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MAGAZINE



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A Photographic Essay



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- 5 Letters
- 11 Aerospace World
- 18 Senior Staff Changes
- 20 Index to Advertisers
- 27 The Chart Page
- 53 Flashback
- 63 Valor
- 80 AFA/AEF National Report
- 84 Unit Reunions
- 86 Bulletin Board
- 88 Pieces of History

2 Editorial: The New Waves of War
 By John T. Correll
Hacker sites on the Internet offer not only targeting data but also the tools to carry out an attack.

22 Air Force Programs at the Core
 By Robert S. Dudney
USAF has identified the aircraft, weapons, and forces it needs to sustain its six "core competencies."

28 The Expeditionary Air Force Takes Shape
 By John A. Tirpak
USAF is still refining the concept, but initial reports have been promising.

34 Airpower and the Other Forces
 By John T. Correll
An Eaker Institute panel explores strategic options and consequences for "the aerospace nation."

36 Faces From the First 50 Years
A lot of interesting people have been part of the Air Force during its first 50 years. Here are some of them.

54 A Standard for Tricare
 By Suzann Chapman
This health-care option—old CHAMPUS with some refinements—may be the only one open to those living in some areas.

58 Readiness at the Edge
 By Peter Grier
Increased deployments and a smaller force have combined to generate new worries about readiness.

64 Air War Vietnam
From before Dien Bien Phu to the fall of Saigon, USAF played a major role in the fight against the forces of Ho Chi Minh.



28



About the cover: F-105Ds refuel from a KC-135 on their way north during the Vietnam War. More on p. 64. Photo by Bill Erickson.

76 AFA Advisors and Councils
 By Crystal L. Givens
AFA President Doyle Larson has appointed these advisors and councils for 1997.



36

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By John T. Correll, Editor in Chief

The New Waves of War

TWENTY years ago, at the peak of the Cold War, the US Air Force looked into the possibility of severing the Kremlin's communications links and cutting Moscow off from its air defense elements. The idea was before its time, though, and nothing came of it.

By 1990, considerably more was possible. Air Staff planners in the Persian Gulf War identified 78 command-and-control nodes whose elimination would paralyze Iraq. These nodes were among the first targets struck. Twenty-eight minutes after the war began, Iraqi units were shut off from higher echelons, with no intelligence or direction.

The command-and-control attack in the Gulf was carried out with missiles and bombs. In the future, such operations may instead use information itself as a weapon and strike by means of computer viruses, logic bombs, deceptive jamming, swamping the adversary with data, or the alteration of information the enemy believes to be true.

Information warfare continues to evolve and grow in importance. Nobody knows what will happen next, but for millions of Americans, the experience could move closer to home. Hacker sites on the Internet offer both targeting data and the tools to conduct an attack. The microchip revolution has made an incredible amount of information available.

For about \$1,500, you can buy a CD-ROM, "Local Exchange Routing Guide," which gives the address of every major telecommunications switch in the US and enough information to estimate the capability of each of them. Doubtless, it is a great resource for those with a legitimate need for the knowledge, but it could be an equally great resource for others, such as terrorist organizations, whose needs are not legitimate.

A Presidential Commission exploring the vulnerability of critical national infrastructures that range from the banking system to the water supply and continuity of government finds that 70 percent of what binds these infrastructures together is telecommunica-

tions connectivity. Thus, targeting intelligence about our central vulnerability is for sale on a computer disk.

So far, the incidents that have made news have been about hackers and small-scale assaults on computer systems, but some 18 nations have active information warfare programs. When nations go to war in the future, information will be at the crux of it. "Joint Vision 2010," published last summer by the Joint Chiefs of Staff, says that information superiority will be the pivotal factor in establishing "full spectrum dominance" of a battle area.

Hacker sites on the Internet offer not only targeting data but also the tools to carry out an attack.

A prominent role in this must go to the Air Force, which presently fields the heavyweights of the information war with the E-3 Airborne Warning and Control System, the U-2, the E-8 Joint STARS, and the RC-135 Rivet Joint. These aircraft are among those most in demand around the world today. The Air Force's role will almost surely increase as it moves toward greater emphasis on space and unprecedented global awareness, made possible by sensors in the electronic, visual, radar, and infrared regimes.

The Air Force has identified information superiority—the power to gain, exploit, defend, and attack information—as one of its six core competencies. The Air Intelligence Agency opened the Information Warfare Battle Lab at Kelly AFB, Tex., on March 17. An Information Warfare Center and an information warfare squadron were already in existence.

The Air Force's top information warfare priority is to defend its own information-intensive capabilities. Beyond a certain point, however, the independent protection of informa-

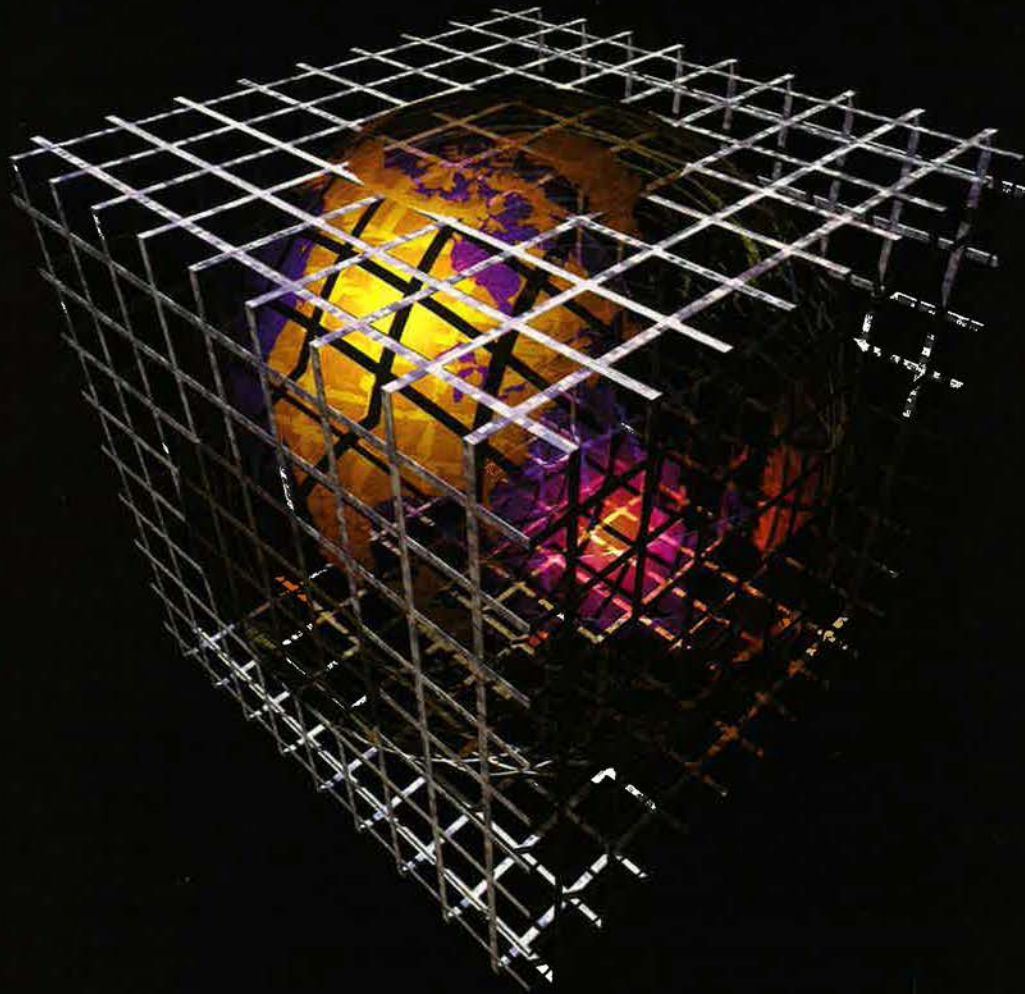
tion capabilities is not possible. More than 90 percent of military communications are carried by commercial channels, for example. For most of their information technology needs, the armed forces must look to the commercial world, which is well ahead in the development of networks, imaging, storage and retrieval, and processing of information.

Ultimately, the emergence of information warfare will upset traditional concepts about conflict and national defense. The borderlines between military, police, and civil responsibilities will blur even more than they have already. We may have to redefine what we mean by an "act of war" and reconsider what constitutes an appropriate response. It will not be long until most nations and various other interests will have regular access to information, reconnaissance, and surveillance systems in space. Sooner or later, we will face questions that were previously unthinkable, such as under what circumstances the United States might shoot down somebody's satellite.

Other kinds of conceptual adjustments are also indicated. The Clean Air Act of 1990 required major petrochemical facilities—of which there are about 56,000—to identify and report "worst case" scenarios of what could go wrong in the event of various kinds of disasters. The law requires that this information be made available to the public.

Telling local citizens about a plant down the road is obviously a good idea. Releasing the data in aggregate, which the federal government has been remarkably slow in ruling out, is another matter. Disclosing the most effective way to attack computer-dependent petrochemical plants from coast to coast would be an enormous strategic blunder.

