure, heart rate, temperature, and

immune responses. An intelligence community report points out that such chemicals could short-circuit and disrupt these bodily functions and kill the affected victims.

"Exploited in such a way for military purposes, they could potentially cause such effects as rapid unconsciousness, heart failure, paralysis, hypotension or hypertension, or psychological disturbances," the report warns.

Nature's own killer bugs are bad enough, but advancing technology could increase their lethality. Russia is known to have genetically engineered biological weapons. A Soviet biologist involved in Moscow's offensive biological arms program defected to Britain in 1990 with new information about the germ warfare program. The defector revealed that a secret Soviet program known as "Biopreparat" was working on a variety of bioarms, including bacteria capable of causing a "superplague" able to wipe out entire cities.

Scientists suspect that biological arms can be made deadlier by creating antibiotic-resistant strains of bacteria or by growing benign microorganisms that are genetically engineered to produce toxins, venoms, or bioregulators within the body.

Science can develop viruses with increased resistance to vaccines. There are also fears among military officials that BW producers could make deadly bacteria able to withstand exposure to air and the environment.

### Easy to Make

To build these nasty bugs, a nation does not need special facilities. Three levels of production have been

identified in proliferating countries—laboratory scale, pilot scale, and industrial scale. Laboratory-level production could be sufficient to produce strategically significant amounts of BW agent for military uses.

It is relatively easy to create organisms suited for germ weapons. All that is needed are special containers capable of fermenting whole cellular organisms or the toxins they produce. Then, through the use of centrifuges, the deadly bugs or toxins can be gleaned for use as weapons.

"Virtually any known disease-causing agent can be manufactured in the laboratory, and many can be produced on an industrial scale," the intelligence white paper says. "With genetic engineering, new possibilities have emerged, which could allow for the design of new pathogens, more virulent strains of organisms, or organisms with characteristics tailored to specific military requirements."

Samples of deadly viruses needed for starting BW programs can be obtained on the international black market. US counterproliferation officials are especially concerned that BW starter cultures could be smuggled out of the territory of the old Soviet Union by scientists looking to make money.

Unlike chemical weapons programs, which require the use of large-scale industrial equipment and possession of precursor chemicals, BW weapons do not need to be stockpiled. Nations can keep small quantities or even sample cultures on hand in freeze-dried form. Cultures can be mass produced at any time.

Iraq's chemical arms program also was found to be larger and more advanced than Baghdad ever admitted, specifically with production and storage of an advanced nerve agent, VX. Experts say the nerve agent is so deadly that one drop can kill a person.

Chemical warfare began in 1915 when Germany fired large clouds of the choking agent chlorine on French troops. Both sides eventually resorted to the use of choking and blistering agents, and by the end of the conflict more than a million soldiers had been killed or wounded in chemical attacks.

Chemical warfare agents are classified by their physical and chemical properties, such as lethality, mode of action, speed of action, toxicity, persistence, and state.

These weapons can be dispersed

Chemical and biological weapons are only the best-known types of special weapons likely to confront US armed forces. Also in store are less-developed types of unconventional weapons, such as blinding lasers, radiological weapons, and ultralow-frequency sound-wave guns that can cause severe intestinal distress.

"The emerging dangers are in the kinds of weapons that pose a somewhat less cosmic threat but are much more accessible, easier to make, easier to conceal," says John Holum, director of the US Arms Control and Disarmament Agency.

Military planners believe that the US will have to deal with the threat of some type of radiological weapon, possibly one with a conventional explosive mixed with radioactive material, such as plutonium. Radiological arms can spread nuclear contamination over large areas, dispersing enough radiation to sicken troops. It can debilitate a force without a nuclear blast, yet cause radiation sickness.

"What it comes down to is a dirty, low-yield bomb," Mr. Holum says, "a weapon that in a military sense would be called a fizzle but in the sense of immediate impact, a very dangerous weapon."

Blinding lasers are another emerging unconventional threat. At an arms exhibition last year, China's North Industries Corp. unveiled a "portable laser disturber" capable of injuring eyesight.

Laser weapon research programs reportedly are under way in France, Britain, Russia, Ukraine, Israel, and Germany.

in aerial bombs, artillery rockets and shells, grenades, mines, missile warheads, and mortar rounds, and they kill or incapacitate in a number of ways, including damaging eyes and lungs and blistering skin.

Choking agents, like those used in World War I, affect the lungs and cause victims to choke on their own mucus. Blood agents are inhaled and block the body's ability to absorb oxygen into cells, causing rapid damage to tissues.

Military analysts maintain that a military force engaged in chemical warfare would use blood agents in areas they hope to occupy quickly. The reason: Blood agents dissipate quickly and therefore pose less of a threat to advancing forces.

### Chemical Agents

More advanced chemical weapons include the G-series nerve agents tabun (GA), soman (GD), and sarin (GB). These highly lethal agents attack the nervous system and are similar in chemical structure to pesticides. German chemists discovered the three agents accidentally while developing new pesticides in the 1930s.

The more advanced nerve agents that pose a greater threat to US soldiers include V-series nerve agents, such as VE, VG, VM, VS, and VX, developed in the 1950s by British scientists. They are more toxic and linger longer than the G-series chemicals do. Small amounts on the skin

can kill, and they pose a long-term contamination danger to the territory and equipment they are used against.

Also on the horizon is the potential use of "vomiting agents" in combat. These arsenic-based chemicals cause great discomfort and can force troops to remove protective masks. With masks removed, a second-wave attack could then be launched using highly lethal nerve agents.

Another possibility being explored by military planners is the attack by various psychochemicals. These include the well-known LSD (lysergic acid diethylamide) and two other chemicals, known in the intelligence community as BZ (3-Quinuclidinyl benzilate) and benactyzine. The chemicals alter the nervous system and create visual and aural hallucinations, a sense of unreality, and changes in thought processes and behavior.

Psychochemicals have a dual capability and could be used to inactivate both civilian and military personnel for relatively short periods.

Highly advanced communications are putting such weapons know-how in the hands of anyone with a computer and modem. "The ingredients for sarin and other chemical weapons are easily accessible over the Internet," said Sen. Sam Nunn (D-Ga.), the senior Democrat on the Senate Armed Services Committee, "as is information about biological weapons and even instructions on how to make a nuclear device." ■

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*Bill Gertz covers national security affairs for the Washington Times. His most recent Air Force Magazine article, "Toward a Thin Missile Defense," appeared in the July 1995 issue.*

By John L. Frisbee, Contributing Editor

## Tribute to the Tankers

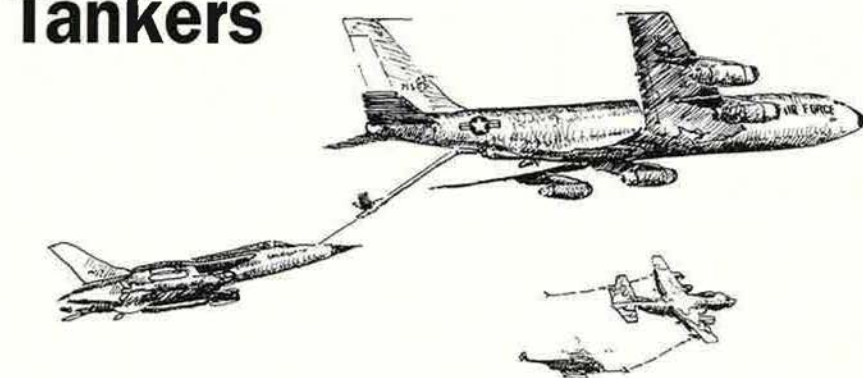
In the southeast Asia war, air refueling became, for the first time, a key element in combat operations.

**A**IR FORCE combat operations in the southeast Asia war were heavily dependent on the support of Boeing KC-135 Stratotankers. They made it possible for Guam-based B-52s to reach their targets and for fighters to range from one end of Vietnam to the other, greatly increasing the flexibility of tactical air operations. Fighter strikes in the northern route packages were totally dependent on the tankers.

Air refueling tracks flown by the KC-135s were in northern and eastern Thailand, northern Laos, and over the Gulf of Tonkin, north of the demilitarized zone (DMZ). Regardless of established limits on how far north they could go, however, tanker crews often went into North Vietnam and the extreme north of the Gulf to rescue F-105s and F-4s and often Navy fighters that needed fuel to get home. The number of aircraft and crews they saved cannot be precisely determined, but it was substantial.

The KC-135s were not the only tankers used in southeast Asia. HC-130 Combat Shadows refueled HH-3E Jolly Green Giant and HH-53 helicopters of the Air Rescue Service. The Navy also had tankers, the carrier-borne KA-3 Skywarriors and KA-6 Intruders, but the majority of refueling for combat operations was provided by KC-135s. Though the tankers and their crews were a key element in the air war and have given the Air Force rapid, worldwide reach, they have not received the general recognition they deserve. "General recognition" certainly does not include the crews they saved.

The number of KC-135 tankers deployed to the western Pacific paralleled the tempo of combat operations, reaching a peak of 195 at the end of 1972. Those responsible for refueling B-52s were based at various times in Okinawa, Taiwan, and



the Philippines. The tankers assigned primarily to fighter support were concentrated on bases in Thailand.

Between 1965 and US troop withdrawal from southeast Asia in 1973, Strategic Air Command tankers flew about 195,000 sorties, made nearly 814,000 refuelings, and offloaded almost nine billion pounds of fuel. That war, with its military achievements and political handicaps, could not have been fought without them.

A unique refueling mission on May 31, 1967, epitomizes the skill, determination, and heroism of the tanker crews. At that time, the thirty-odd KC-135s primarily responsible for refueling the fighters were under the 4258th Strategic Wing. A crew consisting of aircraft commander Maj. John H. Casteel, copilot Capt. Richard L. Trail, navigator Capt. Dean L. Hoar, and boom operator MSGt. Nathan C. Campbell was assigned a refueling track over the Gulf of Tonkin. There was no reason to think this mission would be anything more than a normal day's work.

Soon after they had established their track, Major Casteel's crew was alerted to refuel a pair of Air Force F-104 fighters on a support mission north of the DMZ. (Early in the war, a few F-104s and F-102s were based briefly in South Vietnam, primarily for air defense.) While refueling the F-104s, Casteel was informed that two Navy KA-3 tankers, desperately short of fuel, were on the way to his tanker. Both KA-3s had fuel they could transfer but could not use themselves. After receiving a partial load, the F-104s stayed with Casteel's KC-135 to defend it against possible MiG

attacks while it refueled the Navy aircraft.

The first Navy tanker took on a minimum of fuel then broke off to allow the second KA-3 to hook up. At this point, two Navy F-8s were vectored to the KC-135 for emergency refueling. One F-8 was so low on fuel that the pilot could not wait for the second KA-3 to complete refueling. The Navy pilot hooked up to the KA-3 that still was taking on fuel from the KC-135. That is believed to have been the first trilevel refueling ever. While the dual transfer was in progress, the first KA-3 passed fuel to the second F-8, then returned to the KC-135 to complete its own refueling.

This joint-service operation was still in progress when two Navy F-4s with bingo fuel were vectored to the KC-135 for emergency service. While waiting for the F-4s to appear, Casteel's crew gave the two Air Force F-104s another shot of fuel, then transferred enough to the Navy F-4s to get them to their carrier.

After this series of ten refuelings, the KC-135 did not have enough fuel to return to its base in Thailand. It headed for an alternate in South Vietnam while refueling the two F-104s a third time to provide enough fuel to get them to their base.

For this remarkable series of refuelings that saved eight aircraft and their crews, Major Casteel and his crew were awarded the 1967 Mackay Trophy for the most meritorious Air Force flight of the year. In a sense, that award honored the hundreds of tanker crews that served with little acclaim during the eight years of tanker operations in the war. ■

**The Reserve Officers  
Training Corps  
has revamped its**

# ROTC's New Way

**curriculum and is  
putting programs  
online.**

**By Peter Grier**

**P**ERHAPS you are a US high schooler, and you think that, in today's smaller military, the Air Force Reserve Officers Training Corps is a route to a dead-end job. If so, Brig. Gen. Susan L. Pamerleau has a message for you: You're wrong.

General Pamerleau, commandant of AFROTC, says it is true that, in the early 1990s, the program went through some tough times. As the whole military shrank, so did ROTC programs. It got to a point where cadets were asked whether they wished to voluntarily "disenroll." Coveted flying slots allocated to AFROTC graduates virtually dried up, dropping to a low point of 100 in Fiscal 1994.

However, the overall Air Force has stabilized and so have its traditional sources of officer candidates. In fact, AFROTC's vital signs—enrollment and officer production—are getting stronger. Perhaps most important, the future for those who make it in and through ROTC programs and don a uniform may be as bright as at any time in the recent past.

Says General Pamerleau, "When these young lieutenants get to be senior captains and majors, . . . wow, I wish I were there."

That is because in the past few years the Air Force has brought in fewer entry-level people than actually called for in official requirements. Today's ROTC grads will face less competition than their older colleagues as they progress in their careers and thus will have greater opportunity to land key jobs.

They will also have had a more modern military education than some of their predecessors. ROTC officials are doing their best to see that graduates are ready for the highly computerized Air Force of the twenty-first century, producing a new curriculum and upgrading the system with new technologies.

## **Largest Source**

"ROTC is extremely important in assuring that we bring quality officers into the Air Force," says General Pamerleau. "It is the oldest and largest source of officers for the service."

It may also be the easiest to take for granted. The Air Force Academy in Colorado Springs, Colo., remains the more prestigious gateway to an Air Force job; however, it is ROTC that, over the years, day in and day out, has shaped most of the men and

women who form the backbone of the force. It has done so in a cost-effective manner. The latest available figures show that the price of producing an Air Force lieutenant via ROTC is about \$77,000.

AFROTC has deep historical roots. The first Air ROTC units were established in the early 1920s at the University of California, Berkeley, at Georgia Institute of Technology, and at four other technically oriented US institutions of higher learning. After World War II, the new Department of Defense increased the number of Air ROTC units to seventy-eight.

Today 146 Air Force ROTC detachments are scattered across the nation, providing tuition-and-books scholarships to cadets in return for a commitment to military education and, after graduation, entry into the long blue-suit line. Students can choose either a full four years of ROTC or, if they pass a screening process, just the final two years.

These important last years, which form the Professional Officer Course (POC), are the time when instructors focus on the Air Force as a cadet's prospective career.



USAF photo by Fernando Serna

This fiscal year, the Air Force expects to have about 13,800 enrolled in AFROTC programs. That number is about average, compared to the levels of the 1990s, but it is well short of the yearly average for the 1980s—23,300.

Enrollment bottomed out in 1992, at just over 10,000. That was the worst of the tough times, as it was in the Air Force as a whole. There were still too many cadets in the pipeline, when measured against available jobs, and ROTC officials were forced to tell some cadets that they would not be getting pilot or navigator slots, after all.

“There was a conscious decision to reduce accessions,” says General Pamerleau.

Traditionally, AFROTC produces between fifty and sixty percent of all officers entering the Air Force. Measured in terms of graduating young lieutenants, the recent low ROTC year was 1994, when officials commissioned just over 1,400 cadets—little more than half the number of 1989. This year, the projected number is up to 1,700.

Air Force plans now call for ROTC to produce around 2,000 young of-

ficers a year by 2000. “We’ve got some stability through the end of the century,” says General Pamerleau.

Pilot numbers are slowly recovering, as well. In the low years of 1993 and 1994, ROTC was allocated only 100 slots for entrance into flight school—fewer than one per detachment, on average. The goal for next spring is to send 300 ROTC cadets into undergraduate pilot training and 560 a year by the turn of the century.

“We’ll soon be back to the same level of flying opportunity as we were before the drawdown,” the General predicts.

ROTC officials call their current state one of “fragile success.” They need to sustain their momentum and stability, they say, as do personnel officers in the force as a whole. And they need to get the word out to potential ROTC enrollees that the Air Force, in effect, is still hiring.

Recruiters do not have to be the only people carrying this message. The whole Air Force can contribute to ROTC’s success, according to the program’s commandant.

“Everybody knows . . . an outstanding young man or woman who would be the right kind of person to

offer a future in the Air Force,” General Pamerleau says.

Freshman enrollment, a key indicator of future interest, has firmed up again. This fall, 6,000 students entered their first AFROTC classes, enough to promise that in two years the competition to win entry into the final two POC years will be as keen as it should be. That is to say, the competition will be stiff if efforts to retain cadets past their freshman year pay off. In the past, pre-sophomore dropouts have been a big ROTC problem, one that General Pamerleau is trying to solve.