We have not yet figured out how to balance the benefits of an informat on superhighway with the danger of it being used against us. Getting that straight has to be a priority for the nation as the potential consequences of the information revolution unfold. ■



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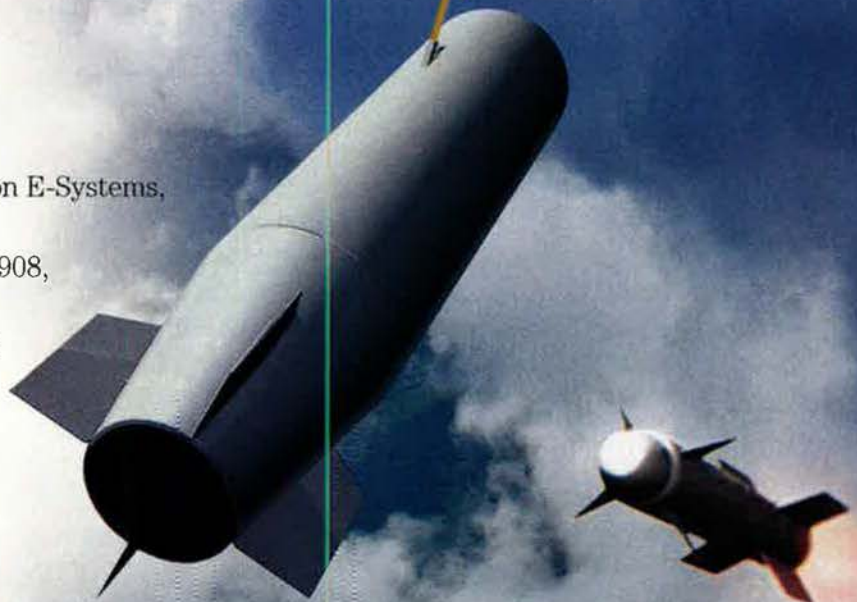
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What's News?

I read with resignation Stephen P. Aubin's "The Distorted World of Network News" [March 1997, p. 49]. While it contained useful research, anybody who watches the networks on a regular basis has long since arrived at Aubin's conclusions.

When we have a national media more intent on pursuing a political agenda than on reporting the news, we get the government we deserve. Moreover, the media's well-known, but always denied, liberal bias only reinforces the negative view that most Americans already have about Washington and New York media elites.

With the rise of talk radio, the Internet, C-Span, and other networks, it is easy to see that most news consumers have spoken with their remote controls by moving away from the big-three networks. . . .

Lt. Col. Thomas O. Jahnke,
USAF (Ret.)
Apple Valley, Calif.

I agree with Stephen Aubin about distorted network news but point out that it is "news" in name only. In reality, the network news shows are nothing more than a continuation of the afternoon soap operas.

With network management committed to entertain rather than to inform, it is easy for the people who edit the material to simply turn it into an exercise in broadcasting their opinions in the guise of news. They view their job as creating news that will sell the sponsor's product and have no interest in merely reporting facts. . . .

Unfortunately, the popular print media, such as the Associated Press and the Gannett newspapers, are no better. If you want to be accurately informed, you must turn to the specialty publications. In the case of defense matters, this means *Air Force Magazine*, *Aviation Week*, *Jane's Defence Weekly*, *Command Magazine*, or similar publications. . . .

John D. Oliver
Penfield, N. Y.

For *Air Force Magazine* to criticize network TV news for its "lack of bal-

ance," "advocacy," and "inaccuracy" in "The Distorted World of Network News" is truly delicious irony.

Air Force Magazine has for years been the mouthpiece of Air Force Public Affairs. The magazine has never met an official pronouncement from a general that it didn't like. The magazine's line is the Air Force line, which has led to some stunning flip-flops: Organizations and practices that are "world class" one year are "badly flawed" the next, when the Air Force decides to change directions.

Where is the balance in *Air Force Magazine*? Critics of the Defense Department or the Air Force are inevitably described by you as "misinformed" or "biased." Analysts or lawmakers who question the doings of the Pentagon are labeled "liberal" whenever possible, whereas the political leanings of those who unquestioningly support DoD are never mentioned. If indeed "balance" is so important, why is there no voice in your magazine for any of the many well-informed, thoughtful critics of the Defense Department, except as straw men for you to knock down?

If network news (and the news media in general) is guilty of "advocacy," at least they are relatively subtle about it. *Air Force Magazine*, on the other hand, is an unvarnished booster of every plan, every weapon, and every program currently in favor with USAF, whether or not it makes military, fiscal, or political sense. In pursuing this advocacy, the magazine tends to downplay the problems it chides the news media for covering.

Do you have a comment about a current issue? Write to "Letters," *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Letters should be concise, timely, and preferably typed. We cannot acknowledge receipt of letters. We reserve the right to condense letters as necessary. Unsigned letters are not acceptable. Photographs cannot be used or returned.—THE EDITORS

If we relied entirely on *Air Force Magazine*, we would never know about the huge cost overruns, underperforming weapon systems, systemic waste, conflicts of interest, and boondoggles, which do exist and squander precious defense dollars. When has your magazine ever questioned the effectiveness or propriety of any program in favor with the Air Force? When have you ever criticized a major defense contractor for mismanagement or avarice? I can't recall a single time.

Your article made much of the political leanings of the Washington press corps, making the point that, since so many of its members are politically liberal or moderate, they can't be trusted when it comes to their coverage of national security affairs. How does your staff score? How many of the magazine staff would describe themselves as "conservative" or "reactionary"? Does this make them any more trustworthy or any less inclined to push their own points of view?

When I read your magazine, I have an idea what I'm getting. As a mirror of the mindset of the Air Force high command, *Air Force* is as good a resource as there is. As a source of accurate, fair, unbiased reporting, however, I trust *Air Force Magazine* as much as, well, as much as I trust the evening news.

William Charles
North Hollywood, Calif.

Sniffing Out Trademarks

Network General Technology Corp., a wholly owned subsidiary of Network General Corp., is the owner of the trademark SNIFFER. SNIFFER is a computer program for use in analyzing and testing digital traffic operations in local area networks and computer hardware. Network General has exclusive right to use the mark and has registered this mark with both the US Patent and Trademark Offices and various overseas counterparts.

The March 1997 issue contained "At War With Sweepers, Sniffers, Trapdoors, and Worms" [p. 20]. The article used "sniffer" to refer generically to computer programs capable

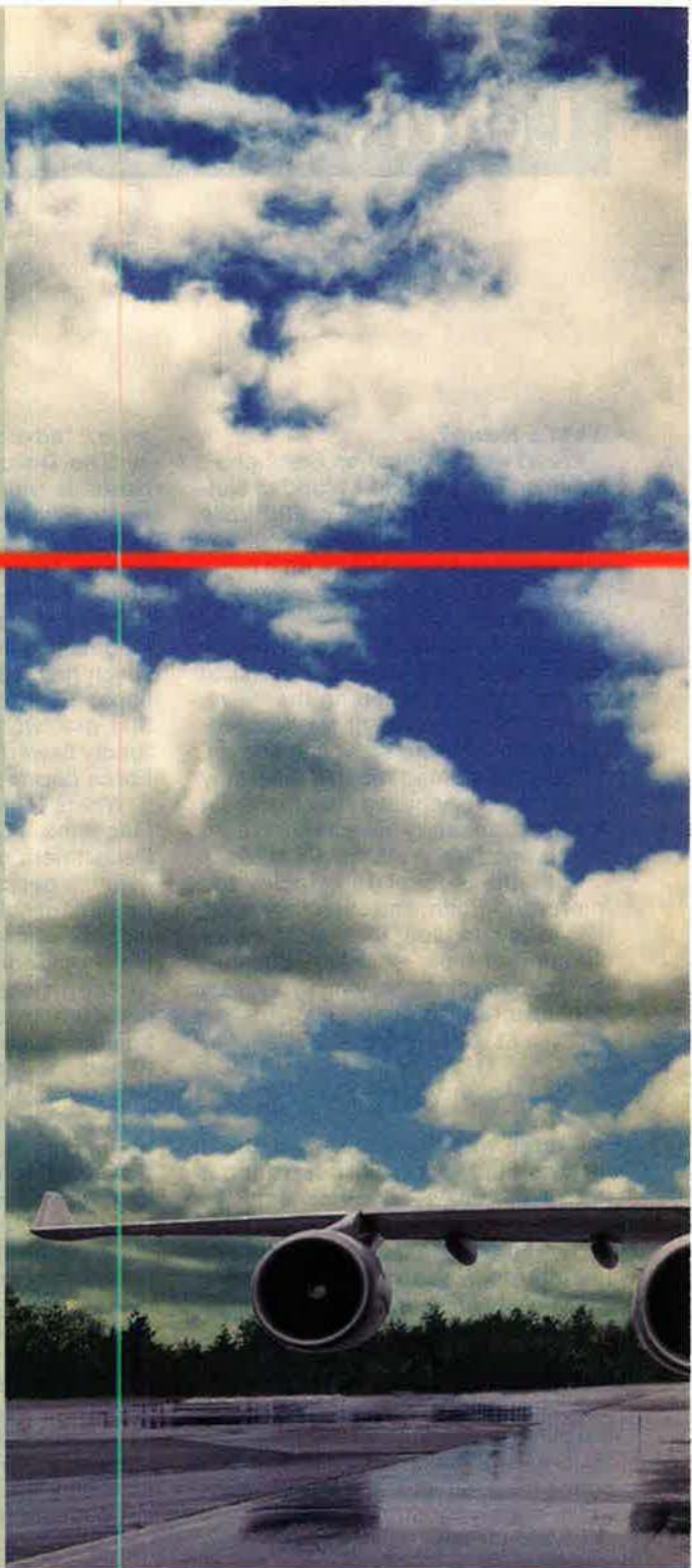
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Letters

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In order to maintain its rights with respect to the trademark, Network General has the obligation to prevent the use of the same or similar marks, to similar goods and to dilutive uses, such as the use of "sniffer" in your article. Accordingly, Network General asks *Air Force* Magazine to print a statement that SNIFFER is a registered trademark of Network General Technology Corp., a wholly owned subsidiary of Network General Corp. The Network General SNIFFER product should not be confused or mistaken with any other products.

Scott C. Neely
Vice President and General Counsel
Network General Corp.
Menlo Park, Calif.

Missing Miracle Workers

I was disappointed in "Miracle in the Desert" [January 1997, p. 60]. It ignored the contributions of the C-130s, specifically the eight airplanes from the 7th Wing, Dyess AFB, Tex.

It was the C-130 that moved most of the people and cargo from Dhahran, Saudi Arabia, to Al Kharj, Saudi Arabia. It was the C-130 that was still flying when Brig. Gen. Daniel M. Dick gave the rest of the 4404th Composite Wing (Provisional) a down day. It was the C-130 that was instrumental in setting up operations at Sheikh-Isa, Bahrain. . . .

To overlook the C-130's contributions and the people who fly, maintain, and support its operations is ignorant. . . .

Next time you're in the Middle East, take a look past all the fighters, tankers, and other aircraft you mentioned and look at the people flying airlift. The operations in the desert could not have been done without them.

Capt. John Russi, USAF
40th Airlift Squadron
Dyess AFB, Tex.

The Old "Fast FAC"

In "The Force at Aviano" [December 1996, p. 26], you mention the high-speed F-16 airborne forward air control mission as an idea that "seemed improbable at first." The high-speed

FAC mission has been with USAF for many years.

In Vietnam, USAF used the F-4 extensively as a "Fast FAC" (as it was called then). I know. I flew 237 missions as a "Wolf FAC" out of Ubon RTAB, Thailand. . . .

Your article gives the impression that this mission is an innovation in the use of high-speed fighters. In reality, as you hint at the end, it is a refinement to an already established and acknowledged mission of our front-line fighters.

Col. Russell A. Everts,
USAF (Ret.)
Fort Worth, Tex.

No More NOFORN

I write in regard to "Shifting Patterns of Air Warfare" [April 1997, p. 22].

In it, Lt. Gen. Kenneth A. Minihan, director of the National Security Agency, noted that he had persuaded DoD to eliminate the classification "NOFORN," or "No Foreign." It's about time. Around 1980, I attended a one-week course on joint warfare for selected contractors given by the US Navy. Most of the presentations were "Secret" and "NOFORN." One of the most interesting was a "NOFORN" presented by a commander in the British Royal Navy. He said he was required to forget everything he had told us as soon as he had finished.

John M. Fitzpatrick
McLean, Va.

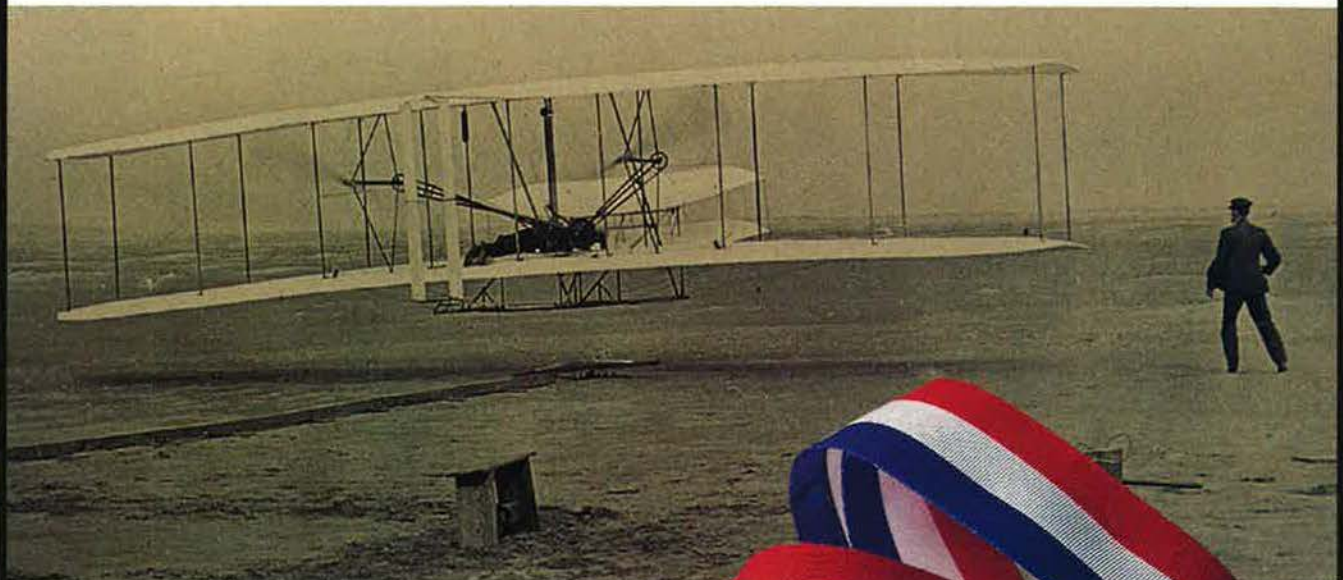
Errata

In the May 1997 issue, the personnel and C-130s of the 39th Airlift Squadron and 40th Airlift Squadron at Dyess AFB, Tex., were omitted from the Dyess entry in "Guide to Air Force Installations Worldwide" [p. 135]. The 317th Airlift Group, which stood up too late to be included in the AMC entry, is the squadrons' parent organization and is part of 15th Air Force, Travis AFB, Calif.

Also incorrect was the 1995 winner of the Hughes Achievement Trophy ["Records, Trophies, and Competitions," p. 151]. The correct recipient is the 27th Fighter Squadron, Langley AFB, Va. Third, the 42d Airborne Command and Control Squadron was misidentified twice, in both the Davis-Monthan AFB, Ariz., entry of "Guide to Air Force Installations Worldwide" and in the EC-130 entry of "Gallery of USAF Weapons" [p. 165].

"The Air War in Korea," March 1997, p. 26, misidentified Daniel "Chappie" James's unit. It was the 67th Fighter-Bomber Squadron. We regret the errors.—THE EDITORS

ON JULY 19, 1997 YOU'RE INVITED TO WITNESS ANOTHER HISTORIC EVENT.



A celebration of the Air Force's 50th anniversary will highlight activities at the annual National Aviation Hall of Fame enshrinement ceremony on July 19, 1997, in Dayton, Ohio. Air Force active duty and retired members from around the country are planning to attend.

The Air Force Association has been selected to receive the National Aviation Hall of Fame's prestigious "Spirit of Flight" Award. The award is presented annually to organizations who have distinguished themselves with significant contributions to US aviation.

Special guest emcee for the evening will be famed actress Maureen O'Hara. Ms. O'Hara is herself an aviation pioneer. She was the first woman CEO of a commercial airline.

Four aviation pioneers, honored for their distinctive contributions to flight, will also be inducted into the Hall of Fame.

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Air Force test pilot and astronaut. Flew on Gemini, Apollo and Apollo-Soyuz missions.

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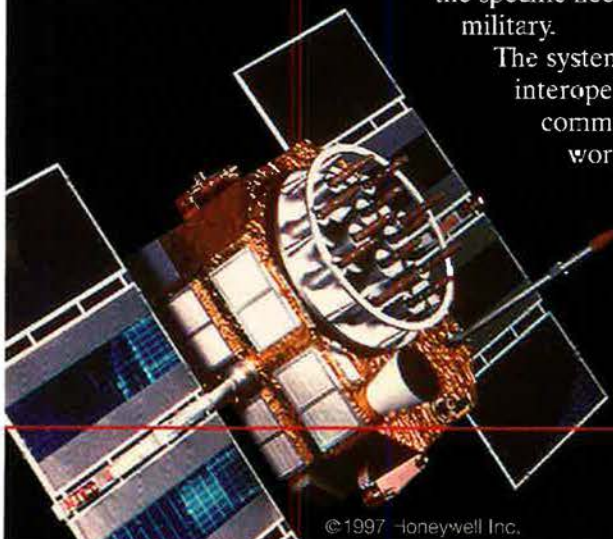
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Aerospace World

By Suzann Chapman, Associate Editor

B-2 Takes On Nuclear Role

The B-2 stealth bomber on April 1 reached initial operational capability in all areas, marking readiness to perform in both the nuclear and conventional roles. In announcing the B-2's IOC, Gen. Richard E. Hawley, commander of Air Combat Command, called the event "a significant milestone in ensuring the future of national defense."

With its combination of low observability, large payload capacity, bombing accuracy, and long range, the General said, the B-2 gives the US the capability to project power to any part of the globe within hours and with great precision.

The Air Force on February 28 entered final test phase for integration of the Joint Direct Attack Munition with the B-2. According to program officials at Aeronautical Systems Center, Wright-Patterson AFB, Ohio, a B-2 bomber made successful releases of two inert JDAMs against fixed targets at China Lake Naval Air Warfare Center, Calif.

On the first pass, the bomber used its Global Positioning System-Aided Targeting System with the JDAM.

In October 1996, three B-2s destroyed 16 targets using the GATS with 16 GPS-Aided Munitions from an altitude above 35,000 feet. Each B-2 can carry up to 16 of the 2,000-pound JDAMs or GAMs.

The Air Force plans a fleet of 21 B-2 bombers. The 509th Bomb Wing, Whiteman AFB, Mo., has received 13. The Air Force has taken delivery of six others, which now are in the test program or refurbishment. Two others are being completed, with the last to be delivered in 2000.

Attack Laser Gets Green Light

Based on a successful Program Requirements Review (PRR) on March 21, the Air Force told the Boeing-led contractor team to proceed with preliminary engineering design for the Airborne Laser program to produce the prototype YAL-1 Attack Laser aircraft.