#### **An ASSIST for the Program**

One tool in this regard is AS 100 Selective Incentive Shadow Training (ASSIST), an ROTC adjunct program intended to bring home to cadets what the Air Force is all about. A ten-day program held at ten Air Force bases around the country, ASSIST exposes new cadets to aircraft and life on base and tries to get them excited about military life.

ROTC detachment commanders recruit students for ASSIST, and so far, the retention rate for participating freshmen is ninety-five percent.

Overall, the ROTC freshman retention rate for 1995 has been five percent higher than it was in 1994.

ROTC officials hope to build on this success through a cooperative effort with the Air Force Academy that will bring promising freshmen to Colorado Springs for soaring and free-fall courses [see "Airmanship Spoken Here," December 1995, p. 74]. Sending cadets aloft in gliders

with a recommended reading list for students. The weight of drawing up specific lesson plans—and of adding educational spice to interest students—fell squarely on the shoulders of detachment instructors. Many were up to the task. Some were not.

By the early 1990s, it was clear something had to be done. The draw-down was making manning issues critical throughout the service, and

cornerstone of their entire university academic program. ROTC courses normally count for academic credit, as would any other elective. Colleges and universities typically treat ROTC as a separate academic department. Instructors are active-duty Air Force officers with master's degrees, accorded the educational rank of assistant professors.

The first two years of the four-year ROTC program involve the General Military Course. GMC now consists of one hour of classroom work and two hours of leadership lab each week. It provides basic instruction about the armed forces in general, and the Air Force in particular, and serves as a prelude to the more intensive final two years of POC classes.

Once a cadet is approved for entry into POC, the academic work load gets heavier. Classes are smaller and last three hours per week, with topics ranging from management skills to US national security policy. Weekly leadership labs can take another two hours.

ROTC's first two years are "followership oriented," says Colonel Gable. The final years, by contrast, are designed to produce leaders. "The last two years are really preparation for active duty," he says.

An increase in leadership instruction lies at the heart of Curriculum 2000 changes. In the past, ROTC courses were heavy on military history. The new lesson plan, by contrast, has greatly reduced the amount of time devoted to this field. Military history is still taught—but largely as the history of military leadership. Instructors focus on great officers and how they reacted to their times.

### Officers, Not Historians

"After all," says Colonel Gable, "we're not trying to produce historians. We're trying to produce second lieutenants."

ROTC officials say they also believe that their new curriculum is more dynamic than the one it replaced. On one level, that means it is more responsive to change. With a better idea of what everyone is teaching, and when, the Air Force can more easily insert updates as necessary. Top Air Force officials recently reduced the number of service "core values," for example, and ROTC quickly adjusted its teaching materials midsemester.

## Fifty Years of Air Force ROTC

### Total Enrollment

1947 ..... 8,487	1964 ..... 101,617	1981 ..... 24,751
1948 ..... 28,922	1965 ..... 78,691	1982 ..... 25,505
1949 ..... 40,775	1966 ..... 72,257	1983 ..... 26,081
1950 ..... 47,705	1967 ..... 57,700	1984 ..... 24,883
1951 ..... 72,798	1968 ..... 51,273	1985 ..... 23,605
1952 ..... 141,056	1969 ..... 37,371	1986 ..... 23,390
1953 ..... 122,241	1970 ..... 28,080	1987 ..... 22,067
1954 ..... 105,244	1971 ..... 25,435	1988 ..... 19,549
1955 ..... 100,108	1972 ..... 23,186	1989 ..... 20,178
1956 ..... 99,434	1973 ..... 20,349	1990 ..... 16,167
1957 ..... 97,408	1974 ..... 19,096	1991 ..... 13,403
1958 ..... 97,358	1975 ..... 17,316	1992 ..... 10,231
1959 ..... 103,473	1976 ..... 16,579	1993 ..... 11,158
1960 ..... 107,002	1977 ..... 17,034	1994 ..... 12,214
1961 ..... 108,475	1978 ..... 18,019	1995 ..... 13,011
1962 ..... 102,348	1979 ..... 20,476	1996 ..... 13,813*
1963 ..... 100,662	1980 ..... 22,834	

Source: Hq. AFROTC, Maxwell AFB, Ala.

has proved a powerful retention tool for the Academy; a similar program may do the same for ROTC.

"By 1998, 600 ROTC cadets will be participating in soaring and free-fall opportunities at the Academy," says General Pamerleau.

As part of their effort to keep ROTC relevant in the era of the new, leaner Air Force, program officials have also taken a hard look at course content and, for the first time in twenty years, have made major changes.

Their effort involved more than just updating textbooks. It focused on "a complete update of the entire curriculum—what's taught, how it's taught, and where in the flow of a cadet's career it's taught," says Lt. Col. Myke Gable, curriculum branch chief at AFROTC headquarters, Maxwell AFB, Ala.

Old ROTC academic course guidelines were thin. Instructors in the field received little more than basic outlines of course information, along

ROTC leaders saw that they would have to lighten the work load of increasingly hard-pressed instructors in the field. They also decided to take the opportunity to alter course contents to reflect different methods of teaching about the Air Force, developed in Officer Training School, the Academy, and higher-level staff and command colleges.

The result was Curriculum 2000. As part of the project, AFROTC headquarters now provides almost everything needed for classroom instruction except the erasers. The package includes textbooks for students, lesson plans for instructors, and such additional material as lists of suggested questions, motivational steps, even overhead slides.

Instructors "can pick up our package and walk into a classroom and teach with little or no preparation," says Colonel Gable.

It is important to remember that, for its participants, senior ROTC is a

On another level, "more dynamic" means more interesting. The new generation of cadets has been raised not just on Nintendo, but on Super Nintendo with multibit graphics. Measured against that, a lecture with chalkboard and overhead slides is not exactly captivating.

Plans now call for integration of more videos and interactive course work in Curriculum 2000 as soon as possible. War games are an area where this approach might be particularly useful.

At one detachment, ROTC officials are testing a simulated war game that mimics the entire process of national defense, from initial weapon system planning to actual warfighting. Students work together, building up their forces over time, while constrained by "national budgets." The top-ranking students in the class decide on deployments and basing; lower-level cadets become "pilots" who are called on to fly off and fight.

This game approach is particularly useful because cadets learn the concept of planning and the idea that the Air Force of the next century will fly off to fight with aircraft developed and produced decades before. "We're looking at integrating that into the full curriculum next year, possibly," says Colonel Gable. "Right now, we have no simulations or war games in the curriculum. It's mainly guided discussion."

Computer resources are the problem. At the top, the Air Force may field aircraft with the most advanced warfighting technology in the world, but at the ROTC level, it is a struggle just to make sure every cadet has access to a personal computer—even a relatively outdated one.

"I'm looking toward the future: How can I meld information technology with the curriculum system and move us into the next century?" asks Colonel Gable.

ROTC headquarters would like to distribute its learning materials purely through e-mail, on CD-ROMs, or just via computer disk to the field. Right now, they're still stuck with the old print-and-mail methods, mean-

## JROTC: Building Citizenship

While ROTC aims to provide young second lieutenants for the Air Force, its little brother—Junior ROTC—is designed to simply provide high-school-age youth a taste of what the military is like.

As they learn about drill, riflery, and leadership, the JROTC cadets may also learn a little something about life. The primary purpose of JROTC is to make better citizens, says Brig. Gen. Susan L. Pamerleau, AFROTC commandant. It is not a recruiting program.

AFJROTC was founded in 1966 with units in twenty high schools. Today, its numbers far surpass those of AFROTC itself. It has 586 units nationwide with more than 67,000 students enrolled.

Scholarships are not part of the JROTC program, although graduates can earn credits applicable toward ROTC requirements. Typically, a JROTC class is an elective that youngsters can choose in lieu of physical education. Instructors are retired Air Force commissioned or noncommissioned officers. For the most part, they are full-time teachers at high schools where the units are located and are paid by the local school district.

The curriculum is sixty percent aerospace science and forty percent leadership education. Many units have drill teams or color guards that appear at school functions.

Pentagon plans call for JROTC programs in all US military services to undergo major expansions. The Air Force plans to add twenty-three JROTC units next year, topping out its program at 609 participating educational institutions.

Some communities have resisted JROTC expansion, and a handful of school boards have voted to end programs in recent years. Some critics complain that the program is really meant to lure impressionable youth into military service. (About five percent of AFJROTC grads eventually serve in some branch of the armed forces, according to service statistics.)

The stronger reason is financial: Most schools that decline JROTC do not want to pay for an instructor, though the Pentagon will subsidize their salaries in the first years of a new program.

ing a twelve-page pamphlet now sitting on headquarters desks will take two and a half months to reach ROTC cadets.

### Going Online

By 2000, ROTC officials hope all detachments will be online to the point where they can receive e-mail and access a cyber-library of military books held at Maxwell AFB or some other electronic depository. Computerized interactive courseware is a goal, as is video-teleconferencing and other new distance-learning techniques.

Such changes "cost a lot" admits Colonel Gable. "You can't go to pure distance learning at the drop of a hat."

Nor is support for such changes consistent among all ROTC institutions. Some colleges and universities already provide cadets with computers, audiovisual projectors, and classrooms dedicated to ROTC education. Other administrations are not so supportive. Some universities

shuttle ROTC from classroom to classroom throughout the school year, making storage of even basic educational materials difficult.

Not that ROTC is returning to the days when it was a controversial campus presence—except for a few isolated incidents. In fact, a number of colleges have reacted strongly to hints that they might lose their AFROTC programs. In 1994, the Pentagon set an ROTC viability standard: Detachments that did not produce an average of fifteen lieutenants a year would be closed. When AFROTC officials warned institutions in danger of losing their units, some eagerly sought to work with the service and keep their programs.

Room-and-board scholarships were one result. By law, ROTC can pay only for cadet tuition, books, and fees, but some schools have taken the prospective loss of AFROTC so seriously that they have set aside upward of \$1 million for room-and-board subsidies.

A few institutions may still lose their programs, but overall "it's been a tremendous outpouring on the part of universities who want to be a partner in assisting us with young people," says General Pamerleau. ■

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*Peter Grier, the Washington bureau chief of the Christian Science Monitor, is a longtime defense correspondent and regular contributor to Air Force Magazine. His most recent article, "The Quality of Military Life," appeared in the December 1995 issue.*

**The ABL demonstrator could be the forerunner of a system that can shoot down ballistic missiles.**

# The Airborne Laser

**By Suzann Chapman,**  
Associate Editor

**I**t is nighttime on a hilltop in New Mexico, and the sky is clear and crowded with stars. Suddenly, two green shafts of light shoot out overhead. The beams converge, appearing to extend infinitely into space.

It is not a scene from the next episode of "The X Files." It is a demonstration of one of the major technologies—adaptive optics—that may enable USAF to develop a prac-

*Scientists must be able to correct for atmospheric distortions in order to make airborne lasers accurate enough to down missiles in their boost phase. USAF's Starfire Optical Range helped solve this problem with its adaptive optics technology, which employs lasers and a computerized deformable mirror to detect and compensate for atmospheric "jitter."*

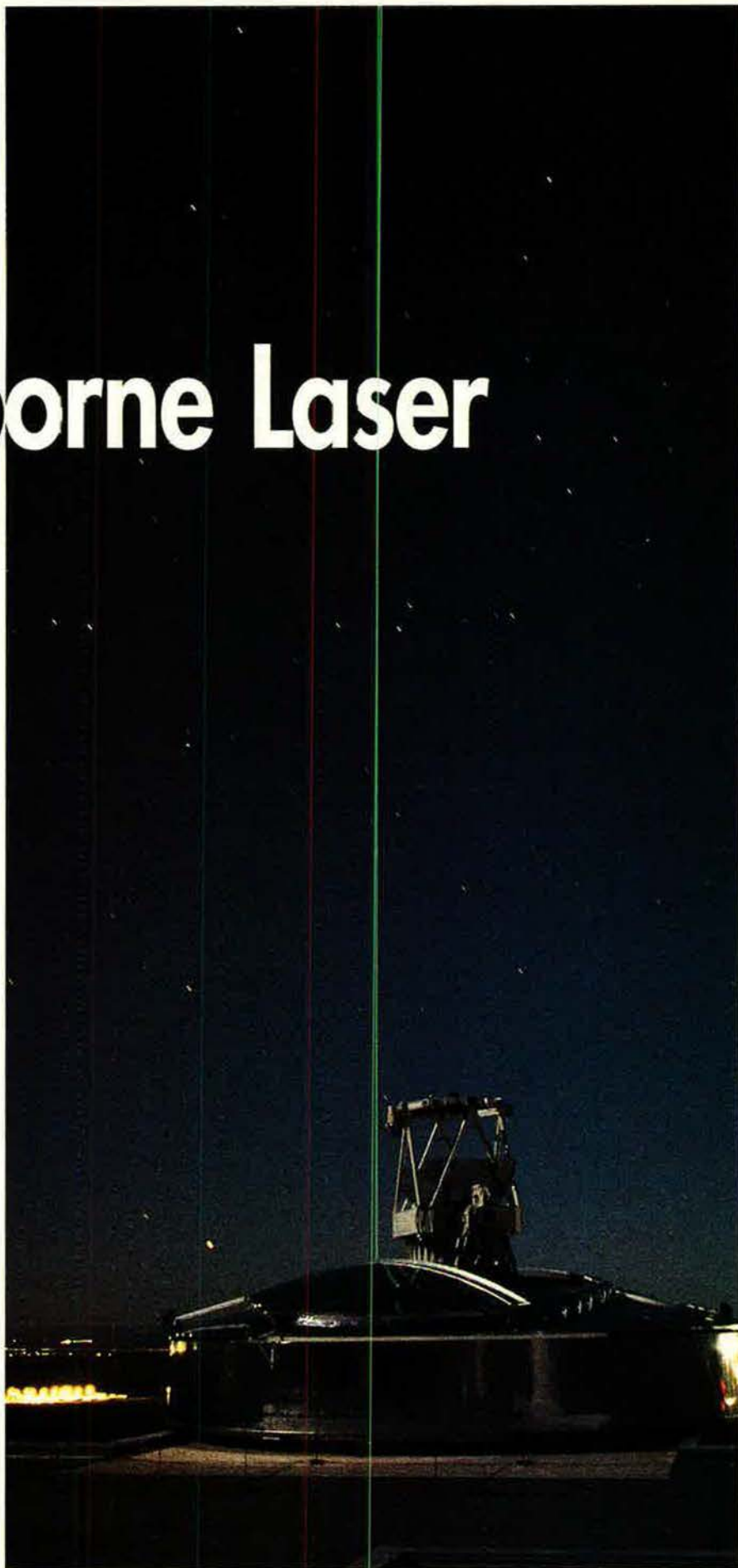


Photo by Ray Nelson



tical airborne laser (ABL) weapon system. The service invited the press to accompany Air Force Secretary Sheila E. Widnall to Kirtland AFB, N. M., home of Phillips Laboratory, to learn more about a program that, in her view, "revolutionizes our operational concepts, tactics, and strategies."

The Air Force believes that a workable ABL defense system could be used to destroy an enemy's theater ballistic missiles in their "boost phase," while they are still over enemy territory and before they have released any warheads.

The Starfire Optical Range, which provided the nighttime light show, developed the adaptive optics technology needed to maintain laser-beam integrity—to ensure that the beam will not be scattered as it travels through the atmosphere. Declassified in 1991, the technology was initially designed to improve image quality from telescopes but is equally applicable to laser beams.

On October 27, one day after the demonstration in New Mexico, Secretary Widnall told attendees at the Air Force Association National Symposium in Los Angeles that the service is 100 percent sold on the ABL program. The ABL "attacks at the speed of light, costs about \$1,000 per shot, will kill chemical and biological weapons over enemy territory, and frees up many of our attack aircraft from 'Scud-hunting' duty for other warfighting requirements," she said.

## Two Teams

The ABL program comprises the work of the Air Force and a pair of contractor teams. Rockwell International leads one team, which includes Hughes and E-Systems. The other is headed by Boeing and includes TRW and Lockheed Martin. Each contractor team received a \$22 million contract in 1994. The Air Force plans to award a single demonstrator contract to one of the teams in Fiscal 1997.

For USAF, the concept of building airborne laser weapons is nothing new. The service conducted high-energy laser experiments in 1981 using the Airborne Laser Laboratory (ALL) aircraft. This older test system destroyed five AIM-9 Sidewinder air-to-air missiles and one BQM-34 cruise missile drone.