Boeing's "Team ABL" includes TRW for high-energy lasers, Lockheed



USAF continues to test various weapons with its B-2 Spirit stealth bomber, which achieved IOC April 1. In a February test, a B-2 dropped a 4,700-pound GAM-113 at China Lake NAWC, Calif. Northrop Grumman and Hughes Aircraft developed the near-precision, deep-penetration GAM-113, which the Air Force said is effective against deeply buried hard targets.

Martin for beam and fire control, and Boeing for system integration, aircraft modification, and battle management. The team won the \$1.1 billion contract for the Pentagon's first directed-energy acquisition program last November.

Installed on a modified Boeing 747-400F, the Attack Laser will employ an advanced beam control and atmospheric compensation system to precisely direct a multimewatt high-energy laser to destroy theater ballistic missiles during boost phase.

Col. Michael Booen, program director at Kirtland AFB, N. M., noting that the PRR marks the end of the start-up phase, stated that the program "is in good shape." The program also successfully passed the Critical Design Review for the full-power Flight Weighted Laser Module in February.

C-17 Exceeds 50,000 Hours

The Air Force's fleet of C-17 Globemaster IIIs passed the 50,000-flying-hour mark in early March, according to McDonnell Douglas.

The 50,000-hour total represents the flying hours of 24 operational airlifters at Charleston AFB, S. C., and five at Altus AFB, Okla. The total did not include more than 1,000 hours that have been accumulated by the test aircraft still operating at Edwards AFB, Calif.

McDonnell Douglas delivered the thirtieth production C-17 to the Air Force on March 27. It was flown from Long Beach, Calif., to its home base at Charleston AFB, where the 437th Airlift Wing and 315th AW (Reserve Associate) share the aircraft. The Air Force's current plan is to acquire 120 C-17 airlifters, with the last five to be purchased in 2003.

C-17 Costs To Drop

McDonnell Douglas announced two innovations that it said will save the Air Force approximately \$3.2 million on each new C-17 that comes down the assembly line in Long Beach, Calif., phasing in with production aircraft number 33.

The St. Louis-based company began installing redesigned landing gear

The Strange Case of the Downed A-10

Air Force officials in Eagle, Colo., reported April 25 that a search team had found human remains believed to be those of Capt. Craig Button, the missing A-10 Thunderbolt II pilot. They concluded that Button crashed with the attack aircraft 12,500 feet up the side of a steep slope on Gold Dust Peak, near Vail, Colo.

The Captain and the aircraft had been missing since April 2, when the A-10 vanished after flying as the last aircraft in a formation of three A-10s out of Davis-Monthan AFB, Ariz. They were on a routine training mission when Button left the formation and flew on a course about 800 miles northeast into Colorado.

Despite bad weather that hampered search efforts, Army National Guardsmen in helicopters located pieces of the fighter on April 20. The Army lowered a USAF pararescueman to the site April 23. He retrieved two pieces of wreckage with serial numbers confirming it was the missing A-10.

Later that day, the Army lowered a four-person USAF team to continue the search but then had to pull them out April 24. The team again went in April 25 during another break in the weather. They were able to verify the presence of what Air Force officials called "fragmentary human remains" near a smashed cockpit.

The Air Force estimated that the 32-year-old Captain, a native of Massapequa, N. Y., would have had less than five minutes of fuel left when it reached the area around New York Mountain. The site is about 15 miles west of the Vail, Colo., ski resort.

Of concern to the public was the fate of the A-10's four 500-pound bombs, but the Pentagon said they were designed not to detonate if the aircraft crashed.

Officials don't know why Button left the formation or why he didn't answer his radio.

Pods that have the same basic shape as the 60-foot originals but require less complex components and methods of attachment.

For example, redesign of the large bulkheads around the landing gear now permits high-speed machining of those bulkheads. The number of "detail" parts in one bulkhead dropped from 72 to two and the number of fasteners from 1,720 to 35.

The old pods were built in three sections, each attached separately to the aircraft. Under the new process, the pods are built as one piece—in St. Louis—and installed in Long Beach.

McDonnell Douglas estimates that installation of the new landing gear pods alone will save the Air Force about \$88 million.

Driving Down Costs (Cont.)

The second C-17 production innovation, estimated to save \$2.2 million per aircraft, features a new kind of rivet coating. McDonnell Douglas and its two fastener suppliers, Hi-Shear Corp. and Aerospace Rivet Manufacturing Corp., developed a precoated dry sealant for titanium pins and aluminum rivets that allows mechanics to work faster and cleaner—and to do better work.

Each C-17 sports more than 1.4 million fasteners—including 590,000 titanium pins and 733,000 rivets. Previously, they had to be installed "wet,"

using a special sealant. Because the sealant is hazardous waste, it costs more to dispose of than to buy.

Company officials said the new precoated fasteners save money and man-hours and improve the quality of the product and working conditions for company mechanics. The precoated dry sealant reduces variability in the process and ensures corrosion protection in each hole.

C-130 Crash Claims Three

Three Air Force Reservists died and seven were injured when a C-130 crashed on April 1 near Toncontin IAP, Honduras.

The aircraft and crew from the 440th Airlift Wing (AFRC), General Mitchell IAP/ARS, Wis., were en route from Howard AFB, Panama, to Soto Cano AB, Honduras. They were participating in Coronet Oak, an operation in which Air Force Reserve Command and Air National Guard C-130 aircraft, aircrews, and support personnel deploy to Howard to provide theater support to US Southern Command.

The airmen killed were SSgt. Vicki Clifton, Oak Creek, Wis.; SrA. Samuel Keene, Milwaukee, Wis.; and SM3gt. Leland Rassmussen, Greenfield, Wis.

Injured were SSgt. Dean Ackmann, Omro, Wis.; Capt. Michael Butler, Prairie du Sac, Wis.; TSgt. Danny Formanski, South Milwaukee; MSgt. Steven Hilger, Milwaukee; Capt. Ian Kincaid, Fox River Grove, Ill.; TSgt.

Joseph Martynski, South Milwaukee; and Capt. Robert Woodard, Fishers, Ind.

According to Reuters News Service, the C-130 veered off the runway as it landed and plowed into a nearby street where it burst into flames. The airport is in a heavily populated area, surrounded by steep, cloud-covered hills, forcing aircraft to bank sharply when coming in to land on its short runway. No one in the vicinity was injured.

JSF Gains New Partners

The Netherlands and Norway signed a memorandum of agreement with the United States on April 16 to participate as associate partners during the concept demonstration phase of the Joint Strike Fighter program. A third NATO nation, Denmark, is expected to sign as well.

The three countries would contribute a total of \$32.2 million toward JSF concept demonstration, during which they will evaluate the new strike fighter's capabilities to meet their future military requirements. The United Kingdom, which is contributing \$200 million toward JSF development, signed a memorandum of understanding as a collaborative partner in 1995. The UK plans to replace the Royal Navy's Sea Harrier with a short take-off and vertical landing version of the new fighter.

Competing contractors, Boeing and Lockheed Martin, will conduct a design flyoff in 2000. The Pentagon expects to field the JSF versions for the Navy, Marine Corps, and Air Force starting in 2008.

More Flag Officers To Come?

According to a draft report, the Pentagon hopes to add 54 new general or flag officer positions. However, Defense Secretary William S. Cohen told Congress in April that the Pentagon would not submit its final report on a study of general and flag officer requirements until it had completed the Quadrennial Defense Review, due May 15, 1997.

If matters remain unchanged, the Navy would get 20 more admirals, the Army 19 generals, and the Air Force 15 generals. The Marine Corps got an additional 12 generals last year.

In all, the number of active-duty positions would rise from 964 to 1,018. (The 964 positions include the 12 Congress added to the Marine Corps, a temporary increase of 12 for joint duty, and the current limit of 75 for "frocking," or early elevation to rank but not pay.) The tentative plan also

calls for 35 more general or flag officers for the reserve components.

In Congressional testimony April 8, Pentagon personnel officials emphasized that increasing complexity and lethality of modern weapons, demanding joint and international environments, and growing technological and doctrinal sophistication of the military have put an enormous strain on general and flag officer resources.

Lt. Gen. Michael D. McGinty, USAF's deputy chief of staff for Personnel, stated that from 1985 to 1997, the

number of general officers filling USAF positions dropped 26 percent, while the number in joint positions increased by more than 13 percent, and the total Air Force general officer population decreased by about 16 percent, from 342 to 282. At the same time, he said, contingency operations and other world events created an increased requirement for general officers.

GAO Reviews Generals Request

The General Accounting Office noted that DoD's draft recommenda-

tions would entail about a \$1.2 million annual increase in pay for the new general or flag officers and assistants, plus a one-time purchase of new office furniture. The increase would be more if the Pentagon does not stand by its intention to reduce the number of colonels and Navy captains by the same number of added general or flag officers.

The GAO, a Congressional watchdog agency, expressed three principal concerns with DoD's draft report:

- Arbitrary adjustment of the numbers by the service secretaries cast doubt on actual requirements.
- Thirty-five requirements were counted twice when DoD consolidated the individual inputs.
- The Pentagon ignored potential military-to-civilian conversions.

AMC To Set Mobility Standards

For the first time, the Air Force has designated one major command to lead an entire mission area: Air Mobility Command will set the standards for air mobility for the Air Force. Other major commands that contribute forces to the air mobility mission are labeled user commands. The service plans to issue a policy directive this summer to spell out lead and user command responsibilities.

AMC hosted the first Mobility Air Forces conference, at Scott AFB, Ill., in March to discuss the new relationships and other "rapid global mobility" issues. Basically, AMC will oversee all aspects of the mission from training to operations, identify future requirements, and advocate modernization needs. The command will establish a baseline or standard for the policy directive.

Personnel Office Cites Banner Year

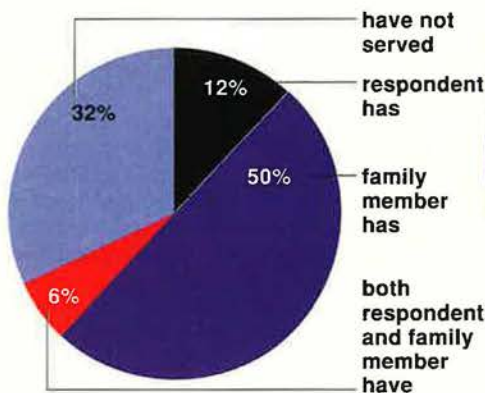
In its annual report, DoD's Civilian Personnel Policy Office called Fiscal 1996 "a banner year." The reason, said the report, is that the Defense Department found new jobs for more than 9,000 civilian employees facing layoffs in the previous fiscal year.

According to the report, the civilian work force decreased to 813,000 by September 30, 1996—a drop of 36,000 from the previous year. Since 1990, the Pentagon has eliminated 304,000 civilian positions and must cut another 85,000 by the end of Fiscal 2001.

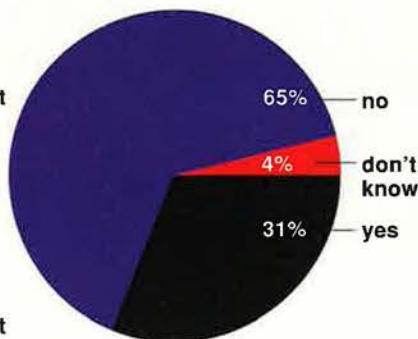
With one of its streamlining initiatives—setting up 23 regional civilian personnel offices—the Pentagon expects to save \$182 million a year. It

Defense in the Polls

Have you, or during your lifetime has an immediate member of your family, served in the armed forces or military reserves?

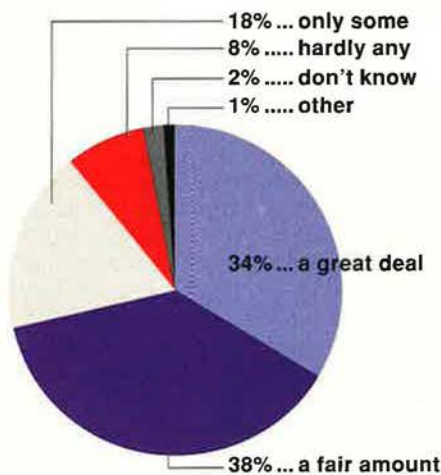


If you or your friend had a daughter who was thinking of joining the military, are the allegations of sexual misconduct sufficient reason to tell her to stay out of the military?

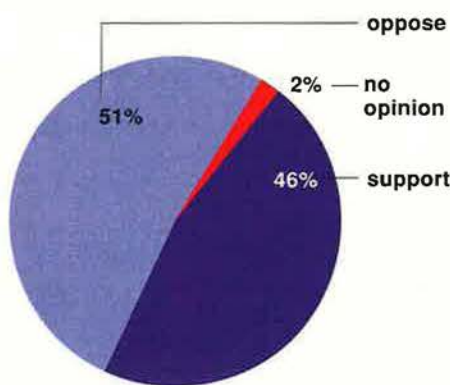


Survey Organization: Associated Press (interviews conducted by I.C.R. Survey Research Group)
Population: national adult • Population size: 1,010 • Date: February 18–23, 1997

How much confidence do you have in the people running the military?



Do you support or oppose . . . reducing spending on defense and the military?



Survey Organization: Washington Post
Population: national adult • Population size: 1,007
Date: January 24–28, 1997

Survey Organization: ABC News/Washington Post
Population: national adult • Population size: 1,004
Date: March 6–9, 1997

opened 12 centers during Fiscal 1996.

The Pentagon is also reducing regulations by 77 percent with the development of a new civilian personnel manual. It has cut the number of

information systems needed to manage the civilian work force from 10 to two. And it expects to improve the ratio of personnel specialists needed to work civilian issues from one to 61 to one to 100.

DoD Joins With Cancer Institute

Under an agreement with the National Cancer Institute (NCI), Tricare/CHAMPUS-eligible patients now have access to the latest cancer therapies through a nationwide network of 2,000

Congressional News

Readiness: "Significant Problems"

At Congressional hearings held since the first of the year, defense leaders repeatedly have told Congress that readiness is high, with some stating it has never been higher. Neither Congress nor the troops in the field are convinced, however.

In fact, the view of House National Security Committee Chairman Rep. Floyd D. Spence (R-S. C.) is that "military readiness is beginning to hemorrhage." Spence released the committee's latest report—"Military Readiness 1997: Rhetoric and Reality"—on April 9. [See "Readiness at the Edge," p. 58.]

Sen. James M. Inhofe (R-Okla.) opened an April 17 readiness hearing with the vice chiefs of the services by reading a letter from an enlisted Air Force Reservist, who wrote that he has been "quite distressed" at the official portrayal of service readiness.

The vice chiefs repeated that current measures indicate a high state of readiness, but they added that the service leaders know that danger signs exist.

In his opening comments at the hearing, Gen. Thomas S. Moorman, Jr., USAF's vice chief of staff, stated, "The fact of the matter is, when you all have traveled out to units, you have seen that there are significant readiness problems." He said that the services are tracking those problems full-time.

However, Moorman and the other vice chiefs stressed that they had to balance readiness against modernization, force structure, operations tempo, and quality of life.

Moorman said that modernization was still the Air Force's number one priority because the service had for years used modernization funds to pay for readiness. However, the General said he would try to reduce support areas before he would "bring down certain elements of force structure."

Spence: "Deeply Concerned" About QDR

Speaking before the Pentagon had presented the Quadrennial Defense



Review to Congress on May 15, Spence said that the course of the QDR had left him "deeply concerned" because it looked as though "the Administration is once again putting the cart before the horse by allowing budget considerations to drive decision-making on strategy."

He told the members of the National Defense Panel at their first hearing before the House National Security Committee that he could only view the QDR "as another budget-first, strategy-second Bottom-Up Review."

"If the QDR once again compels a smaller, under-resourced force to execute an expanding strategy, then the readiness, quality-of-life, and modernization problems we see today will quickly worsen."

In his opening remarks, Philip A. Odeen, chairman of the National Defense Panel set up to review the QDR study, stated that members did not view their mission "as one to either balance the federal budget [or] one that is automatically budget driven."

Odeen also expressed the belief that the panel should set directions for the future and identify concrete ways to reach goals. He stated that

panel members "do not intend to propose specific numbers of systems or organizations that should make up future forces."

The NDP will present its own independent assessment of defense, taking the review to 2010 and beyond.

The Health-Care Front

There are now three health-care bills in the House focused on providing military health-care beneficiaries the option to enroll in the Federal Employees Health Benefits Program.

One bill seeks to open FEHBP, which covers federal civil service employees and members of Congress, only to those military beneficiaries who are eligible for Medicare. The second would open the program to all military beneficiaries. The third encompasses both Medicare Subvention and an FEHBP option.

Rep. James P. Moran (D-Va.) submitted the first piece of proposed legislation (H.R. 76) in the new Congress to address the FEHBP proposal. As of May 6, his bill had 104 cosponsors. A related measure (S. 224), introduced by Sen. John W. Warner (R-Va.), had five cosponsors.

Rep. J. C. Watts (R-Okla.) introduced the second bill (H.R. 1356) on April 16. As of May 6, it had 11 cosponsors. Watts also submitted independent legislation (H.R. 1357) to establish a Medicare Subvention demonstration project between the Defense Department and the Department of Health and Human Services. It had two cosponsors.

The third bill (H.R. 1456), submitted by Rep. Mac Thornberry (R-Tex.) on April 24, would provide Medicare-eligible military retirees two options: either using Medicare at a military treatment facility or using FEHBP. As of May 6, it had four cosponsors.

Colorado Republican Rep. Joel Hefley's Medicare Subvention bills have been receiving strong support. As of May 6, his demonstration project measure (H.R. 192) had 184 cosponsors, and his legislation (H.R. 414) to provide nationwide Medicare Subvention had 163 cosponsors.

facilities and providers who are conducting clinical trials to evaluate new treatments for adult and pediatric cancers.

To participate in one of the trials, a patient must have his or her physician confirm with Palmetto Government Benefits Administrators, one of four contractors who process Tricare/CHAMPUS claims, that the proposed trial meets the terms of the demonstration project. Palmetto GBA is serving as DoD's national point of contact for the program.

The physician must contact Palmetto for treatment authorization after the patient has been confirmed and agrees to participate.

Health officials for the Pentagon and the NCI stated that the agreement provides more choices for patients. It will also help ensure that the trials enroll enough patients to answer vital research questions about cancer prevention, diagnosis, and treatment.

For information about NCI-sponsored clinical trials, contact NCI at (800) 422-6237 or via the Internet at <http://cancernet.nci.nih.gov/trials/>. For information about Palmetto Tricare/CHAMPUS requirements, call (800) 779-3060.

CHAMPUS is the Civilian Health and Medical Plan of the Uniformed Services and will be called Tricare Standard when the Pentagon implements Tricare, its new managed health-care system, nationwide early next year.

New Category for Reservists

Air Force Reserve Command (AFRC) announced that it will introduce the first members of a new category, called Unit Support Active Guard Reserve, in October. It said it would make the move to meet new mission requirements.

Known as AGRs, reservists in the new category will function in a manner similar to those on a statutory tour program. They will be on active-duty status, but unlike those on a statutory tour who support headquarters functions, their primary function will be to train other reservists.