Today, USAF leaders and ABL team members believe they have within their grasp the technologies to build a practical antimissile system over the next several years. So convinced is the Air Force that it has put \$700 million on the line to produce a demonstrator by 2002.

USAF plans call for using a Boeing 747 jumbo aircraft as the ABL platform. The service estimates that seven ABL-equipped aircraft would cost \$450 million each. It expects the total program to cost \$5 billion and plans a potential initial operational capability for three aircraft by 2006. All seven aircraft would be operational by 2008.

The development of several key technologies now appears to make the system a realistic project. One of these is today's more efficient laser.

Col. Dick Tebay, the ABL system program director, said the laser itself has come a long way since the ALL experiments of the early 1980s. The laser for today's ABL, he noted, is eight times more powerful than the one used in the ALL project but is one-thousandth as bright. Situated nearby as the Colonel spoke was a display of the remains of several Scud-type missiles that the ABL system had "killed."

The preferred system for the ABL is the high-powered chemical oxygen-iodine laser (COIL), first invented and patented in 1977 by the Air Force Weapons Laboratory, now part of Phillips. Since then, Phillips scientists have continued to develop COIL, which is based on chemical reactions between chlorine gas and a mixture of hydrogen peroxide and potassium hydroxide. It emits infrared light at a wavelength of 1.315 microns—the world's shortest known wavelength—and travels easily through the atmosphere, according to Phillips personnel.

Phillips scientists have also improved the COIL device by using plastic components to reduce the weight and by increasing its efficiency (making it more powerful with less brightness). The resulting VertiCOIL also enables the system to recycle the laser fuel, thus further reducing its weight.

## Correcting Distortion

In early 1995, the Air Force conducted its Airborne Laser Extended Atmospheric Characterization Ex-

periment (ABLE-ACE) to demonstrate how a laser beam's physical properties can be affected as it travels through the atmosphere and how adaptive optics technology can correct the distortion. Using a modified C-135E transport and a Gulfstream II jet, the ABLE-ACE team flew to various locations in the US and overseas, measuring the degree of atmospheric disturbance suffered by laser beams sent from the C-135E to the Gulfstream and the compensation necessary for the adaptive optics technology to correct the "jitter" in the beam. The distances between the two aircraft were similar to those over which an ABL beam would have to travel to destroy an ascending missile.

According to team members, the tests were successful, verifying that application of adaptive optics technology for the ABL is feasible.

The accurate tracking of missiles rising through turbulent atmosphere is seen as the most challenging aspect of the program, Colonel Tebay said. Even so, he termed it a low to moderate risk in the program and expects a fix by 1998, in time for the program design review.

The cost per shot of the ABL is relatively low. Under current plans, five ABL aircraft could arrive in theater within hours of notification and with sufficient fuel for 200 engagements. Each engagement, or shot, would use \$1,000 worth of laser fuel.

The Air Force said that kinetic-kill vehicles, by contrast, would cost \$1 million per shot.

Some reports have stated that the planned buy of seven ABL aircraft would not be able to handle the threats posed in more than one theater at a time, even though current national military strategy calls for forces that can fight and win two major regional conflicts at roughly the same time. However, according to Air Combat Command's Col. Patrick K. Garvey, chief of the Aerospace Control Division Directorate of Requirements, employment projections show that seven ABLs will provide sufficient coverage for two theaters.

He emphasized throughout his briefing, however, that the ABL is not a stand-alone solution to theater missile defense problems but would be one complementary part of a broader system. ■

Here are the arguments, pro and con, about expanding the Alliance to include former Warsaw Pact adversaries and others.

# NATO's Eastern Question

By Stewart M. Powell

**A**N AMBITIOUS, US-led campaign to bring new European nations into NATO has stirred controversy throughout the Western Alliance as well as in the lands of the old Soviet Union and its empire.

The Western plan proposes to consider full NATO membership for former members of the now-defunct Warsaw Pact, under certain conditions. Central and east Europeans overwhelmingly favor this prospect, especially the US-backed security guarantees that come with NATO membership.

However, anti-Western Russian nationalists—and even many pro-Western reformers—view the Alliance's planned eastward move with mounting alarm. Americans and western Europeans, for their part, appear deeply divided on the subject.

The problem dates to January 1994, when NATO offered a vague auxiliary status to central and eastern European nations and former Soviet republics.

In fifteen months, twenty-six nations—former Warsaw Pact members, Soviet republics, and European neutrals, such as Sweden, Finland, and Austria—had joined the Part-



AP photo / Luca Bruno

*For almost five decades, NATO troops trained to repel an invasion they hoped would never come (opposite). They recently found themselves with a very different mission, helping to maintain a fragile peace in the Balkans (above), while decision-makers contemplate how best to expand the Alliance.*

nership for Peace. By November 1995, twelve nations had become full-fledged "partners." Sixteen were participating in a "coordination cell" at Supreme Headquarters Allied Powers Europe in Belgium.

Now, the sixteen current members of the Alliance are coming face to face with the question of admitting



new members to the NATO structure and assessing the military, political, and economic consequences of these acts. What follows is an accounting of the major points made by proponents and opponents.

## The Case for Expansion

### NATO Stability

NATO, the most successful military and political alliance the world had ever seen, engendered a high degree of western European cooperation, integration, and stability for more than four decades.

In Europe's post-Cold War tumult, however, the formerly anti-Soviet Alliance increasingly came to seem anachronistic. The great issues and problems confronting Europeans were no longer to be found along the Iron Curtain but in newly democratic and independent nations of eastern Europe and the old USSR, with the political and economic futures of these countries at stake.

Secretary of State Warren M. Christopher contended that the Alliance faced a "historic choice." It could "embrace innovation" and find a new purpose, or it could go on as it had

for almost fifty years and "risk irrelevance" and perhaps break up.

It is this prospect—the specter of Europe without NATO—that deeply troubles US leaders. Former Secretary of State Henry A. Kissinger said expansion will bolster the US presence and western European "equilibrium" and help thwart "reemergence of historical European rivalries" between such big continental powers as France and Germany.

### Extended Democracy

Alliance officials contend that the promise of membership gives the Western democracies greater leverage over the political transformations now under way in nations to the east.

NATO requires that prospective members be free-enterprise democracies with civilian control over the armed forces. This, proponents of expansion claim, strengthens the hand of political moderates in their inevitable showdowns with hardliners, right and left, in the formerly Communist nations.

Deputy Secretary of State Strobe Talbott contended, "Nations that are encouraged in their aspirations to

join NATO are more likely to make a successful transition from their Communist pasts."

In a September 1995 report on the matter, NATO stated, "The benefits of common defense and . . . integration are important to protecting the further democratic development of new members."

### Damper on New Conflicts

In the view of proponents, NATO expansion will prevent or minimize simmering rivalries in the East, such as the one that has torn apart large swaths of what used to be Yugoslavia.

They say that the promise of NATO membership has helped fledgling democracies in newly independent nations cope with and overcome some of their chronic internal and external ethnic and territorial rivalries that have swept these nations into conflicts for centuries.

Participation in the Partnership for Peace and the promise of NATO membership, for example, is said to have induced Hungary to back away from open conflict with Slovakia and with Romania over borders and toward resolution of disputes, such as Tur-

key and Greece had muted their hostilities to gain admission to NATO.

### Expanded Military Contacts

An expanded NATO and the Partnership for Peace, say proponents, would strengthen military-to-military ties between Western and Eastern nations and reduce the possibility of misunderstandings or miscalculations.

Already, the Partnership for Peace has provided some of the military-to-military relationships that enabled the United States and Russia to strike a landmark agreement in October that would enable them to field a joint 4,000-member force in Bosnia-

the US would be able to play a similar role in the nations emerging from the old Soviet empire.

### "Worst Case" Hedging

Some believe that the West must move quickly to erect a defensive structure to guard against a possible collapse of reform in Russia and a revival of Russian imperialism.

The establishmentarian Council on Foreign Relations (CFR) in New York recently called for NATO to move more quickly to accept the participants in the Partnership for Peace as full-fledged members, as well as for the "partners" to prepare

themselves more rapidly for full integration.

Charles Kupchan, a former European affairs expert on the National Security Council who wrote the CFR report, said, "If Russia again comes to pose a military threat to central Europe, NATO should be prepared to carry out its traditional mission of territorial defense."

The belief is that this capability alone would have a major influence on Russian political behavior.

## The Case Against Expansion

### Kremlin Politics

Critics note that even the reform-minded Russian leadership has repeatedly warned against expansion of the Alliance.

The Alliance's emphasis on expansion threatens to undercut the all-important relationship with Russia, Sen. Sam Nunn (D-Ga.) warned at a seminar in Norfolk, Va., last June, and leads to the kinds of aggressive behavior NATO seeks to deter.

The influential senior Democrat, who serves on the Senate Armed Services Committee, added, "This is the stuff that self-fulfilling prophecies and historic tragedies are made of."

Such critics as Senator Nunn say that this type of move is likely to fan ultranationalist Russian sentiments and strengthen the very anti-

USAF photo by SrA, Phillip Ulmer



Hercegovina to carry out engineering, construction, and transportation duties in support of the planned 60,000-member NATO-led peace implementation force.

### Extended US Influence

For Washington, an important, if unstated, goal is to ensure continued US influence in the affairs of Europe and to have a major say in eastern European security developments. "The bedrock of United States security policy" remains the commitment to Europe, said Walter B. Slocombe, under secretary of defense for Policy. "We will remain fully involved in European security issues."

For half a century, NATO has served as the mechanism for exerting that influence, providing Washington's all-important bridge to the Continent. Eastward expansion would ensure that



AP photo / Frank Boxler

**USAF C-130s (top) have a pivotal role in getting US troops to Bosnia and keeping them supplied. US soldiers (above) in Europe have always trained to be ready for anything, even a worst-case chemical warfare attack.**

Western fanatics that NATO wants to thwart by expanding into the east.

The Clinton Administration, in fact, braced for resurgent ultranationalists to make broad gains in Russia's parliamentary elections, setting the stage for a more dangerous backlash in the Russian presidential election in June.

Robert Legvold, a Russian scholar at Columbia University, warns that the political climate could change dramatically and bring greater danger. "What we have now are Russians shouting, complaining, and criticizing Western policies," he said, "but with the rise of the ultranationalists, we could see Russia actually doing something about it."

### New Lines of Division

Many Russians, reeling from their nation's embarrassing strategic, po-



AP photo / Oiga Shalygin

Russia's willingness to use force in such places as Grozny, Chechnya (above), troubles those opposed to expansion of the Alliance, who believe that fast-track expansion will strengthen anti-Western extremists in Moscow.

## Partnership For Peace

Nation	Date of Signing
<b>Former Warsaw Pact</b>	
Bulgaria .....	February 14, 1994
Czech Republic .....	March 10, 1994
Hungary .....	February 8, 1994
Poland .....	February 2, 1994
Romania .....	January 26, 1994
Slovakia .....	February 9, 1994
<b>Neutrals, Nonaligned</b>	
Albania .....	February 23, 1994
Austria .....	February 10, 1995
Finland .....	May 9, 1994
Malta .....	April 26, 1995
Slovenia .....	March 30, 1994
Sweden .....	May 9, 1994
<b>Baltic States</b>	
Estonia .....	February 3, 1994
Latvia .....	February 14, 1994
Lithuania .....	January 27, 1994
<b>Other Former Soviet States</b>	
Armenia .....	October 5, 1994
Azerbaijan .....	May 4, 1994
Belarus .....	January 11, 1995
Georgia .....	March 23, 1994
Kazakhstan .....	May 27, 1994
Kyrgyzstan .....	June 1, 1994
Moldova .....	March 16, 1994
Russia .....	June 22, 1994
Turkmenistan .....	May 10, 1994
Ukraine .....	February 8, 1994
Uzbekistan .....	July 13, 1994

Source: NATO

litical, and economic setbacks, worry that NATO is attempting to exploit Russia's weaknesses "to gain the most favorable strategic position for further confrontation," said Alexander Konovalov, director of Moscow's Center for Military Policy and Systems Analysis.

"Moscow faces a take-it-or-leave-it offer—either agree to a formal enlargement of NATO, or the enlargement will happen without Moscow's approval," explained Alexei K. Pushkov, a foreign policy advisor and speech writer who worked for former Soviet President Mikhail S. Gorbachev. "This is confrontational."

Russian President Boris N. Yeltsin shook up a Europe-wide summit in Budapest in 1994 by claiming that NATO expansion raised the "danger of plunging [the world] into a cold peace."

A year later, at the UN General Assembly last October, he again warned, "The strengthening of one bloc today means a new confrontation, beginning tomorrow."

Alex Pravda, director of the Russian and East European Center at St. Anthony's College at Oxford, said, "The overwhelming perception in Russia is that [it] has no specific enemies, but neither does it have any reliable friends."

### Better Options

Critics of NATO expansion maintain that NATO's goals may be laud-



**Proponents of expansion believe that military-to-military contacts reduce the possibility of misunderstanding and miscalculation. The US is maintaining such contacts with Russia in the Pacific (above) as well as in Europe.**

able but that there are better, less perilous ways to attain them.

Some contend that multinational European organizations would be better suited to the task of securing European stability than a nuclear-armed military alliance that had deployed forces against Russia for more than forty years.

One group of analysts believes the Western European Union should take responsibility for replacing NATO as the primary guarantor of European security.

Russian Foreign Minister Andrei V. Kozyrev said that the Organization for Security and Cooperation in Europe ought to take on "overriding responsibility" for the "maintenance of peace and the strengthening of democracy and stability for the Euro-Atlantic area." President Yeltsin himself suggested wider responsibilities for the United Nations—where Russia enjoys a veto over the actions of the fifteen-member Security Council.

### **New Military Dangers**

The fast-moving pace of NATO expansion left little time for a hard-nosed assessment of the military impact of the Alliance protecting a vastly larger area.

John E. Peters, a European security specialist at RAND Corp., foresees military and political headaches in this development. While NATO remained "a sound Alliance for the

defense of the sixteen, it is unlikely to succeed at extending security eastward," Mr. Peters cautioned. While he conceded that current Alliance members would enjoy "marginal gains in crisis response and theater missile defenses" by moving its boundaries to the east, the benefits "seem small" when compared to the potential for trouble caused by alienating Russia.

Finally, some critics assert that while the US has no vital interest in eastern Europe, it will be committed to defending these vulnerable countries.

### **First Things First**

According to Senator Nunn and others, NATO membership does not deal effectively with the vexing question of east European economic integration and thus sets the stage for conflicts and disagreements in this area.

Senator Nunn suggested that the former Warsaw Pact nations first ought to secure full economic integration in the exclusive fifteen-member European Union and demonstrate that they are irreversibly committed to democracy and free enterprise before gaining membership in NATO.

## **The Immediate Future**

### **A Delicate Balance**

Faced with these competing pressures, Western leaders have sought to reassure Russia, but they have not throttled back on the timetable for the formal expansion.

To help assuage Moscow's deepening anxieties, the Alliance has forged a direct relationship with Russia, dubbed "NATO Plus One." The NATO Enlargement Study completed last September stated that cooperation between NATO and Russia could "help to overcome any lingering distrust from the Cold War period and help ensure that Europe is never again divided into opposing camps."

Secretary of Defense William J. Perry urged the Russians to broaden their ties with the Western Alliance, links that could potentially include a "standing consultative commission" to coordinate defense cooperation.

A NATO-Russia treaty, or something approximating it, "would go some way toward reassuring Moscow," said Mr. Pravda.

However, the Clinton Administration seemed prepared to go only so far to comfort Russia, fearing that Moscow might interpret more overt moves as evidence that it held a *de facto* veto over NATO expansion. Washington would offer Moscow "deeper and deeper dialogue," National Security Advisor W. Anthony Lake said, but he added that NATO would expand despite Russian objections.

"That is our policy, has been our policy, will be our policy," Mr. Lake declared. "It is not going to shift, because it's the right policy to create a more peaceful Europe."

One Russian expert on the National Security Council observed that the Clinton Administration was striking a delicate balance.

"Anybody can expand NATO," he said. "The trick is to expand it in a way that engages the Russians and doesn't draw new lines. We will neither hit the accelerator nor slam on the brakes." ■

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*Stewart M. Powell, White House correspondent for Hearst Newspapers, has covered national and international affairs for years in Washington and London. His most recent article for Air Force Magazine, "The China Problem Ahead," appeared in the October 1995 issue.*

# AFA State Contacts



Following each state name are the names of the communities in which AFA chapters are located. Information regarding these chapters or any of AFA's activities within the state may be obtained from the appropriate contact.

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**IOWA** (Des Moines, Marion, Sioux City, Waterloo): **Gerald D. Loos**, 7708 Winston Ave., Urbandale, IA 50322-2571 (phone 515-224-9666).

**KANSAS** (Garden City, Topeka, Wichita): **E. D. Brown**, 4209 Westport St., Wichita, KS 67212-1748 (phone 316-942-8045).

**KENTUCKY** (Lexington, Louisville, Paducah): **Vaiden Q. Cox**, 800 S. 4th St., Apt. 2106, Louisville, KY 40203 (phone 502-583-8591).

**LOUISIANA** (Alexandria, Baton Rouge, New Orleans, Shreveport): **Mike Cammarosano**, 13634 Timber Ridge, Baton Rouge, LA 70817-3441 (phone 504-925-4911).

**MAINE** (Bangor, Caribou, North Berwick): **Dr. Warren T. Burns**, 10 Fernwood St., Orono, ME 04473-1304 (phone 207-866-3552).

**MARYLAND** (Andrews AFB, Baltimore, College Park, Rockville): **Sam O'Dennis**, 1927 East-West Hwy., #104, Silver Spring, MD 20910-2422 (phone 301-588-3622).

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**MICHIGAN** (Alpena, Battle Creek, East Lansing, Kalamazoo, Marquette, Mount Clemens, Oscoda, Traverse City, Southfield): **James W. Rau**, 466 Marywood Dr., Alpena, MI 49707 (phone 517-354-2175).

**MINNESOTA** (Duluth, Minneapolis-Saint Paul): **John C. Seely**, 11172 S. Brancel Rd., Solon Springs, WI 54873-9403 (phone 715-378-2525).

**MISSISSIPPI** (Biloxi, Columbus, Jackson): **Leonard R. Vernamonti**, 700 N. State St., Suite 500, Jackson, MS 39202 (phone 601-960-3600).

**MISSOURI** (Richards-Gebaur ARS, Saint Louis, Springfield, Whiteman AFB): **James M. Snyder**, 10000 W. 114th St., Overland Park, KS 66210 (phone 913-491-6299).

**MONTANA** (Bozeman, Great Falls): **Lt. Col. John Henninger III**, USAF, 4444-B Gumwood St., Great Falls, MT 59405-6623 (phone 406-453-8440).

**NEBRASKA** (Lincoln, Omaha): **Robert M. Williams**, 6014 Country Club Oak Pl., Omaha, NE 68152 (phone 402-572-7655).

**NEVADA** (Las Vegas, Reno): **Joel "Tom" Hall**, 93 Shepherd Mesa Ct., Henderson, NV 89014.

**NEW HAMPSHIRE** (Manchester, Portsmouth): **Baldwin M. Domingo**, 5 Birch Dr., Dover, NH 03820 (phone 603-742-0422).

**NEW JERSEY** (Andover, Atlantic City, Belleville, Camden, Chatham, Cherry Hill, Forked River, Fort Monmouth, Gladstone, Jersey City, McGuire AFB, Newark, Old Bridge, Trenton, Wallington, West Orange): **Martin T. Capriglione**, 4 Iron Hill Dr., Holmdel, NJ 07733-1738 (phone 201-344-6753).

**NEW MEXICO** (Alamogordo, Albuquerque, Clovis): **Charlie Thomas**, 4908 Calle Del Cielo, Albuquerque, NM 87111-2912 (phone 505-845-3506).

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**OHIO** (Cleveland, Columbus, Dayton, Mansfield, Newark, Youngstown): **William Goerges**, 4201 W. Enon Rd., Fairborn, OH 45324 (phone 614-429-6070).

**OKLAHOMA** (Altus, Enid, Oklahoma City, Tulsa): **Ed Greven**, 1811 W. OK Garriott, Enid, OK 73703 (phone 405-237-1901).

**OREGON** (Eugene, Klamath Falls, Portland): **Thomas Stevenson**, 8138 S. W. Valley View Dr., Portland, OR 97225 (phone 503-297-5968).

**PENNSYLVANIA** (Allentown, Altoona, Beaver Falls, Coraopolis, Drexel Hill, Erie, Harrisburg, Johnstown, Lewistown, Philadelphia, Pittsburgh, Scranton, Shiremanstown, State College, Washington, Willow Grove, York): **Raymond Hamman**, 9439 Outlook Ave., Philadelphia, PA 19114-2617 (phone 215-677-0957).

**RHODE ISLAND** (Warwick): **John A. Powell**, 700 Saint Paul's St., North Smithfield, RI 02895 (phone 401-766-3797).

**SOUTH CAROLINA** (Charleston, Clemson, Columbia, Myrtle Beach, Sumter): **Rodgers K. Greenawalt**, 2420 Clematis Trail, Sumter, SC 29150 (phone 803-481-4481).

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**TEXAS** (Abilene, Amarillo, Austin, Big Spring, College Station, Commerce, Corpus Christi, Dallas, Del Rio, Denton, El Paso, Fort Worth, Harlingen, Houston, Kerrville, Lubbock, San Angelo, San Antonio, Waco, Wichita Falls): **Thomas J. Kemp**, 3608 Kimberly Lane, Fort Worth, TX 76133 (phone 817-346-2047).

**UTAH** (Clearfield, Ogden, Salt Lake City): **Richard E. Schankel**, 370 S. 500 E., #120, Clearfield, UT 84015-4046 (phone 801-776-2101).

**VERMONT** (Burlington): **John W. Roach**, 46 Read Rd., Williston, VT 05495 (phone 802-879-3713).

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**WASHINGTON** (Seattle, Spokane, Tacoma): **Richard A. Seiber**, P. O. Box 110996, Tacoma, WA 98411-0996 (phone 206-627-0700).

**WEST VIRGINIA** (Charleston): **Samuel Rich**, P. O. Box 444, White Sulphur Springs, WV 24986 (phone 304-536-4131).

**WISCONSIN** (Madison, Milwaukee, Mitchell Field): **Gilbert M. Kwiatkowski**, 8260 W. Sheridan Ave., Milwaukee, WI 53218-3548 (phone 414-463-1849).

**WYOMING** (Cheyenne): **Robert S. Rowland**, 9001 Red Fox Rd., Cheyenne, WY 82009 (phone 307-632-8746).

**USAF has released additional information about the Persian Gulf War, which opened five years ago this month.**

# More Data From Desert

**O**PERATION Desert Storm began on January 17, 1991, led off by a ferocious USAF-led air campaign that would soon prove unprecedented in intensity, precision, and lethality. Rarely, if ever, had so many air forces and aircraft worked together so well and with such telling effect.

Success in the air came swiftly. After ten days, Army Gen. H. Norman Schwarzkopf, theater commander, claimed "air supremacy" for the US-led multinational coalition. The coalition had averaged 2,500 sorties per day. They had eliminated Saddam Hussein's Iraqi Air Force as a combat entity. Relentless allied air attacks had destroyed or severely damaged most of Iraq's primary command, control, and communications facilities and air defense

systems. Much of the aggressor's military infrastructure was in shambles, and the Iraqi armed forces had sustained severe attrition. Coalition ground forces on February 24 launched a 100-hour assault that finished the job of ejecting Iraqi troops from Kuwait.

On February 27, 1991, President George Bush declared Kuwait liberated and ordered a cessation of hostilities on February 28.

The following data were derived from "The Persian Gulf War: An Air Staff Chronology of Desert Shield/Desert Storm." It was compiled by Capt. Steven B. Michael, USAF, for the Center for Air Force History (now the Air Force History Support Office) in Washington and was recently declassified.



# On the Eve of War—January 16, 1991

## USAF Aircraft Deployed in the Theater

Combat	Number	Support	Number
A/OA-10 .....	144	C-20 .....	1
AC-130 .....	4	C-21 .....	8
B-52 .....	20	C-130 .....	128
EC-130 (Compass Call) .....	5	E-3 AWACS .....	10
EC-130 (Volant Solo) .....	2	E-8 Joint STARS .....	2
EF-111 .....	18	EC-130E .....	6
F-4G .....	48	HC-130 .....	4
F-15 .....	96	KC-10 .....	30
F-15E .....	48	KC-135 .....	194
F-16 .....	210	MC-130 .....	4
F-111 .....	64	MH-53 .....	8
F-117 .....	36	MH-60 .....	8
		RC-135 .....	6
		RF-4C .....	18
		TR-1 .....	4
		U-2 .....	5
<b>Total .....</b>	<b>695</b>	<b>Total .....</b>	<b>436</b>

# Storm

## Allied Aircraft Deployed in the Theater

Nation	Number	Combat Aircraft Types
Bahrain	24	F-5 (12), F-16 (12)
Britain	79	Tornado (68), Jaguar (11)
Canada	18	CF-18
Egypt	32	F-4
France	41	Mirage F1 (25), Mirage 2000 (8), Jaguar (8)
Italy	8	Tornado
Kuwait	40	A-4 (20), Mirage F1 (15), Hawk (5)
Oman	44	Jaguar (22), Strikemaster (12), Hunter (10)
Qatar	21	Mirage F1 (12), Alpha Jet (6), Hunter (3)
Saudi Arabia	278	F-5 (85), F-15 (82), Tornado (49), Strikemaster (32), Hawk (30)
United Arab Emirates	53	Mirage 2000 (25), Mirage III (14), Mirage 5 (14)
<b>Total</b>	<b>638</b>	

*The US, Belgium, Germany, Italy, and the Netherlands deployed additional aircraft to Turkey after the war was under way. The US Navy and Marine Corps maintained considerable aviation forces at sea.*

# The First Day

## USAF Sorties, January 17

Mission Type	Number
Offensive counterair .....	337
Defensive counterair .....	116
Interdiction .....	381
Close air support .....	47
Tanker refueling .....	286
Intratheater airlift .....	36
Other support .....	188
<b>Total .....</b>	<b>1,391</b>

## Other US and Coalition

Component	Number
US Navy .....	415
US Marine Corps .....	169
US Allies .....	413
<b>Total .....</b>	<b>997</b>

## Iraqi Air Order of Battle

	Fixed-Wing Combat	Helicopters, Misc.	Total Aircraft
Starting Air Order of Battle	831	484	1,315
Confirmed combat losses	106	52	158
Confirmed fled to Iran	112	26	138
Estimated losses in shelters	141	0	141
Estimated aircraft remaining	472	406	878
Percent of initial AOB remaining	56	83	66

## Iraqi Ground Warfare Equipment and Combat Losses in the Theater

	Original Inventory	Destroyed, Captured	Percent Remaining
Tanks	4,550	3,956	13
Armored vehicles	2,880	2,166	25
Artillery pieces	3,257	3,092	5

# The Buildup—August 1990

*Iraq invaded Kuwait on August 2, 1990. On August 7, President Bush ordered US military forces to deploy to Saudi Arabia. Thirty-four hours after the order, on August 8, a squadron of twenty-four USAF F-15s from the 71st Tactical Fighter Squadron, Langley AFB, Va., landed in Dhahran and began combat air patrol. By month's end, USAF's force had swelled to 322 warplanes, and Saddam Hussein had lost his chance to seize Saudi Arabia's oil fields.*

## USAF's Rapid Deployment of Combat Aircraft

Combat Type	Aug. 7	Aug. 8	Aug. 12	Aug. 16	Aug. 20	Aug. 24	Aug. 28	Aug. 31
A-10					24	46	48	72
B-52				20	20	20	20	20
EC-130					3	3	5	8
EF-111							10	10
F-4G					20	20	24	24
F-15		24	45	46	48	48	48	58
F-15E			19	22	24	24	24	24
F-16			44	44	46	46	46	70
F-111							18	18
F-117						18	18	18
<b>Total</b>	<b>0</b>	<b>24</b>	<b>108</b>	<b>132</b>	<b>185</b>	<b>225</b>	<b>261</b>	<b>322</b>

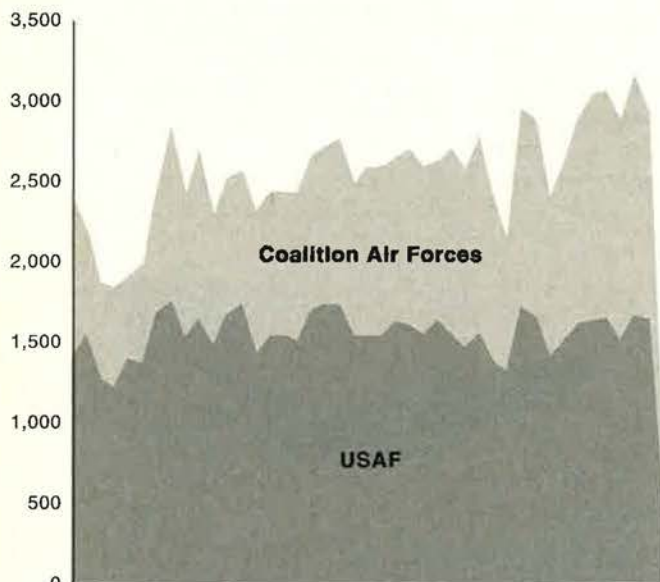
## Support Aircraft Rush to the Gulf

*In the critical first month of August 1990, the Air Force sent nearly 200 support aircraft to the Gulf, providing mobility, surveillance, reconnaissance, and communications for the growing combat force.*

Support Type	Aug. 7	Aug. 8	Aug. 12	Aug. 16	Aug. 20	Aug. 24	Aug. 28	Aug. 31
C-20							1	1
C-21						3	4	4
C-130			16	31	48	51	61	70
E-3 AWACS		5	5	5	5	5	5	5
EC-130E								6
HC-130						4	4	4
KC-10			10					
KC-135		2	16	54	57	68	78	79
MC-130						2	4	4
MH-53				4	4	4	4	4
RC-135			3	3	3	3	4	4
RF-4C							6	6
TR-1						2	2	2
U-2					2	2	2	2
<b>Total</b>	<b>0</b>	<b>7</b>	<b>50</b>	<b>97</b>	<b>119</b>	<b>144</b>	<b>175</b>	<b>191</b>

# Desert Storm

## Wartime Sorties



Daily sorties, Jan. 17–Feb. 28, 1991

### Total, Coalition Air Forces

Jan. 17 .....	2,388	Feb. 10 .....	2,695
Jan. 18 .....	2,200	Feb. 11 .....	2,583
Jan. 19 .....	1,875	Feb. 12 .....	2,621
Jan. 20 .....	1,842	Feb. 13 .....	2,702
Jan. 21 .....	1,907	Feb. 14 .....	2,576
Jan. 22 .....	1,982	Feb. 15 .....	2,769
Jan. 23 .....	2,424	Feb. 16 .....	2,378
Jan. 24 .....	2,811	Feb. 17 .....	2,143
Jan. 25 .....	2,407	Feb. 18 .....	2,957
Jan. 26 .....	2,672	Feb. 19 .....	2,882
Jan. 27 .....	2,263	Feb. 20 .....	2,385
Jan. 28 .....	2,523	Feb. 21 .....	2,627
Jan. 29 .....	2,555	Feb. 22 .....	2,906
Jan. 30 .....	2,312	Feb. 23 .....	3,041
Jan. 31 .....	2,406	Feb. 24 .....	3,062
Feb. 1 .....	2,431	Feb. 25 .....	2,881
Feb. 2 .....	2,417	Feb. 26 .....	3,159
Feb. 3 .....	2,635	Feb. 27 .....	2,940
Feb. 4 .....	2,705	Feb. 28 .....	992
Feb. 5 .....	2,760	<b>Total .....</b>	<b>108,082</b>
Feb. 6 .....	2,460	<i><b>USAF accounted for 65,581 sorties, or 60.7 percent of the coalition total.</b></i>	
Feb. 7 .....	2,584		
Feb. 8 .....	2,591		
Feb. 9 .....	2,633		

# Buildup and Drawdown of

## US Forces

1990–91

Date	All Services	USAF
Aug. 10, 1990 .....	25,317	6,143
Aug. 21, 1990 .....	52,836	12,284
Sept. 3, 1990 .....	103,446	23,489
Sept. 13, 1990 .....	153,113	29,900
Oct. 10, 1990 .....	200,079	32,333
Nov. 9, 1990 .....	235,904	30,991
Dec. 5, 1990 .....	252,131	32,043
Dec. 22, 1990 .....	300,264	35,724
Jan. 6, 1991 .....	358,326	41,995
Jan. 17, 1991 .....	454,128	48,679
Jan. 30, 1991 .....	501,600	51,876
Feb. 24, 1991 .....	536,687	54,615
Mar. 2, 1991 .....	540,748	54,706
Mar. 13, 1991 .....	503,380	48,296
Mar. 20, 1991 .....	452,195	39,463
Mar. 27, 1991 .....	403,063	28,006
Apr. 4, 1991 .....	350,352	23,078
Apr. 12, 1991 .....	300,113	18,928
Apr. 21, 1991 .....	256,370	16,212
Apr. 30, 1991 .....	197,315	14,877
May 10, 1991 .....	148,669	14,054
May 20, 1991 .....	92,159	10,552
May 28, 1991 .....	75,463	8,875
June 6, 1991 .....	64,913	7,441