According to AFRC officials, funding for the AGRs may come from Reserve Command or by active-duty resources transferred to AFRC with the new missions. For example, Air Education and Training Command is paying for AGRs assigned to associate flying training units located at two AETC bases, Columbus AFB, Miss., and Vance AFB, Okla.

AFRC plans to convert 200 Security Police positions at Grissom ARB,

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Ind.; Homestead ARB, Fla.; March ARB, Calif.; and Westover ARB, Mass., to AGR status by June 1998. They also plan to convert the pararescue specialists at AFRC combat rescue units at Davis-Monthan AFB, Ariz.; Patrick AFB, Fla.; and Portland IAP, Ore.

Officials noted that as the command acquires new missions in the future, they may use AGRs for full-time positions rather than using scarce civilian authorizations. Congress has

established ceilings on the number of full-time Air Reserve technicians and civilians.

Reserve and Guard Share Aircraft

The personnel changed every 30 days, but the aircraft remained for a full 90-day rotation. This first-of-its-kind endeavor for Air Force Reserve Command and the Air National Guard placed 12 F-16Cs from three units at Incirlik AB, Turkey, this spring to support Operation Northern Watch, en-



It's open and searching for innovative ways to achieve information dominance: Gen. Ronald R. Fogleman, USAF Chief of Staff, Maj. Gen. Michael V. Hayden, Air Intelligence Agency commander (left), and Col. James Massaro, Air Force Information Warfare Center commander, cut the ribbon, officially opening the Air Force's Information Warfare Battle Lab, at Kelly AFB, Tex., March 17.

forcing the United Nations no-fly zone over northern Iraq, for 90 days. The three units then provided aircrews and support personnel in 30-day increments.

By staging the aircraft and rotating the personnel, the reserve components can save flying hours and fuel—making the deployments more cost-effective.

The personnel can share the aircraft since each of the units—115th Fighter Wing (ANG), Truax Field, Wis.; 178th FW (ANG), Springfield-Beckley MAP, Ohio; and 419th FW (AFRC), Hill AFB, Utah—flies the same block, or a production run of aircraft with the same avionics and engines.

AFRC officials said they plan to pair other units with the same-block aircraft for these two- or three-month rotations.

Info Warfare Lab Opens

The Air Force officially opened its new Information Warfare Battle Lab on March 17 at the Air Intelligence Agency, Kelly AFB, Tex. The IW lab is one of six new battle labs designated to seek innovations to improve the capabilities related to the service's core competencies.

USAF Chief of Staff Gen. Ronald R. Fogleman, who cut the ceremonial ribbon at the lab, stated that he views the revolution in information technology, with the power of computers doubling every 18 months, as leading to a fundamental change in

the conduct of warfare. He placed the change on the same magnitude as when airpower came of age at the end of World War II.

The Air Force is already seeking proposals from industry for IW Battle

Lab projects covering information attack, security measures, electronic warfare, physical destruction, tactical deception, and psychological operations. According to a March 18 *Commerce Business Daily* notice, the solicitation is open until September, but the lab will select proposals as they are submitted.

Split Motor Casing Derails Delta II

Air Force Space Command announced April 3 that the accident investigation board reviewing the destruction of a Delta II rocket seconds after launch from Cape Canaveral AS, Fla., on January 17 revealed that a progressive linear split in a solid rocket motor casing triggered the destruction.

At 7.2 seconds into launch, a linear split in the case of the number two strap-on SRM appeared, beginning at 51 inches and progressing to more than 254 inches along the case until the SRM failed at about 12.6 seconds into launch, causing the self-destruction of the booster's first stage.

The second and third stages and the payload—a Global Positioning System satellite—were largely unaffected. However, the mission flight control officer saw the first-stage explosion on a video monitor and, after confirming that the booster was out-

USAF Celebrates 50

- The National Aviation Hall of Fame in Dayton, Ohio, will honor the Air Force's fiftieth anniversary at its annual awards ceremony on July 19. It will also present the Milton Caniff Spirit of Flight Award to the Air Force Association and induct four more aviation pioneers into the hall. The emcee will be actress Maureen O'Hara, who was the first female chief executive officer of a commercial airline.
- The Oklahoma State Fair will display a special fiftieth-anniversary exhibit, courtesy of Tinker AFB, Okla., September 12–28.
- The week of September 14–20 in Washington, D. C., will feature anniversary highlights, such as a wreath-laying ceremony at Arlington National Cemetery, a concert at the Daughters of the American Revolution Constitution Hall, and the USAF Memorial site dedication. It's also the week of the AFA National Convention, with the Outstanding Airmen Dinner.
- Six Flags Great Adventure, Jackson, N. J., with McGuire AFB, N. J., is sponsoring Air Force Week September 15–21, including the dedication of a plaque and time capsule on September 18.
- In Honolulu, Hawaii, the anniversary commemoration includes the Aloha Aina Time Capsule Ceremony on September 18. Hickam AFB dedicates its Southeast Asia Return and Missing in Action Repatriation Monument on September 19.
- The Defense Reutilization and Marketing Office at Davis-Monthan AFB, Ariz., began selling aircraft memorabilia to the public April 17 in sale number 31-7346 as a salute to USAF's fiftieth anniversary. The DRMO crew pulled out interesting aircraft parts, such as seats, radio control signs, keys, and instruments, noting the tail number of specific aircraft, before breaking the aircraft down for metal recovery. Those parts are on sale as individual items. Contact DRMO's Sandy Ginger at (520) 228-8201.

side its flight box, sent a destruct signal to the rocket about 22.3 seconds into launch.

The signal destroyed the second and third stages and separated the payload fairing and payload, which exploded on impact with the ground.

At press time, the board's report had not been released, but the Air Force and McDonnell Douglas had implemented corrective actions. Following a series of tests, launches of Delta II boosters resumed in May. The January accident was the first near-pad destruction of a McDonnell Douglas Delta II since 1977.

"First-In" Security Force Forms

The 820th Security Forces Group, the first force-protection unit of its kind in the Air Force, activated at Lackland AFB, Tex., on March 17. It is the first of three units that will make up the Air Force Security Forces Center, chartered after the June 1996 bombing of the Khobar Towers in Saudi Arabia.

The 820th will provide highly trained, rapidly deployable, "first-in" force protection capable of deploying to any operating location, according to USAF officials. An element of the group will precede forces deployed to any operation around the world.

The group's commander, Lt. Col. Larry A. Buckingham, said that the 820th gives the Air Force a totally dedicated composite unit for force protection. It consists of personnel from security forces, Air Force Office of Special Investigations, civil engineering, logistics and supply, communications, intelligence, administration, personnel, and medical fields.

"We'll be looking at all threats, from medical needs and what's in the water to the local population and whether or not they want us there," said Buckingham. "We're looking at the whole environment, not just the bad guys."

Ravens To Protect AMC Forces

Another new security force element, developed by Air Mobility Command, graduated its first 30 members in March. They will join AMC aircrews as they fly around the world, to provide security for the aircraft and crews in countries where security is questionable or nonexistent.

Under the Phoenix Raven program, AMC's Air Mobility Warfare Center at McGuire AFB, N. J., is training volunteer Security Police personnel in everything from close combat to international law. The eight-day course is intensive and focuses on the "force

continuum" approach—beginning at the lowest level of force possible, such as the verbal "halt," then stepping through other levels, including deadly force, as needed.

"We need to teach these steps to avoid the use of unnecessary force, which may create an international incident," said Col. Rocky Lane, US Transportation Command and AMC director of Force Protection. "It may be just some inquisitive person out there to take a look at the big airplane, and a verbal warning will make them keep their distance." The Ravens learn simple verbal commands in the appropriate language.

There is no flight pay, hazardous duty pay, or cushy hotels—the job may require living on an airplane for days, according to Lane. He added that when they aren't providing security in their Raven mission, they will assist the loadmasters with cargo. "It's tough being a Raven."

News Notes

■ Members of the 14th Airlift Squadron, Charleston AFB, S. C., achieved 750,000 accident-free flying hours on March 25—covering a span of 50 years. The unit began flying USAF's new airlifter, the C-17, in 1995, but its history includes 28 years with the C-

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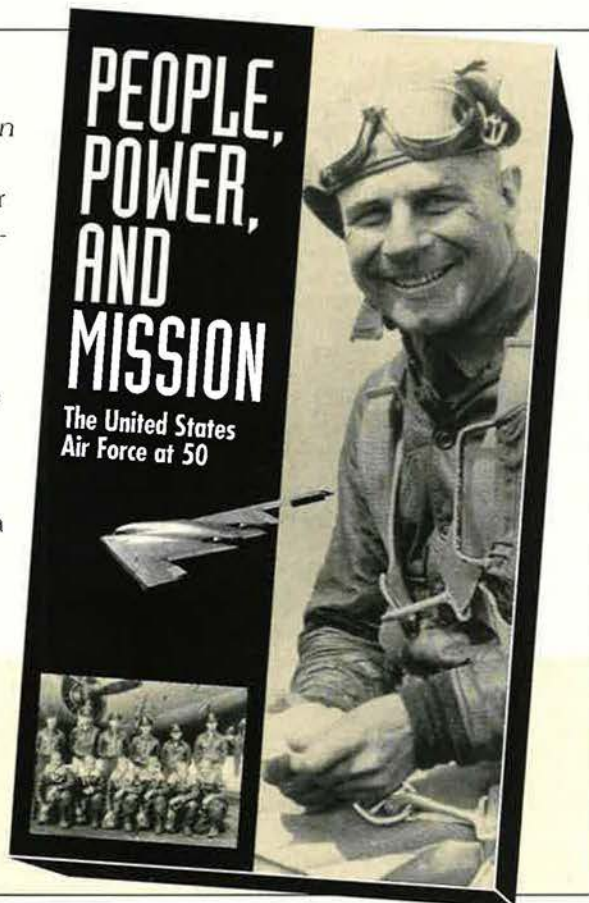
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141B, as well as time with the C-124, C-54, C-47, C-39, and C-33. It originated as the 14th Transport Squadron during World War II.