# USAF Airlift

## Strategic Airlift Missions by Aircraft Type

Month	C-5	C-141	KC-10	CRAF	C-9	Total
Aug. 1990	415	1,041	17	195	0	1,668
Sept. 1990	510	952	89	322	0	1,873
Oct. 1990	440	676	57	246	0	1,419
Nov. 1990	426	729	48	269	0	1,472
Dec. 1990	567	1,391	118	606	0	2,682
Jan. 1991	699	1,666	50	720	73	3,208
Feb. 1991	552	1,560	0	757	126	2,995
Mar. 1991	161	294	0	194	10	659
<b>Total</b>	<b>3,770</b>	<b>8,309</b>	<b>379</b>	<b>3,309</b>	<b>209</b>	<b>15,976</b>

**USAF military and Civil Reserve Air Fleet (CRAF) commercial long-range airlifters transported 500,720 passengers, or ninety-nine percent of total transported personnel. These aircraft hauled 542,759 short tons of cargo, or fourteen percent of the total.**

## Tactical Airlift

### Role of C-130s, 1990-91

Operational Measure	Quantity
Cargo tons carried.....	174,000+
Flying hours completed.....	76,000+
Missions flown.....	13,900+
Passengers carried.....	242,000+
Sorties flown.....	47,600+



## Coalition Fixed-Wing Aircraft Losses Combat Only

Type	USAF	USN	USMC	Allies	Total
A-4.....				1	1
A-6.....		3			3
A/OA-10.....	6				6
AC-130.....	1				1
AV-8.....			5		5
EF-111.....	1				1
F-4G.....	1				1
F-5.....				1	1
F-14.....		1			1
F-15E.....	2				2
F-16.....	3				3
F/A-18.....	2				2
OV-10.....			2		2
Tornado.....				9	9
<b>Total.....</b>	<b>14</b>	<b>6</b>	<b>7</b>	<b>11</b>	<b>38</b>

**The Air Force apparently lost no aircraft in air-to-air combat with enemy fighters.**

**Figures for this table were supplied by the Air Force History Support Office from an unclassified version of the USAF Gulf War Airpower Survey.**

## Iraqi Fixed-Wing Aircraft Losses Air Combat Only

Aircraft	Air-to-Air	On Ground	In Shelters	Total
An-2.....		1	—	1
Il-76.....		3	—	3
MiG-21.....	4	9	—	13
MiG-23.....	9	8	—	17
MiG-25.....	2	5	—	7
MiG-29.....	6	3	—	9
Mirage F1.....	9	1	—	10
Su-17/22.....	3	11	—	14
Su-25.....	2	2	—	4
Tu-16.....		6	—	6
Tu-22.....		1	—	1
Unidentified.....		6	—	6
<b>Totals.....</b>	<b>35</b>	<b>56</b>	<b>141</b>	<b>232</b>

**"In Shelters" total is an estimate. Totals do not include Iraqi aircraft captured or destroyed by ground forces, noncombat losses, or those flown to Iran.**

# Keeping Watch on the New Russia

*Sen. Sam Nunn of Georgia is the ranking Democrat on the Senate Armed Services Committee and was that panel's chairman for eight years (1987-95). He is widely regarded as one of Congress's foremost authorities on NATO and Russian military affairs. The Senator made the following remarks during a lengthy October 10, 1995, Senate floor speech about European security issues.*

## **Europe's "Seismic" Change**

"With the end of the Cold War, we have witnessed a heart-pounding, terrain-altering set of earthquakes centered in the former Soviet Union and in eastern Europe. These seismic events have ended an international era.

"The European security environment has changed. We have moved from a world of high risk but also high stability—because of the danger of escalation and the balance of terror on both sides—to a world of much lower risk but much lower stability.

"We are all aware of the dramatic change in the threat environment in Europe resulting from these seismic changes. The immediate danger is posed by violent terrorist groups, by isolated rogue states, by ethnic, religious, and other types of subnational passions that can flare into vicious armed conflict, as we have seen too well and too thoroughly in the Bosnian conflict.

"The lethality of any and all of these threats can be greatly magnified by the proliferation of nuclear, chemical, and biological weapons, as well as by the spread of destabilizing conventional weapons."

## **Number One Security Problem**

"Russia currently possesses at least 20,000 nuclear weapons—in fact more than 20,000—at least 40,000 tons of chemical weapons, advanced biological warfare capability, hundreds of tons of fissile material, huge stores of conventional weapons, plus thousands of scientists and technicians skilled in manufacturing weapons of mass destruction.

"This is the first time in history that an empire [the Soviet Union] has disintegrated while possessing such enormous destructive capabilities.

Even if these capabilities are greatly reduced, the know-how, the production capability, and the dangers of proliferation will endure for many years. Even if we do our very best job, this is going to be our number one security threat—for America, for NATO, and for the world—in terms of decades, not simply a few years.

"As we contemplate NATO enlargement [expansion eastward into former Warsaw Pact nations], I believe that we must carefully measure [the] effect on this proliferation security problem, which is our number one security problem."

## **Stoking Russian Paranoia**

"The advantages of NATO's current course toward enlargement cannot be ignored. . . . [However,] serious disadvantages must also be thought through carefully. If NATO's enlargement stays on its current course, reaction in Russia is almost inevitably going to be a sense of isolation by those committed to democracy and democratic reform, with varying degrees of paranoia, nationalism, and demagoguery emerging from across the current political spectrum."

## **Latent "Russian Threat"**

"We cannot dismiss the possibility of a resurgent and threatening Russia. Russia not only has inherited the still-dangerous remnants of the Soviet war machine, but in its current weakened condition Russia contains potential resources by virtue of its size and strategic location. Russia exerts considerable weight in Europe, Asia, and the Middle East. Meanwhile, Russia has inherited the former Soviet Union's veto power on the UN Security Council and, therefore, has a major voice in multilateral decision making.

"Russia will be a major factor, for better or for worse, across the entire spectrum of actual and potential threats that face us over the years ahead. Russia can fuel regional conflicts with high-technology conventional weapons along with other political and material support, or . . . Russia can cooperate with us in defusing such conflicts, particularly by preventing the spread of Russian weaponry to irresponsible hands.

"Russia can emerge as a militarily aggressive power. That is certainly possible. Or, Russia can assist the United States and the Western world and the free world in averting new rivalry among major powers that poison the international security environment. Russia can pursue a confrontational course that undermines the security and cooperation in Europe, or Russia can work with us to broaden and strengthen the emerging system of multilateral security in Europe.

"No one knows the answer to any of these questions at this juncture. Russia itself does not know the answer because it is in a period of economic stress and political challenge and turmoil."

#### **"A Vast Reservoir"**

"Russia is a vast reservoir of weaponry, weapons material, and weapons know-how. Thousands of people in Russia and throughout the former Soviet Union have the knowledge, the access, and the strong economic incentives to engage in weapons traffic. Thousands of scientists in Russia know how to make weapons of mass destruction, high-technology weapons that can shoot down aircraft in the air (including passenger liners), and missile technology to deliver these weapons of mass destruction across borders—and even across continents.

"They have this knowledge, but several thousand of them at least do not know where their next paycheck is coming from. They do not know how they are going to feed their families, and they are in great demand around the world from terrorist organizations and from rogue Third World countries."

#### **Nuclear Equalizers?**

"In next few years, Russia will have neither the resources nor the wherewithal to respond to any NATO

enlargement with a conventional military buildup. It simply does not have the resources to do that, even if it chose to. If, however, the more nationalist and more extreme political forces gain the upper hand by election or otherwise, we are likely to see other responses that are more achievable, and even more dangerous to European stability.

"For example, while it would take years for Russia to mount a sustained military threat to eastern Europe, it can, within weeks or months, exert severe external and internal pressures on its immediate neighbors to the west, including the Baltic countries and Ukraine. This could set in motion a dangerous action-reaction cycle.

"Moreover, because a conventional military response from Russia in answer to NATO enlargement is not feasible economically, a nuclear response in the form of a higher alert status for Russia's remaining strategic nuclear weapons and, conceivably, renewed deployment of tactical nuclear weapons is more likely.

"I recall very well when the United States and our allies felt we were overwhelmed [by the] conventional forces [of] the former Soviet Union. How did we respond? We responded by building up tactical nuclear forces. We responded by deploying thousands of tactical nuclear forces because we did not have the tanks, we did not have the artillery tubes, to meet the conventional challenge. . . .

"The security of NATO, Russia's neighbors, and the countries of eastern Europe will not be enhanced if the Russian military finger moves closer to the nuclear trigger."

#### **Wait, Watch, Respond**

"We should be candid with the Russian leadership and the Russian people. Above all, [we should] be honest with the Russian people by telling them, frankly, 'If you respect the sovereignty of your neighbors, carry out your solemn arms-control commitments and other international obligations, and, if you continue down the path of democracy and economic reform, your neighbors will not view you as a threat and neither will NATO. We will watch, however, and we will react to aggressive moves against other sovereign states, to militarily significant violations of your arms-control and other le-

gally binding obligations pertinent to the security of Europe, and to the emergence of a nondemocratic Russian government that impedes fair elections, suppresses domestic freedoms, or institutes a foreign policy incompatible with the existing European security system.'

"These developments would be threatening to the security of Europe and would require a significant NATO response, including expansion eastward."

#### **Common Danger**

"The threat in Europe now is not Russian invasion of one of the Visegrad countries [Poland, Hungary, Slovakia, and the Czech Republic]. The threat is the huge proliferation problem, with nuclear materials being smuggled across the borders to these countries, with Russian scientists under severe economic pressure, being in demand in various parts of the world. . . .

"The threat is terrorism, the threat is ethnic strife, the threat is religious strife. It could change in ten years. Ten years from now, Russia could reemerge as a real military threat to some of those countries. We have to be prepared for that. We have to make sure we are in a position to react to that, but now we have many mutual interests, and not just with Russians but with the east Europeans and others, in proliferation and working together against organized crime, which is one of the biggest challenges Russia has right now. Their organized criminal activity [is] devastating to confidence for investment, economic kinds of commitments by business people from all over the world."

#### **"Difficult at Best"**

"Even when we have a disagreement [with Moscow], we have to continue to work at this proliferation problem because we do not want to wake up in three years or five years and find that the kind of people who . . . blew up the federal building in Oklahoma or the kind of people who carried out a chemical attack in Tokyo . . . possess awesome weapons of mass destruction.

"Only by working with the elements in Russia willing to work on this are we going to be able to prevent this from happening. It will be difficult at best." ■



# AFA's National Committees and Advisors for 1995-96

As of November 16, 1995

The makeup of AFA's National Committees for 1995-96 has been determined. The following association members have been named to serve on the committees. (*Ex officio* members of all committees are nonvoting.)

## Executive Committee

Gene Smith (*Chairman*)  
Charles H. Church, Jr.  
William D. Croom, Jr.  
Michael J. Dugan  
James M. McCoy  
Craig R. McKinley  
Nuel E. Sanders  
Victor C. Seavers  
Mary Anne Thompson  
Thomas J. McKee, *ex officio*  
Walter E. Scott, *ex officio*  
John A. Shaud, *ex officio*

## Finance Committee

Charles H. Church, Jr. (*Chairman*)  
Roy A. Boudreaux  
R. L. Devoucoux  
Tommy G. Harrison  
Charles B. Jiggetts  
Ivan L. McKinney  
Charles A. Nelson  
Jack G. Powell  
Gene Smith, *ex officio*

## Membership Committee

Craig R. McKinley (*Chairman*)  
James R. Beamon  
Robert J. Cantu  
James G. "Snake" Clark  
Stephen M. Mallon  
Paul A. Maye  
James E. Scott  
Eric D. Vander Linden  
Gene Smith, *ex officio*

## Constitution Committee

William C. Rapp (*Chairman*)  
Harold F. Henneke  
William A. Lafferty  
Doyle E. Larson  
Gene Smith, *ex officio*

## Resolutions Committee

Mary Anne Thompson (*Chairman*)  
Charles H. Church, Jr.  
William D. Croom, Jr.  
Michael J. Dugan  
James M. McCoy  
Craig R. McKinley  
Nuel E. Sanders  
Victor C. Seavers  
Gene Smith  
Thomas J. McKee  
Walter E. Scott  
John A. Shaud, *ex officio*

## Long-Range Planning Committee

William D. Croom, Jr. (*Chairman*)  
R. Donald Anderson  
James E. Callahan  
William V. McBride  
Robert E. Patterson  
Gilbert E. Petrina, Jr.  
Cheryl L. Waller  
Gene Smith, *ex officio*

## Science and Technology Committee

Robert T. Marsh (*Chairman*)  
Thomas E. Cooper  
Charles G. Durazo  
Charles A. Gabriel  
Thomas McMullen  
Wayne A. Schroeder  
Henry C. Smyth, Jr.  
Charles F. Stebbins  
James Tegnalia  
Richard E. "Dick" Thomas  
Leonard R. Vernamonti  
Dr. Billy E. Welch  
John J. Welch, Jr.  
John G. "Tug" Wilson  
Gene Smith, *ex officio*

## Audit Committee

Lucius Theus (*Chairman*)  
(term expires September 1997)  
Henry W. Boardman  
(term expires September 1997)  
William V. McBride  
(term expires September 1996)  
John J. Politi  
(term expires September 1998)  
Walter G. "Gibby" Vartan  
(term expires September 1998)  
Claudius E. Watts III  
(term expires September 1996)  
James M. McCoy, *ex officio*

## Advisors

Daniel McDowell (*Civil Air Patrol*)  
Sandra Grese (*Civilian Personnel*)  
Jerry Dalton (*Communications*)  
Jule Zumwalt (*Junior AFROTC*)  
Col. Walter L. Watson, Jr.  
(*Senior AFROTC*)  
Donna L. Tinsley (*Medical*)



# National Report

## AFA President Urges More Emphasis on the Airpower Message

AFA President R. E. Smith urged AFA leaders to focus on the Association's core mission—bringing the airpower message to local communities.

"I want to emphasize the importance of [my] first goal, the need to get back to the basics of airpower advocacy," Smith wrote to chapter and state presidents and regional vice presidents, referring to the first of five goals he outlined at the start of his term as AFA president in the fall

of 1994. Smith cited progress in two key areas over the last year: reaching out to the blue-suit Air Force and working with Congress on issues of concern to AFA members.

Looking toward the 50th anniversary of the Air Force Association on February 4, 1996, Smith said, "I urge all of you to take this opportunity to look back to our roots and to rededicate yourselves to our core mission." Specifically, he suggested putting more effort on arranging for speakers

to address community groups outside the AFA fold, like the Rotary Club, Kiwanis, and local chambers of commerce.

"While not every one of us may be equipped to be the featured speaker in an airpower program, it is our job to find people in and out of our organization who can," Smith wrote. "There is no substitute for going out and ensuring that the gospel of airpower is preached—and preached often and effectively."



AFA President R.E. Smith conducted a planning and strategy session with AFA's national vice presidents and the national officers on December 2, 1995, in West Point, Miss. From left to right (front row): James E. Callahan, Northeast Region V.P., Phillip J. Sleeman, New England Region V.P., Mary Anne Thompson, National Secretary, and R.E. Smith. Second row: J.E. "Red" Smith, Southeast Region V.P., Charles H. Church, National Treasurer, Dan Hendrickson, Rocky Mountain Region V.P., Anton "Tony" Brees, Great Lakes Region V.P., and James M. McCoy, Chairman of the Board. Third Row: William A. Lafferty, Far West Region V.P., I. Fred Rosenfelder, Northwest Region V.P., and L.B. "Buck" Webber, Southwest Region V.P. Back row: John A. Shaud, AFA Executive Director, Vic Seavers, North Central Region V.P., Sam Gardner, Midwest Region V.P., and George H. Chabbott, Central East Region V.P. (Henry W. Boardman from the South Central Region was unable to attend the meeting.)

## AFA Turns 50 on February 4, 1996

AFA is planning a year-long celebration of its 50th anniversary in 1996. AFA President R. E. Smith has encouraged chapters around the country to develop special programming that highlights 50 years of airpower advocacy.