■ Capt. Chris Rose, with the 113th Wing, D. C. Air National Guard, received the Koren Kolligian, Jr., Trophy at the Pentagon April 7 for mak-

ing a "dead stick" landing when the engine in his F-16C flamed out at 13,000 feet on June 27, 1996. When he could not restart the engine, Rose successfully landed the powerless, \$20 million aircraft on a 7,000-foot runway, 15 miles away.

■ A Titan II booster with USAF's

fiftieth-anniversary logo on two sides successfully launched a military weather satellite from Vandenberg AFB, Calif., on April 4. It was the first launch of a Defense Meteorological Satellite Program satellite aboard a Titan II and the last DMSP launch by the Air Force.

Senior Staff Changes

RETIREMENTS: Maj. Gen. William B. Davitte, Brig. Gen. Orin L. Godsey, Brig. Gen. Thomas E. Kuenning, Jr., Lt. Gen. James F. Record, Brig. Gen. Buford R. Witt.

PROMOTIONS: To be General: Ralph E. Eberhart, Richard B. Myers.

To be Lieutenant General: John B. Hall, Jr., John W. Handy, Tad J. Oelstrom.

To be AFRC Major General: John J. Batbie, Jr., Winfred N. Carroll, Dennis M. Gray, Grant R. Mulder, Virgil J. Toney, Jr.

To be AFRC Brigadier General: William E. Albertson, Paul R. Cooper, Gerald P. Fitzgerald, Patrick J. Gallagher, Edward J. Mechenbier, Jeffrey M. Musfeldt, Allan R. Poulin, Giuseppe P. Santaniello, Robert B. Siegfried, Robert C. Stumpf, William E. Thomlinson.

CHANGES: Col. (B/G selectee) Randall K. Bigum, from Exec. Officer to the Dep. CINC, Hq. USEUCOM, Stuttgart-Vaihingen, Germany, to Cmdr., 4th FW, ACC, Seymour Johnson AFB, N. C., replacing B/G Lance L. Smith. . . . Col. (B/G selectee) Richard B. Bundy, from Cmdr., 436th AW, AMC, Dover AFB, Del., to Dep. Dir., Prgms., DCS/P&P, Hq. USAF, Washington, D. C., replacing B/G Joseph H. Wherle, Jr. . . . M/G Jeffrey G. Cliver, from Dep. Ass't Sec'y of Defense for Reserve Affairs (Readiness, Training, and Mobilization), Hq. USAF, Washington, D. C., to Cmdr., AFOTEC, Kirtland AFB, N. M., replacing retiring M/G George B. Harrison. . . . B/G Daniel M. Dick, from Cmdr., 4404th Composite Wing (Provisional), ACC, Al Kharj AB, Saudi Arabia, to Dir., P&P, Hq. ACC, Langley AFB, Va., replacing M/G Ervin C. Sharpe, Jr.

Col. (B/G selectee) Robert R. Dierker, from Chief, Jt. P&O Section, SHAPE, NATO, Mons, Belgium, to Dep. Dir., Int'l Negotiations, J-5, Jt. Staff, Washington, D. C., replacing B/G Gary M. Rubus. . . . B/G Paul R. Dordal, from Cmdr., 43d AW, AMC, Pope AFB, N. C., to Cmdr., 51st FW, PACAF, Osan AB, South Korea, replacing B/G (M/G selectee) Steven R. Polk. . . . B/G Michael M. Dunn, from Sr. Mil. Ass't to the Dep. Sec'y of Defense, OSD, Washington, D. C., to Dir., Plans, Hq. PACAF, Hickam AFB, Hawaii, replacing M/G (L/G selectee) John B. Hall, Jr. . . . L/G (Gen. selectee) Ralph E. Eberhart, from Cmdr., US Forces Japan, USPACOM, and Cmdr., 5th AF, PACAF, and Cmdr., US Air Forces Japan, Yokota AB, Japan, to Vice C/S, Hq. USAF, Washington, D. C., replacing retiring Gen. Thomas S. Moorman, Jr.

M/G Francis C. Gideon, Jr., from Dir., Ops., Hq. AFMC, Wright-Patterson AFB, Ohio, to Chief of Safety, Hq. USAF, and Dir., Air Force Safety Center, Kirtland AFB, N. M., replacing retired B/G Orin L. Godsey. . . . M/G (L/G selectee) John B. Hall, Jr., from Dir., Plans, Hq. PACAF, Hickam AFB, Hawaii, to Cmdr., US Forces Japan, USPACOM, and Cmdr., 5th AF, PACAF, and Cmdr., US Air Forces Japan, Yokota AB, Japan, replacing L/G (Gen. selectee) Ralph E. Eberhart. . . . M/G (L/G selectee) John W. Handy, from Dir., Prgms., DCS/P&P, Hq. USAF, Washington, D. C., to Cmdr., 21st AF, AMC, McGuire AFB, N. J., replacing retiring L/G Edwin E. Tenoso. . . . B/G Wilfred Hessert, from ANG Ass't to Cmdr., USAF, Ramstein AB, Germany, to Dep. IG, Hq. USAF, Washington, D. C., replacing retired M/G William B. Davitte.

M/G William S. Hinton, Jr., from Dep. Cmdr., 6th ATAF, AIRSOUTH, NATO, Izmir AS, Turkey, to Cmdr., 3d AF, USAF, RAF Mildenhall, UK, replacing M/G (L/G selectee) Tad J. Oelstrom

. . . M/G Charles R. Holland, from Cmdr., Spec. Ops. Command Pacific, USPACOM, Camp H. M. Smith, Hawaii, to Cmdr., AFSOC, Hurlburt Field, Fla., replacing retiring M/G James L. Hobson, Jr.

. . . B/G John G. Jernigan, from Command Surgeon, Hq. AMC, and Command Surgeon, Hq. USTRANSCOM, Scott AFB, Ill., to Cmdr., HSC, AFMC, Brooks AFB, Tex., replacing retiring B/G Robert P. Belihar. . . . L/G (Gen. selectee) Richard B. Myers, from Ass't to the Chairman of the JCS, Washington, D. C., to Cmdr., PACAF, and Air Comp. Cmdr., USPACOM, Hickam AFB, Hawaii, replacing retiring Gen. John G. Lorber.

M/G (L/G selectee) Tad J. Oelstrom, from Cmdr., 3d AF, USAF, RAF Mildenhall, UK, to Superintendent, USAF Academy, Colorado Springs, Colo., replacing retiring L/G Paul E. Stein. . . . Col. (B/G selectee) Wilbert D. Pearson, Jr., from Vice

Cmdr., ESC, AFMC, Hanscom AFB, Mass., to Dir., Ops., Hq. AFMC, Wright-Patterson AFB, Ohio, replacing M/G Francis C. Gideon, Jr. . . . B/G (M/G selectee) Steven R. Polk, from Cmdr.,

51st FW, PACAF, Osan AB, South Korea, to Dir., Ops., Hq. PACAF, Hickam AFB, Hawaii, replacing retiring M/G John M. McBroome. . . . B/G Antonio J. Ramos, from Spec. Ass't to the CINC for Regional Negotiations, Hq. USSOUTHCOM, Quarry Heights, Panama, to Cmdr., AF Security Assistance Ctr., Hq. AFMC, Wright-Patterson AFB, Ohio, replacing retiring M/G Walter T. Worthington.

B/G Leonard M. Randolph, Jr., from Cmdr., 60th Med. Gp., AMC, and Leac Agent, DoD Health Services Region 10, Travis AFB, Calif., to Command Surgeon, Hq. AMC, and Command

Surgeon, Hq. USTRANSCOM, Scott AFB, Ill., replacing B/G John G. Jernigan. . . . Col. (B/G selectee) Bentley B. Rayburn, from Cmdr., 388th FW, ACC, Hill AFB, Utah, to Cmdr., 4404th

Composite Wing (Provisional), ACC, Al Kharj AB, Saudi Arabia, replacing B/G Daniel M. Dick. . . . B/G Norton A. Schwartz, from

Cmdr., 16th SCW, AFSOC, Hurlburt Field, Fla., to Cmdr., Spec. Ops. Command Pacific, USPACOM, Camp H. M. Smith, Hawaii, replacing M/G Charles R. Holland. . . . M/G Ervin C. Sharpe, Jr., Dir., P&P, Hq. ACC, Langley AFB, Va., to Dir., Ops., Hq. ACC, Langley AFB, Va., replacing retiring M/G Lee A. Downer.

B/G Lance L. Smith, from Cmdr., 4th FW, ACC, Seymour Johnson AFB, N. C., to Vice Cmdr., 7th AF, PACAF, and C/S, ROK/US Air Cmp. Cmd., CFC, and Vice Cmdr., US Air Forces Korea, Osan AB, South Korea, replacing retiring B/G Robert E. Gatliff. . . . B/G Joseph H. Wherle, Jr., from Dep. Dir., Prgms.,

DCS/P&P, Hq. USAF, Washington, D. C., to Dir., Prgms., DCS/P&P, Hq. USAF, Washington, D. C., replacing M/G (L/G selectee) John W. Handy.

SENIOR EXECUTIVE SERVICE (SES) RETIREMENTS: John M. Griffin, William C. Kessler.