A retrospective video will be released in January 1996 for use by AFA chapters, and a special *Air Force Magazine* anniversary issue will appear in February along with a supplement designed for use during AFA anniversary events. Other commemorative materials will also be available, including special posters, lapel pins, and a special speech.

## Attention Air Force Veterans

In conjunction with other activities highlighting the Air Force's 50th Anniversary in 1997, the Air Force Association and Aerospace Education Foundation are helping support the production of a two-hour documentary looking at a half-century of Air Force history and beyond. The documentary is being produced by a team led by CreatiVentures, Inc., for The Discovery Channel.

The production team wants to tell the story of the Air Force through the experiences of its people, from the flight line to the cockpit, from the support roles to the desks of the decision-makers. If you have anec-

dotes, stories, photographs, video, or other mementos you would like to share, please send them to the following address along with instructions on whether the producers can keep the material or should return it:

**CreatiVentures, Inc.**  
Attn: AF 50th  
3823 Plaza Drive  
Fairfax, VA 22030

Some material not included in the documentary may be used to produce a companion commemorative coffee table book.





By Frances McKenney, Assistant Managing Editor

## Celebrations for the Tuskegee Airmen

In 1941, the War Department established pilot training at Tuskegee AAF, at Tuskegee Institute, Ala., allowing African-Americans to become military pilots. Nearly all black fighter pilots of World War II graduated from this program, and together they are called the Tuskegee Airmen.

Capt. Benjamin O. Davis, Jr., among the first to earn a commission as an AAF pilot in this program, went on to command the 99th Fighter Squadron and the 332d Fighter Group. (He would later become the first black general in the Air Force, retiring as a three-star in 1970.) Based in Italy and flying P-39s, P-47s, then P-51s, the 332d FG completed more than 1,500 missions, destroyed at least 250 enemy aircraft, and never lost a



*At the Harry S. Truman (Mo.) Chapter celebration for Tuskegee Airmen, Kenneth Wofford (above right) had an attentive listener in Kansas City Star columnist and associate editor Lewis W. Diuguid. At left, Charles McGee (third from right) was among the seventeen Tuskegee Airmen honored by distinguished guests, including (l-r) Under-40 National Director Capt. Eric Vander Linden, USAF, National Director Earl Clark, Jr., Missouri Governor Mel Carnahan, Rep. Ike Skelton (D-Mo.), National Treasurer Charles Church, Jr., and Chapter President Ted Beckett.*

bomber to enemy aircraft during 200 escort missions.

After the war, President Truman ordered the integration of the US armed forces, and so it was natural for the **Harry S. Truman (Mo.) Chapter** to honor several of these pioneering Tuskegee Airmen this November.

Seventeen members of the highly decorated group were the focus of

the special event, held at Richards-Gebaur Memorial Airport, Mo. They were Harvey A. Bayless, Victor M. Barker, Leroy Cleaver, Jr., Wilson H. Clemmons, William V. Francis, Herman A. Johnson, Charles K. Kerford, Harvey L. McCormick, chapter member Charles E. McGee, Richard C. Pullam, Jesse H. Scott, Morris D. Whitley, and Kenneth O. Wofford of

the **General E. W. Rawlings (Minn.) Chapter**. Family members for these Tuskegee Airmen who have passed away also attended: August R. Carple, Morris M. Hatchett, Charles A. Moore, Jr., and Henry B. Perry.

The honored guests entered the room to the Air Force Song, then Civil Air Patrol cadets posted the colors. Colonel McGee, USAF (Ret.), one of



*During the AFA state presidents' orientation held at AFA headquarters in November, (l-r) State Presidents Leonard Vernamonti (Mississippi), Michael Cammarosano (Louisiana), Eddie Brown (Kansas), James Snyder (Missouri), and (in back) Richard Seiber (Washington) and Robert Williams (Nebraska) learned about planning and operations.*

two Tuskegee Airmen who were fighter pilots in World War II and in the Korean and Vietnam Wars, delivered the invocation. Following a cake-cutting ceremony and dinner, the Tuskegee Airmen received specially designed plaques from the chapter, and Colonel McGee also received a silver Patrick Henry Award from the Military Order of the World Wars. Missouri Governor Mel Carnahan then delivered the keynote speech. The Henry Hoard Band provided music for the event.

Rep. Ike Skelton (D-Mo.), Rep. Karen McCarthy (D-Mo.), AFA National Treasurer Charles H. Church, Jr., and National Director Earl D. Clark, Jr., were among the many distinguished guests at the gala.

Military guests included Brig. Gen. Ronald C. Marcotte, 509th Bomb Wing commander, Whiteman AFB, Mo., and Col. Craig S. Ferguson, 442d Fighter Wing (AFRES) commander, also from Whiteman.

Earlier, the sixty-eight-member **Tri-County (N. J.) Chapter** and the eighty-eight-member **High Point (N. J.) Chapter** combined forces to honor two Tuskegee Airmen in their ranks at a September ceremony at the Picatinny Arsenal Officers Club in Dover, N. J.

Tri-County Chapter President James Garafalo presented awards to Tri-County Chapter members George Wanamaker and George Reed. Mr. Wanamaker, seventy-three, graduated from Tuskegee in 1945, became

a fighter pilot, and is a retired captain in the Montville, N. J., police department. Mr. Reed, seventy-five, served as a military policeman and a mess sergeant in World War II.

#### Featuring a Former POW

At a Veterans Day ceremony at Embry-Riddle Aeronautical University's Daytona Beach, Fla., campus, Deane Sterrett told the dramatic story of his survival as a World War II POW.

The **General James R. McCarthy (Fla.) Chapter**, headed by President David Cummock, sponsored the event with the university's Arnold Air Society and its AFROTC unit.

Mr. Sterrett was a radio operator in a 452d Bomb Group B-17, based in England during World War II. During a raid on Leipzig, Germany, in May 1944, one of the B-17's engines was hit, and it crashed in Belgium while trying to return to England.

Technical Sergeant Sterrett was interned at Stalag Luft IV in what is now Poland. When the Russians began advancing on the area, the camp was evacuated. It was winter, and for nearly three months, the POWs were forced to walk about 700 miles through what is now northern Germany. They slept outdoors, lived off the land, and sometimes retraced their route, trying to elude the Russians.

"We stayed alive by two men sharing blankets, overcoats, and food," Mr. Sterrett said. In May 1945, they were finally rescued near Lüneburg, Germany, by the British Eighth Army.

Mr. Sterrett went on to earn an AFRES commission and was an AFA charter member, a Pennsylvania State President, and a National Vice President (Northeast Region). He is a retired school principal and college instructor living in Deltona, Fla.

He told his audience that two eleven-year-old Belgian boys witnessed his B-17's crash back in 1944 and noted the aircraft's tail number. One of the boys wrote to Mr. Sterrett last year after tracing the tail number through



*Four months after posing for this photo at Drew Field, Fla., in January 1944, Deane Sterrett became a POW in Germany, an experience he recalled at a recent Veterans Day ceremony in Florida.*

the Eighth Air Force Historical Society and finding his address through the Internet.

### More Room for Aviation History

An addition to the Museum of Aviation in Warner Robins, Ga., opened in October, expanding the indoor exhibit space to 166,000 square feet.

The museum now counts eighty-seven historic aircraft and missiles in its inventory, including a Boeing KC-97L, a Convair F-106A Delta Dart, a Douglas A-26C Invader, a Lockheed SR-71 "Blackbird" and a YMC-130H Hercules, a Republic F-84E Thunderjet, and a Sikorsky CH-3 Jolly Green Giant.

Indoor exhibits focus on aviation, covering World War I, Rosie the Riveter, the Flying Tigers, the Hump pilots, the Korean War, right up to the F-15 Eagle and modern avionics systems.

Former National Vice President (Southeast Region) Dr. Dan Callahan, Georgia State President Jack H. Steed, and **Carl Vinson Memorial Chapter** President Chet Lowe have been major supporters of the addition, called the Century of Flight Hangar.

Museum officials credit the Carl Vinson Chapter with raising more than \$190,000 to support the museum over the past eleven years. They also report that Mr. Lowe personally raised



*Carnegie Mellon University commemorated the fiftieth anniversary of World War II's end by honoring veterans who graduated from the school, including National Director Judge John Brosky (far right), Defense Secretary William Perry (left), and former Women's Army Corps Director Mary Louise Rasmuson. University President Robert Mehrbian is second from right.*

\$20,000 and that—in a show of literal grass-roots support—Dr. Callahan "bought, planted, and nursed the sod in front of the hangar."

Warner Robins Air Logistics Center Commander Maj. Gen. Rondal H. Smith; Rep. Saxby Chambliss (R-Ga.); Brig. Gen. Robert L. Scott, Jr., USAF (Ret.), a World War II fighter

ace and author of *God Is My Copilot*; and Georgia State Reps. Roy H. Watson and Larry Walker were among the special guests at the museum's dedication ceremony.

### Remembering the Surrender

Aboard USS *Missouri* on September 2, 1945, Japan formally surrendered to the US, ending World War II. Fifty years later, twenty-five members of the **Greater Seattle (Wash.) Chapter** took part in a commemoration of this event in ceremonies aboard the same ship, at the Puget Sound Naval Shipyard, Bremerton, Wash.

National Director Sherman W. Wilkins and former Washington State President Philip Giambri represented AFA on the historic battleship's deck.

Vietnam War Medal of Honor recipient and Greater Seattle chapter member Col. Joe M. Jackson, USAF (Ret.), World War II WASP Capt. Marjory V. Munn, USAF (Ret.)—wife of chapter member James S. Munn—and Rep. Norman D. Dicks (D-Wash.) and his father Horace Dicks, who repaired battleships damaged in the attack on Pearl Harbor, sat in a special-guest section on board the *Missouri*. Along with a crowd estimated at 7,500, they listened to keynote speaker Gen. Richard D. Hearn, assistant commandant of the Marine Corps.

National Vice President (Northwest Region) and Chapter President Fred Rosenfelder arranged a formation flyover of World War II-era T-6s that capped the ceremony.



*Caution: Wide load. From Robins AFB, Ga., an F-111E and a C-141 with wings detached traveled two miles down the road, headed for permanent display at the newly expanded Museum of Aviation in Warner Robins, Ga. Carl Vinson Memorial Chapter members took an active part in raising funds for the addition.*



Rep. Frank Wolf (R-Va.) (center) met Northern Shenandoah Valley Chapter Vice President Raleigh Watson (left) and President Tom Shepherd (right) when he told the chapter about his inspection of war zones in Bosnia-Herzegovina.

#### Hawaii Calls—On the Internet

From 1945 into the 1980s, radio personality Webley Edwards broadcast "Hawaii Calls," a music and conversation show from Waikiki Beach.

In 1995, it's "Hawaii Calling"—a home page on the Internet created by the **Hawaii Chapter's** Winton W. Marshall.

Calling up this home page on the computer, Internet users will find Hawaii Chapter news as well as information on such organizations as the American Fighter Aces Association, the F-86 Sabre Jet Pilots Association, and the Order of Daedalians Aloha Flight 28. Mr. Marshall also posts selected news items about various major commands and field operating agencies.

A Korean War ace, Mr. Marshall said he was one of the first flag officers to have a computer at his PACAF headquarters desk. He also beat AFA to the punch in setting up his Internet site. Mr. Marshall had a hole dug under his house, located on a ridge overlooking Honolulu, and built a computer room there. He began attending classes a year ago on how to use the Internet and create home pages. He even hired a consultant and worked with AFA's management information systems department to set up his home page.

"So many of our people are in remote areas in the Pacific," he said, that he figured an AFA home page was a good way to keep them in touch.

"Hawaii Calling" is at <http://www.infinityweb.com/hc/>.

#### One Man's Efforts

Our loss is your gain, says **Fort Wayne (Ind.) Chapter's** Gene Royer to Indianapolis. He reports that one of the chapter's most active members, Gene Foster, has moved from Fort Wayne to Indiana's capital.

Mr. Foster, along with Ted Huff and Al Feedback, was instrumental in starting a JROTC program at Wayne High School. The trio also helped bring *USA Today's* and AEF's "Visions of Exploration" program to eight schools in the area.

The Wayne High School JROTC program enrolled 116 students when the school year began last fall. The 1st Battalion, 293d Infantry, Indiana National Guard, got the program off to an exciting start in September, inviting several cadets to attend a weekend training camp. The cadets fired an M16 rifle, an M60 machine gun, and an M203 grenade launcher. Mr. Royer says the cadets liked the M203 the best, although a few didn't brace it properly when firing it and at the end of the day had the sore shoulders to prove it.

#### AFA Receives Freedom Award

The Confederate Air Force has presented its first-ever Freedom Award to the Air Force Association in recognition of AFA's "persuasive leadership in galvanizing public opinion and support" in the *Enola Gay* controversy. Before AFA took a hand in the problem, the National Air and Space Museum was planning to use the *Enola Gay*, the B-29 that dropped the atomic bomb on Hiroshima, as a prop in a politically charged exhibit on the fiftieth anniversary of the historic mission. Owing in considerable part to the public attention AFA brought to bear, the museum canceled the problem exhibit and chose instead to show the aircraft in a straightforward, factual program.

The Freedom Award was presented September 30 at the Confederate Air Force Air Show 1995 in Midland, Tex., by Robert Thompson, chief of staff of the general staff.



Brooklyn "Key" (N.Y.) Chapter Secretary Rosalind Festa and President Gene Festa were pleased to have the opportunity recently to thank ANG Maj. (Chaplain) Alphonse Stephenson and Michael Cippoletti (l-r) for their support of the chapter over the years.

# AFA'S TWELFTH ANNUAL AIR WARFARE SYMPOSIUM

**February 15-16, 1996 • The Buena Vista Palace Hotel • Orlando, Fla. • 800/327-2990**

■ **Invited Speakers**

Top military leaders will explore air warfare requirements in the context of tight budget constraints, the need to modernize forces, and an uncertain future. Speakers will include:

**Gen. Ronald R. Fogleman**, Chief of Staff, USAF; **Gen. Joseph W. Ralston**, commander of Air Combat Command; and a sterling array of top-level defense leaders. For more information, contact Jim McDonnell **703/247-5810** or Elizabeth Smith **703/247-5838**, or call **800/727-3337**, ext. **2030**, for updated recorded information.

■ **Golf Tournament**

AFA's Central Florida Chapter will sponsor a golf tournament on Walt Disney World's Magnolia and Palm Courses on Wednesday, February 14. Contact Jim DeRose **407/356-5750**.

■ **Gala**

The chapter will sponsor its twelfth annual black-tie Gala on Friday, February 16. Proceeds will benefit AFA's Aerospace Education Foundation and the Air Force Memorial Foundation as well as AFROTC scholarships and other aerospace education activities. Contact Marty Harris **407/356-4810**.

**For hotel reservations**, call Buena Vista Palace Hotel **800/327-2990** or nearby Grosvenor **800/624-4109** or Doubletree Guest Suite Resort **800/222-8733**. Mention the AFA Symposium for special rate.

■ **Registration Form**

Advance registration closes Friday, **February 8, 1996**. No refunds can be made for cancellations after this date.

**Mail this form to:**

Air Force Association  
Attn.: Elizabeth Smith  
1501 Lee Highway  
Arlington VA 22209-1198

**Phone: 703/247-5838**  
**Fax: 703/247-5853**

**1996 Air Force Association National Symposium**

name (print)	title	affiliation
address		
city	state	zip
telephone (with area code)		

Symposium fee for AFA Individual or Industrial Associate member is **\$450**. Fee for nonmember is **\$500**. Fee includes sandwich lunch, reception/buffet (includes two drink vouchers), and continental breakfast.

Mark here to request an extra reception/buffet ticket and/or lunch ticket. Enclose **\$95** for the additional reception/buffet ticket, **\$18** for the extra lunch ticket.

Name of guest: \_\_\_\_\_

Check or money order (made out to Air Force Association) enclosed. **Total:** \_\_\_\_\_

Charge to:  VISA  M/C  AMEX

Expires: \_\_\_\_\_

Signature \_\_\_\_\_

Kenneth A. Goss, director of National Defense Issues, accepted on behalf of AFA. A crowd of some 40,000 people witnessed the award presentation and saw the air show, which included a demonstration flight by a B-29.

### Chapter News

With videos of refugee hospitals and patients, devastated areas, and living conditions in the war zone, Rep. Frank R. Wolf (R-Va.) brought to the **Northern Shenandoah Valley (Va.) Chapter** a report on his inspection tour of Bosnia-Herzegovina. At this August chapter meeting, the Congressman made a strong case for lifting the arms embargo against the Bosnians and for maintaining a strong US military presence throughout the world, said Chapter President Thomas G. Shepherd. AFJROTC cadets were in the audience at the gathering, held at Randolph-Macon Academy in Front Royal, Va.

**Brooklyn "Key" (N. Y.) Chapter** President Gene Festa and Chapter Secretary Rosalind Festa recently honored some long-time chapter supporters. In July, the Festas presented plaques to ANG Maj. (Chaplain) Alphonse Stephenson, who is with ANG's 108th Air Refueling Wing at McGuire AFB, N. J., and Michael Cippolletti, formerly a speech pathologist at the James J. Howard Outpatient Veterans Administration Clinic in Brick Township, N. J. In September, they presented a plaque to Army Reserve Maj. (Dr.) John J. Sweeney, also from the VA Clinic in Brick, as thanks for serving as guest speaker at several chapter functions.

Four former Army Air Forces bomber crew members recounted their World War II experiences at a **Longs Peak (Colo.) Chapter** dinner commemorating the war's end. Rex Carnes, a B-17 tailgunner based in Foggia, Italy, with the 416th Bomb Squadron, 99th Bomb Group, described bailing out over Hungary and returning to Allied lines. B-17 pilots Bob Fithian and George Mance, with the 381st and 493d Bomb Groups, respectively, recalled missions flown from their UK bases. Fran Waugh spoke of his work as a combat camera coordinator and historian with the 423d Bomb Squadron, 306th Bomb Group.

### Have AFA/AEF News?

Contributions to "AFA/AEF Report" should be sent to *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Phone: (703) 247-5828. Fax: (703) 274-5855. ■

## Unit Reunions

**American Defenders of Bataan and Corregidor.** National convention. May 11-17, 1996, at the Hilton Hotel in Albuquerque, N. M. **Contact:** Charles L. Pruitt, 1231 Sweetwater-Vonore Rd., Sweetwater, TN 37874. Phone: (423) 337-5190.

**Chambley AB, France.** May 10-13, 1996, in Colorado Springs, Colo. Civilians, contractors, military personnel, and dependents formerly assigned to Chambley AB are invited. **Contact:** Charles R. Timms, P. O. Box 293, Fair Play, SC 29643. Phone: (864) 972-2020.

**Philippine Scouts (US Army).** May 23-25, 1996, in El Paso, Tex. **Contact:** M. Parazo, 6705 Morningside Dr., El Paso, TX 79904. Phone: (915) 565-7607.

**Port Lyautey Alumni Ass'n.** April 30-May 3, 1996, at the Imperial Palace Hotel in Las Vegas, Nev. **Contact:** J. R. Calloway, 10714 Kingwood Dr., Corpus Christi, TX 78410. Phone: (512) 241-1821.

**Mail unit reunion notices well in advance of the event to "Unit Reunions," Air Force Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. Please designate the unit holding the reunion, time, location, and a contact for more information.**

**Thomasville Airfield,** 59th Fighter Group, 59th Reconnaissance Group, 339th Base Unit, and Combat Crew Training Squadron (Fighter). May 16-19, 1996, at the Holiday Inn in Thomasville, Ga. **Contact:** Col. Samuel A. Owens, USAF (Ret.), 125 Bayview Dr., San Carlos, CA 94070. Phone or fax: (415) 595-4344.

**2d Air Division Ass'n,** 8th Air Force. June 13-15, 1996, in Milwaukee, Wis. **Contact:** Evelyn Cohen, 06-410 Delaire Landing Rd., Philadelphia, PA 19114. Phone: (215) 632-3992.

**17th Weather Squadron (World War II).** May 1-5, 1996, in Hampton, Va. **Contact:** James F. Van Dyne, 725 N. Hawkins Ave., Akron, OH 44313. Phone: (216) 867-3754.

**29th Air Service Group Ass'n (1941-48),** 13th and 5th Air Forces. Fiftieth-anniversary reunion. June 16-22, 1996, at the Adam's Mark Hotel in Charlotte, N. C. **Contact:** Frank Pace, 315 W. 15th St., Dover, OH 44622. Phone: (216) 343-7855.

**Pilot Class 43-D Ass'n.** May 1-4, 1996, at the Holiday Inn Centre in Milwaukee, Wis. **Contact:** Jack Carlson, 3045 Silverview Dr., Cuyahoga Falls, OH 44224. Phone: (216) 888-4848.

**Pilot Class 47-C "Guinea Pigs."** Reunion in 1996 in the Washington, D. C., area. **Contacts:** Bob Campion, P. O. Box 1712, Fulton, TX 78358. Al Twitchell, 4202 Wilton Woods Lane, Alexandria, VA 22310.

**47th Bomb Group Ass'n (World War II).** April 25-28, 1996, at the Marriott Hotel in Colorado

Spring, Colo. **Contact:** Costa Chalas, 64 Trapelo Rd., Belmont, MA 02178. Phone: (617) 484-5620. Fax: (617) 484-3309.

**Pilot Training Class 52-B.** May 6-9, 1996, in Las Vegas, Nev. **Contact:** George Menster, 4360 Cherrystone Ct., Las Vegas, NV 89121. Phone: (702) 454-1885.

**89th Attack Squadron/90th Bomb Squadron (World War II).** April 24-28, 1996, in Galveston, Tex. **Contact:** Bill Beck, 7355 Buckeye Ct., Colorado Springs, CO 80919. Phone: (719) 599-5336. Fax: (303) 893-2733.

**98th Air Refueling Squadron,** Lincoln AFB, Neb. May 31-June 2, 1996, at the Marriott Hotel in San Antonio, Tex. **Contact:** Maj. D. E. Gartner, USAF (Ret.), P. O. Box 8740, Horseshoe Bay, TX 78657-9212. Phone: (210) 598-8580.

**307th Bomb Wing Ass'n,** Lincoln AFB, Neb. (1954-65). June 20-23, 1996, in Dayton, Ohio. **Contact:** Mike Gingrich, 1525 Edenwood Dr., Beavercreek, OH 45434. Phone: (513) 426-5675.

**311th Pursuit/Fighter Squadrons (World War II) and 311th Fighter-Bomber Squadron (Korea).** June 20-23, 1996, in San Antonio, Tex. **Contact:** E. R. "Bob" James, 13083 Ferntrails Lane, St. Louis, MO 63141-6136. Phone: (314) 878-5953.

**319th Fighter-Interceptor Squadron.** May 16-19, 1996, in Dayton, Ohio. **Contact:** James H. Speyrer, 5507 Marblehead Dr., Dayton, Ohio 45431. Phone: (513) 254-2913.

**321st Bomb Wing,** Pinecastle (McCoy) AFB. April 18-21, 1996, in Warner Robins, Ga. **Contact:** Norman F. Jones, Rte. 3, Box 370, Hwy. 341, Fort Valley, GA 31030-9291. Phone: (912) 825-2656. Fax: (912) 825-0231.

**459th Fighter Squadron.** May 30-June 2, 1996, in Minneapolis, Minn. **Contact:** Wayne O. Sneddon, P. O. Box 117, Pilot Hill, CA 95664.

**820th Bomb Squadron,** 41st Bomb Group, 7th Air Force (World War II). May 2-5, 1996, at the Hartford Marriott in Farmington, Conn. **Contact:** William W. Childs, 3637 Patsy Ann Dr., Richmond, VA 23234-2951. Phone: (804) 275-6012.

**4080th Strategic Reconnaissance Wing.** May 23-25, 1996, at the Civic Center in Del Rio, Tex. **Contact:** Reunion Committee, P. O. Box 1526, Del Rio, TX 78841-1526. Phone: (210) 775-5346.

**7th Special Operations Squadron,** Ramstein/Sembach ABs, Germany (1968-72). Seeking contact with squadron members interested in a reunion in 1996 or 1997. **Contact:** Col. James W. Bushey, USAF (Ret.), 1216 N. Lakeshore Dr., Niceville, FL 32578.

**Pilot Training Class 59-F.** For a reunion, seeking class members who trained at Webb AFB, Tex. **Contacts:** Col. Joseph P. Nichols, USAF (Ret.), 6101 E. Calle Tuberia, Scottsdale, AZ 85251. Phone: (602) 941-8775. Lt. Col. Homer "Art" Mawhinney, USAF (Ret.), 269 Forest Dr., Deatsville, AL 36022. Phone: (334) 285-3579.

**464th Troop Carrier Group,** including the 777th, 778th, and 779th Troop Carrier Squadrons, Pope AFB, N. C. Seeking members for a reunion. **Contact:** Bob Straub, 1225 5th St. S. W., Winter Haven, FL 33880. Phone: (941) 293-8285. ■

# Bulletin Board

Seeking photos of the Imperial Iranian Air Force's **Golden Crown** aerobatic team in F-86Fs and contact with USAF personnel who have served in Iran. **Contact:** Michael A. Fox, P. O. Box 640, Troy, MI 48099-0640.

Seeking photos of **Walter Mitty Society** emblems (two crossed Webley-Vickers automatics) used as nose art on planes in the South Pacific during World War II. **Contact:** Adam Van Doren, 130 W. 57th St., #13B, New York, NY 10019.

Offering an aerial photo of **P-47D #48-8496** over eastern Long Island, N. Y. **Contact:** William Warga, 2743 Ocean Dr., #E48, Vero Beach, FL 32963.

Seeking the whereabouts of **Paula Hyde**, whose father, Maj. Gen. John Paul Hyde, was stationed at Langley AFB, Va., in the late 1970s. **Contact:** Tess Scott Wilson, 585 N. Murdock Lane, Idaho Falls, ID 83402.

Seeking the whereabouts of **Lt. Col. Douglas Fulton**, a World War II pilot who graduated from Amundsen High School, Chicago, Ill., in 1941. **Contact:** June Condon Foy, 350 Westwood Dr., Barrington, IL 60010.

Seeking information on **Vera Lynn**, a British singer during World War II. **Contact:** Jerome J. Seefried, 3942 Chestwood Ave., Jacksonville, FL 32277-1607.

Seeking contact with anyone who knew **Lt. Walter F. Lowey**, an 8th Air Force B-17 pilot during World War II, shot down on his eleventh mission. **Contact:** Master Chief Carl L. Berrier, USN (Ret.), 2535 Dowd Lane, Richmond, VA 23235-5404.

Seeking contact with anyone from the **57th Air Training Detachment**, commanded by Col. L. P. Hodnotte, ATC, University of Alabama, January-April 1994. **Contact:** Capt. Burres W. Garrison, Jr., USPHSR, Medical Tower Bldg., Suite 302, 1550 W. Rosedale, Fort Worth, TX 76104-7494.

Seeking the whereabouts of **Sgts. William Spera and Neals Jorpland** (Jourpland), who were stationed at Walker AFB, N. M., in the early 1950s. **Contact:** Marvin L. Haley, 1240 Sherman St., Apt. #204, Denver, CO 80203.

Seeking contact with **Army Pvt. Leonard Guillotte** who was stationed in England during World War II. **Contact:** Evelyn Staples, 54 Robyns Way, Sevenoaks, Kent TN13 3EE, UK.

Seeking contact with all members of Undergraduate **Pilot Training Class 70-06**, Laughlin AFB, Tex. **Contact:** Troy E. Minton, 1318 Narcisco St. N. E., Albuquerque, NM 87112-6615.

For a book, seeking recollections, photos, notes, and memorabilia from people with experience with the **Salvation Army** while in the military. **Contact:** Lt. Col. Stephen P. Garrington, USAR, 3530 Ridge Ct., Davenport, IA 52806-5144.

Seeking the whereabouts of a USAF airman, possibly named **Mike**, stationed at Miho, Japan, 1951-53, and who knew **Yoko Sasaki** of Tottori, Kunitachi, Japan. **Contact:** Jeanne-Marie Wilkes, 3910 Janssen Lane, Santa Rosa, CA 95404.

Seeking photos of a flight-line ceremony at the closing of **Turner AFB, Ga.**, in July 1967. **Contact:** Charles E. Shambaugh, Jr., 800 York Rd., Lot 97, Dover, PA 17315-1632.

Seeking the whereabouts of **William Howard**, a catcher on the Laon Rangers baseball team, from

the New Smyrna Beach, Fla., area. Also seeking contact with **Primus McMullen** and "**Frenchy**." **Contact:** CMSgt. William M. Poe, USAF (Ret.), 220 Dominica Cir., Niceville, FL 32578-4068.

Seeking the whereabouts of **Leon Leshay**, a former B-26 Marauder pilot originally from Winstead, Conn., who was last stationed as a base test pilot at Tyndall Field, Fla. **Contact:** Maj. Bernard Badler, USAF (Ret.), 18449 Crest Ave., Castro Valley, CA 94546-2725.

Seeking **James Fogle** and **Daniel Bursh**, who were students of W. N. Hawkins at Lakeland Field, Fla. **Contact:** Lew Johnston, 2665 Chestnut St., Apt. #11, San Francisco, CA 94123-2419.

Seeking contact with members of the **43d Bomb Squadron**, 29th Bomb Group, 314th Bomb Wing (World War II). **Contact:** M. M. Zeke Marsolek, 3160 Duke Dr., Prescott, AZ 86301.

Seeking contact with former Army Air Corps personnel or anyone who has information about the **Curtiss XP/YP-37**, 1940-41 vintage. **Contact:** R. E. Martin, 2309 Sabine Way, Rancho Cordova, CA 95670.

Seeking the whereabouts of **Robert William Carling**, whose last known station was Chanute AFB, Ill., or Scott AFB, Ill., in the mid- to late-1950s. He relocated to Ohio. Also seeking **MSGt. Ray (Roy) Hiatt**, who was stationed at Chanute in 1953 and was a permanent placement instructor and member of the NCO Chandelle Club. **Contact:** M. K. Carling, 3520 N. Lake Shore Dr., #8G, Chicago, IL 60657.

Seeking information on and/or photos of **MSgts. Robert Coulter** and **Hugh Nesbitt**, based at 1407th Air Base Unit, European Division, Air Transport Command, in Wales, UK, in 1944. **Contact:** Sue D. Greenacre, 33 Bruce Close, Deal, Kent CT14 9BU, UK.

Seeking the whereabouts of **Chuck (Charles or Claude) Webb**, an Army staff sergeant stationed in France, 1944-45. His last known address was in Indianapolis, Ind. **Contact:** Janine Magini, 67 rue Principale, 57330 Entrange, France.

Seeking the whereabouts of **Capt. John E. Roche**, of the 91st Strategic Reconnaissance Squadron, who survived after his RB-50 was shot down in the Sea of Japan, July 1953. **Contact:** Lt. Col. Robert L. Kleyla, Sr., USAF (Ret.), 730 24th St. N. W., Washington, DC 20037-2543.

Seeking the whereabouts of an airman named **William**, or "**Slim**," possibly from New Jersey, who was based at Whittington Barracks, Lichfield, Staffordshire, UK, in the summer of 1945 and who knew Muriel (Millie) Akins of Wolverhampton, UK. **Contact:** Mrs. V. Ash, 12 George St., Hednesford, Cannock, Staffordshire WS12 5BJ, UK.

Seeking World War II **patches** from 8th and 9th Air Forces and the Luftwaffe. Also seeking World War II **aircrew survival kits**. **Contact:** Elliott Carpenter, 10533 Stanley Rd., Elberfeld, IN 47613.

Seeking **patches**, books, and other memorabilia from the USAF Academy. **Contact:** Arlin L. Hill, P. O. Box 8693, Newark, OH 43058-8693.



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Seeking contact with former **719th Bomb Squadron** members, especially Hugo Blodel, Robert Boaz, Seymore Cohen, Lewis Kelley, John Piedmonte, and Marvin Warner. **Contact:** Ernest Hughes, 2030 Goldsmith Lane, Louisville, KY 40218.

Seeking the whereabouts of **Gary A. Harper** and **William Krasulak**, who were stationed at Kassel, Germany, in the early 1950s and possibly worked in radio maintenance. **Contact:** Arthur Arruda, 118 Brigham St., New Bedford, MA 02740.

Seeking the whereabouts of **TSgt. Robert Pharn Thornton**, originally from New Orleans, La., who served with Detachment 6, Wallace AS, the Philippines, 1967-68. **Contact:** Brenda R. Thornton, c/o Cleo Borja Quirimit, 1st Block Capitol View Subd., Poro San Fernando La Union, 2500 Philippines.

For an association, seeking contact with anyone who flew and/or maintained the **B-47 Stratojet**. **Contact:** Lt. Col. Charles L. Brown, USAF (Ret.), 3018 Shady Knoll Lane, Bedford, TX 76021-4120.

Seeking contact with anyone who was part of **1363d Photo Flight**, Bushy Park, UK, 1953-55. **Contact:** Anthony Clarke, 2501 Glenn Dr., Carson City, NV 89703.

Seeking contact with the eleven B-24 airmen who crashed near Wutong, China, in summer 1943. They were rescued and transported to an airstrip in Jianou by **Zhenhua Chiang**. **Contact:** Huade Jiang, Rte. 10, Box 50, Buckhannon, WV 26201.

Seeking contact with former Pilot Class 54-F members **Robert A. Campbell**, **Richard A. Parsons**, and **Walter R. Rykken**. **Contact:** Paul Boehk, 121 Cedar Ridge, Rockport, TX 78382.

**If you need information on an individual, unit, or aircraft, or if you want to collect, donate, or trade USAF-related items, write to "Bulletin Board," Air Force Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. Letters should be brief and typewritten; we reserve the right to condense them as necessary. We cannot acknowledge receipt of letters. Unsigned letters, items or services for sale or otherwise intended to bring in money, and photographs will not be used or returned.—THE EDITORS**

Seeking information about a medical/rehabilitation facility in **Banff, Canada**, where a US Army Lieutenant named Tom, from Minnesota, was treated, April-June 1945. **Contact:** Harold Fabriz, 1870 Sheldon St., St. Paul, MN 55113-6136.

Seeking film or video tape of the **Titan II missile**, on the ground or in the air, 1963-65. **Contact:** Kermit C. Thompson, 104 Welcome View Dr., Greenville, SC 29611-7758.

Seeking the whereabouts of World War II WAF **Cpl. Peggy Luther**, originally from Bethlehem, Pa., who was stationed at Stewart AFB, N.Y. **Contact:** Bob Powell, 335 B Evans St., Williamsville, NY 14221.

Seeking contact with B-47 ground crew members **Franklin M. Bunge**, **James E. Byrd**, **Donald R. Sweetin**, and **Dale E. Wise**, from the 321st Bomb Wing, Pinecastle AFB, Fla. **Contact:** Norman F. Jones, Rte. 3, Box 370, Hwy. 341, Fort Valley, GA 31030.

Seeking biographies of former members of **Pilot Class 44-C**, Moody Field, Ga., March 1944. **Contact:** Alvin Goodman, 2804 Wall Ave., Waukegan, IL 60087.

Seeking contact with members of the **398th and 513th Bomb Groups**, World War II. **Contact:** Otha H. Vaughan, Jr., 10102 Westleigh Dr. S. E., Huntsville, AL 35803-1647.

Seeking information on **Lt. D. W. Coninx**, who may have flown in a Boeing B-17 Flying Fortress August 11, 1944, and probably served with the 730th Bomb Squadron. **Contact:** Cynthia P. Haase, OS092 Surrey Dr., Elburn, IL 60119.

Seeking information on and photographs of the "Bamboo Bomber" version of the **Cessna "Bobcat" AT8/AT17**, World War II. Also seeking information on the Convair B-32 Dominator. **Contact:** Paul J. Meketa, 1645 Samedra St., Sunnyvale, CA 94087.

Seeking the whereabouts of **John D. Walker**, originally from North Carolina, who landed in Bussum, the Netherlands, in May 1945 to deliver food. **Contact:** Maria Rood-Poelmann, Plaggenweg 151, 1406 RZ Bussum, Netherlands.

Seeking contact with anyone who knew **Lt. Henry C. Schmidt**, who was killed during takeoff at Guadalcanal in 1943. **Contact:** Frederick R. Bremer, 80 Howard Dr., Old Tappan, NJ 07675.

Seeking information on, artifacts from, and contact with members of any **liaison squadron**, particularly the 25th, who served in the southwest Pacific. **Contact:** MSgt. Larry M. Koehler,

25ASOS/CCF, 1102 Wright Ave., Wheeler AAF, HI 96854-5200.

For a unit history, seeking contact with anyone who served with, was trained by, or has information, including aircraft serial numbers and photos, on **2d Air Force**, 1941-46. **Contact:** Dennis R. Loyd, 2323 E. Menlo Ave., Fresno, CA 93710.

Seeking information on World War II pilot **Lt. Paul L. Ryder**, from Whitman, Mass., who served with a bomb squadron in the Pacific. **Contact:** Everett H. Tisdale, 47 White Island Rd., Halifax, MA 02338-1143.

Seeking contact with members of **8th Air Force**, World War II. **Contact:** Gerald Astor, 50 Sprain Valley Rd., Scarsdale, NY 10583.

Seeking a Skyblazers demonstration team **patch** and any USAF fighter bomber or fighter-interceptor patches. **Contact:** SSgt. Randy Troutman, PSC 9, Box 4034, APO AE 09123.

Seeking books, magazines, brochures, posters, photos, and memorabilia relating to **US military aerospace**. **Contact:** Graham S. Clack, Box 3209, Sumas, WA 98295.

Seeking contact with friends and relatives of twenty 351st Bomb Group airmen, including **Sgt. Edwin R. Birtwell**, **Sgt. Boyd P. Dobbs**, **Capt. Joseph A. Glover**, **1st Lt. Richard E. Higley**, **MSgt. John Q. Montgomery**, and **SSgt. Robert E. Smith**, who were killed when their B-17G crashed in Wales, UK, June 8, 1945. **Contact:** James T. Kirkwood, Y Bwythyn Bach, 17 Cross St., Caerleon, Newport, Gwent NP6 1AF, UK.

Seeking information on **Sgt. Archie M. Dunn** of El Paso, Tex., who did not return from a 307th Bomb Group raid on Balikpapan, Borneo, October 3, 1944. **Contact:** V. L. Dunn, 115 Hilltop Dr., Fairfield Bay, AR 72088.

Seeking contact with **528th Fighter-Bomber Squadron** veterans who flew the A-36 and the P-51 in the China-Burma-India theater, 1943-45. Also seeking contact with **311th Fighter Group** members who flew support for Gen. Joseph Stilwell and Maj. Gen. Frank Merrill. **Contact:** Peter C. Smith, Foxden, 12 Brooklands Rd., Riseley, Bedford MK44 1EE, UK.

Seeking the whereabouts of former Tuskegee Airman **Walter Smith**, crew chief to Capt. Roscoe Brown of the 100th Fighter Squadron, 332d Fighter Group. Also seeking contact with the family of Mr. Smith, who was from Louisville, Ky. **Contact:** William Foote, 11th Wing, 20 MacDill Blvd., Suite 401, Bolling AFB, DC 20332-5100.

Seeking information on **1st Lt. George Griffin Greenwell**, reported missing in action May 15, 1952, west of Anju, North Korea, while flying an RB-26 photoreconnaissance plane for the 12th Tactical Reconnaissance Squadron, 67th Reconnaissance Wing. Lt. August W. Mouton and Capt. Arthur Callan were the navigators. **Contact:** Joan L. Heller, 808 Ellington Ct., Indianapolis, IN 46234.

Seeking contact with any member of the **60th Station Complement Squadron**, based in Norfolk, UK, during World War II. Also seeking contact with **Col. Frank K. Everest, Jr.**, wing commander, 4453d Combat Crew Training Wing, Davis-Monthan AFB, Ariz., October 1964. **Contact:** MSgt. Dave Shreeve, 60 LSS/LGLTL, 501 Hangar Ave., Travis AFB, CA 94535.

For association membership, seeking former **27th Air Transport Group** personnel (World War II). **Contact:** Fred T. Garcia, 11903 N. 77th Dr., Peoria, AZ 85345-8251.

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Seeking contact with those who served in Tripoli, Libya, 1943-46, especially members of the **1262d Air Base Wing**. Also seeking Air Training Command memorabilia from that era and members of the **Lady Be Good** search team. **Contact:** CSM Hassen A. Cara, USA (Ret.), P. O. Box 2069, Lawton, OK 73501.

Seeking contact with **Ann Gibson**, daughter of Colonel Gibson stationed at Parks AFB, Calif., 1952-54. **Contact:** Vincent Spitaleri, 7 Ross Ave., Melville, NY 11747.

Seeking photos of or information on the **Farm Gate/Jungle Jim** programs of the 4400th Combat Crew Training Squadron and any other advisory programs involving the Vietnamese Air Force in its early days. Also seeking contact with anyone who supported the French Air Force in Indochina and **Project Mill Pond** in Laos in 1961. **Contact:** Jim Mesko, 4363 Hohman Circle, Akron, OH 44319.

Seeking contact with fifteen World War II American airmen whose plane crashed outside **Kermarek, Czechoslovakia**, in November 1943, and who were hidden by Helen Elas Conka in a tunnel. **Contact:** Helen Elas Conka, 6945 W. Ironwood Dr., Peoria, AZ 85345-6868.

Seeking USAF **pen pals**. **Contact:** Val M. Gill, 1 Sherwin House, Clayton St., Kennington, London SE11 5SB, UK.

Seeking contact with or information on **Paul D. Morris**, stationed at RAF Alconbury, UK, who may have been from Hartman, Ark. **Contact:** Kathy Baker, 88 Marston House, St. Matthews, Leicester LE1 2PX, UK.

Seeking information on **Joe Hurley** and the B-17 crew whose plane bombed Regensburg, Germany, and went down over Schweinfurt, Germany, on February 25, 1943. **Contact:** Tom Ross, 2735 Meandering Trail, Kingwood, TX 77339.

Seeking contact with any forward combat air control team members with information on the accidental bombing of **Company D, 2d Battalion, 327th Infantry, 101st Airborne Division**, August 10, 1968, at A Shau Valley, Vietnam. **Contact:** William Osgood, 3901 Klein Blvd., Lompoc, CA 93436.

Seeking the whereabouts of **Warren Ossenhaimer**, who served in East Anglia, UK, in 1944. **Contact:** Carolyn A. Garrett, 120 High St., Marshfield, Chippenham SN14 8LU, UK.

Seeking a group photograph of Squadron P, 3706th Basic Military Training Squadron, taken in late spring 1945 at **Sheppard Field, Tex**. **Contact:** George K. Goode, Jr., 8361 Fordson Farm Lane, Richmond, VA 23231-7562.

Seeking the whereabouts of **Sgt. George Manch** and **Cpl. Anthony Forlono** or anyone from the **81st or 44th Air Depot Groups**, stationed at Eagle Farm Aerodrome, Australia, in 1942, in New Guinea 1943-44, and at Clark AB, the Philippines, 1945. **Contact:** R. J. Guttman, 10961 Desert Lawn Dr., Space #123, Calimesa, CA 92320.

Seeking the whereabouts of **SSgt. Charles S. Johnson**, who was a 555th Squadron, 386th Group, tailgunner on the Martin B-26 *X-Terminator*. Also seeking **SSgt. Allen D. LaFavor**, a tailgunner on the Martin B-26 *T. S. Ticket*. **Contact:** Lt. Col. Grant M. Bird, USAF (Ret.), 70 Corte Alta, Novato, CA 94949.

Seeking the whereabouts of **A2C George LaVerne Smith**, of the 455th Missile Maintenance Squadron, Minot AFB, N. D., October 1963. **Contact:** Joyce M. Parker, 1913 Marshall, Hays, KS 67601.

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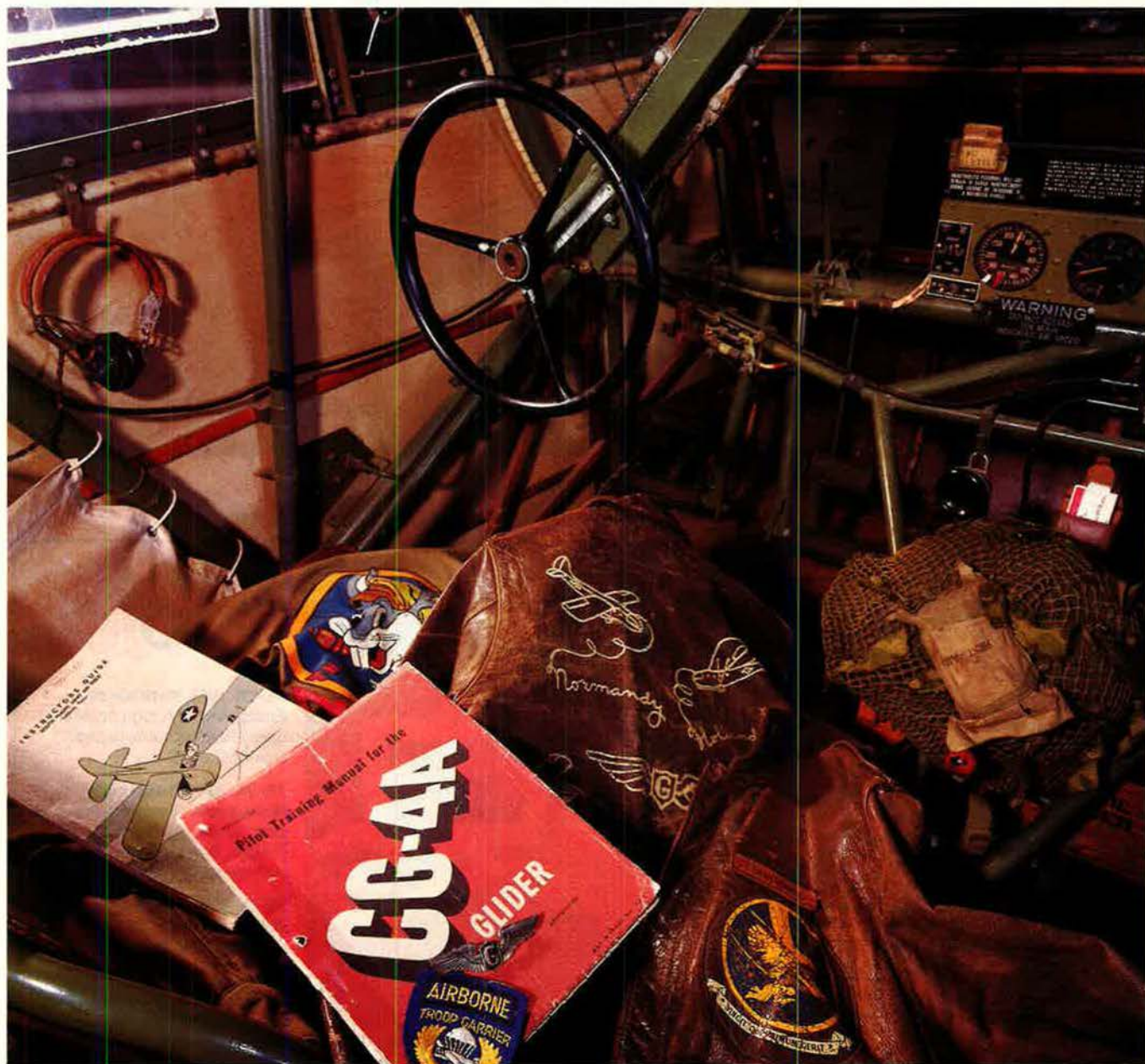
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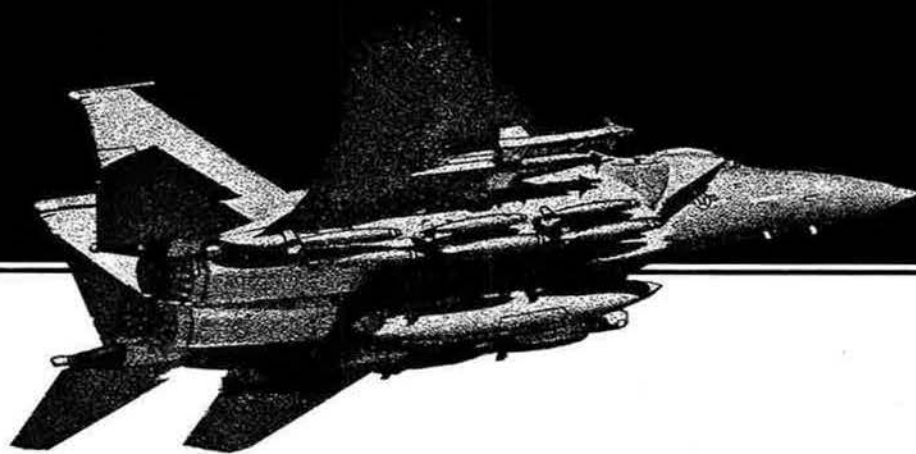
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