SES CHANGES: David R. Burton, to Dir., Contracting, Warner Robins ALC, AFMC, Robins AFB, Ga., replacing retired Samuel L. Croucher. . . . Paul A. Shahady, to Dir., Major Shared Resource Ctr., ASC, Hq. AFMC, Wright-Patterson AFB, Ohio. . . . Frank O. Tuck, to Dir., Development Planning, ASC, Hq. AFMC, Wright-Patterson AFB, Ohio, replacing retired John M. Griffin. ■

■ Two AFRC F-16s from Homestead ARB, Fla., collided March 18 off the west coast of Florida. One F-16C from Homestead's 482d Fighter Wing then crashed into the Gulf of Mexico, but the pilot ejected and was picked up by a US Coast Guard helicopter. The second fighter, a two-seat F-16D with an Australian reporter in the back seat, landed safely at Homestead with minimal damage.

■ The Air Force graduated its first 10 officers as Air Battle Managers from a new eight-and-a-half-month course at Tyndall AFB, Fla., in March and expects Air Education and Training Command to produce 132 ABMs this year. The new course expands on the old three-month course for weapons directors, a role now being filled by noncommissioned officers and airmen. Although most new ABMs will spend their first 30 months learning the ropes as weapons controllers, they will then progress to command-and-control advisors to joint commanders.

■ DoD has formed a special committee to organize activities scheduled for September 15-19 at the Pentagon to celebrate its fiftieth anniversary. Events will include a full honors ceremony, a joint services flyover, an exhibit depicting DoD's 50-year history, and military band concerts.

■ USAF reached a three-year high in 1997 in its selection rate for senior master sergeant when it chose 1,603 of 21,214 eligible for promotion—a 7.56 percent selection rate. It is also the third straight year the promotion rate has increased—the 1994 rate was 4.62 percent, 1995, 7.24, and 1996, 7.31.

■ April 1 marked the reactivation date for the first squadron to fly the B-1B bomber—the 77th Bomb Squadron at Ellsworth AFB, S. D. The 77th had been deactivated March 31, 1995, when its fleet of 12 B-1Bs were placed into "reconstitution reserve" and rotated to other units, to free up funds to upgrade all B-1Bs for conventional weapons, including precision guided munitions. The unit reactivated with one bomber. It will have six by June 1998 and 12 by April 1, 2000.

■ More than 300 members of RAF Mildenhall, UK, units set up shop in West Africa to support Joint Task Force-Guardian Retrieval, established to evacuate American citizens from Zaire, in late March. The 352d Special Operations Group brought MC-130P Combat Shadow aircraft and MH-53J Pave Low helicopters. Mildenhall's 100th Air Refueling Wing also supported the operation with aerial refueling.

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■ Air Mobility Command forces flying C-5, C-17, C-141, and KC-135 aircraft had flown 57 missions and transported 532 passengers and 580 tons of cargo as of March 31 to support Operation Guardian Retrieval. AMC also sent in Tanker Airlift Control Elements and a Mission Support Team for the operation.

■ The 1st Combat Communications Squadron from Ramstein AB, Germany, deployed a 35-member team

and 26 tons of equipment, which took four airlift missions, to Guardian Retrieval. Four days after they arrived, they had set up a global command-and-control system, portable tech control system, miniature message center, and satellite communications.

■ USAF special operations forces personnel from RAF Mildenhall, UK, and Hurlburt Field, Fla., deployed to Brindisi, Italy, to support NATO missions in Bosnia-Herzegovina. Mean-



50 Years Ago in Air Force Magazine

June 1947

On the cover: This shot of B-17s in formation over Columbus, Ohio, had been taken some time previously, before the Army Air Forces closed its B-17 transition school at Lockbourne AFB. *Air Force Magazine* chose the photo because AFA's first National Convention was to be held in September 1947 in Columbus.

■ The legendary Lt. Gen. Ira C. Eaker retires, saying he plans to speak out about airpower and national defense. *Air Force Magazine* says that "it wouldn't be surprising if he ended up as editor and publisher of a small western weekly

newspaper." (Before his second career was done, retiree Eaker would write a nationally syndicated newspaper column that appeared in more than 180 newspapers and continued for 18 years. More than 70 of his articles and speeches were reprinted in the *Congressional Record*.)

■ Vaughn Monroe's phonograph records sold millions of copies, but his real love was aviation. For two months in 1947 (June and July), Monroe was the "Personal Plane Editor" of *Air Force Magazine*, making his debut in the June issue with "Landing Gear for Crosswind Landings."

■ The 1947 appropriations request for research and development at Wright Field, Ohio, was \$230,536,500. The amount appropriated was \$78,781,217.

■ The Air Reserve training program, originally planned to include 170,000 people, has been reduced to 15,200.

AFA news: AFA membership pins, in short supply earlier because of residual wartime metal shortages, are now available for 50 cents, postpaid.

while, personnel from San Vito dei Normanni AB, Italy, helped the State Department process nearly 1,000 evacuees, including about 450 Americans, from Albania during Operation Silver Wake, March 13-18.

■ F-16s from the 510th Fighter

Squadron, Aviano AB, Italy, flew more than 30 sorties over three days to provide force protection for ground forces and airborne surveillance aircraft during Silver Wake.

■ According to USAF officials, an AMC C-141 crew flew the first US

aircraft through the reduced vertical separation minimum airspace over the North Atlantic on March 27. At one second past midnight, the RVSM, which cuts vertical separations between aircraft from 2,000 to 1,000 feet at altitudes between 33,000 and 37,000 feet, went into effect in the North Atlantic. International civil aviation officials have agreed to comply with the RVSM as one of many air traffic management changes designed to help cope with the increase in air traffic.

■ DoD announced April 1 that the GulfLINK World Wide Web home page (<http://www.dtic.mil/gulfink/>) has an electronic mail capability that connects Gulf War veterans and the public directly with the Office of Special Assistant for Gulf War Illnesses, headed by Bernard D. Rostker. Access to the e-mail address is available through the home page.

Obituary

Col. John R. Boyd, USAF (Ret.), creator of the "OODA loop" concept and a leader of the "Military Reform" movement of the 1970s and 1980s, died of cancer at age 70 on March 9 in West Palm Beach, Fla. Boyd, who flew combat missions in the Korean War, retired in 1975. Though his combat experience was limited, he became renowned for development of the concept—observe, orient, decide, and act, or OODA—for anticipating and preempting enemy moves in a fast-paced air battle. He helped establish the USAF Weapons School at Nellis AFB, Nev., where he worked out complex formulas for aerial maneuvers—culminating in his 1960 report, "Aerial Attack Study." ■

Index to Advertisers

Boeing Defense & Space Group	6-7
CFM International	Cover III
Club Car Inc.	15
GEICO	21
Honeywell, Inc.	10
Hughes Defense Communications	3
Lockheed Martin	Cover II
McDonnell Douglas Aerospace	Cover IV
Mitchell Lang Designs	87
National Aviation Hall of Fame	9
Raytheon E-Systems	4
AFA Member Supplies	87
AFA Relocation Assistance Program	86
AFA Symposium-Dayton	79
Fiftieth-Anniversary A-2 Leather Jacket	19
Video Biography on Legends of Airpower	85
Video on the History of USAF	17

Working the Web

The Air Force selected the US Air Forces in Europe World Wide Web home page as its Five-Star Web Site for March. Second and third places went to Ellsworth AFB, S. D., and the Air Force Base Conversion Agency, Arlington, Va.

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USAF has identified the aircraft, weapons, and forces it needs to sustain its six “core competencies.”

Air Force Programs at the Core

FOR some time before the Defense Department unveiled its latest defense review, harsh pressure had been coming down on the Air Force’s basic program for the future. The plan was attracting microscopic scrutiny in many key areas, from force structure to fighter modernization.

The Air Force developed the multi-year roadmap to sustain its power and extend it into the first years of the next century. It envisions an expenditure of some \$450 billion over six fiscal years—1998 through 2003—for aircraft, space systems, research, personnel, operations, and other facets of air- and spacepower.

Air Force leaders, in statements to Congress, portrayed the program as modest and lean. One USAF report said the service “achieves a balance” of its many competing needs but that doing so was “not easy.” Gen. Ronald R. Fogleman, USAF Chief of Staff, said the program carried “moderate to high risk.”

Severe criticism erupted anyway. Many in Congress voiced concerns about the cost of the F-22 air-dominance fighter. Others attacked the Joint Strike Fighter. Some said USAF could get by with fewer new C-17 transports or defer planned upgrades to the heavy bomber force. A host of critics argued that the Air Force should commit some funds to procurement of more B-2 bombers and less to USAF’s own priorities. Others charged that the program short-changed basic research.

The challenges emerged well before the completion of DoD’s Qua-

By Robert S. Dudley, Executive Editor

Projected USAF Spending, 1998–2003

Budget Authority, in Billions

Fiscal Year	Current Dollars	FY 1998 Dollars
1998	75.0	75.0
1999	76.7	75.0
2000	78.5	75.1
2001	81.7	76.3
2002	83.6	76.3
2003	85.9	76.5
Total	481.4	454.2

drenial Defense Review, the first full-up assessment of its kind in four years. The QDR, completed in May, was bound to fuel new dangers. For example, a near-final draft of the QDR report concluded that the US does not need as many forces as it now fields to support the defense strategy.

Just a Beginning

The controversy is sure to continue throughout 1997. The Secretary of Defense, William S. Cohen, remarked that the QDR was “just the beginning” of the broad-gauged defense reassessment. Yet to be heard was the National Defense Panel, a group of nongovernmental defense analysts set up to second-guess the QDR, as well as powerful members of Congress.

The program that USAF was under pressure to defend was presented earlier this year as part of DoD’s Fiscal 1998–2003 Future Years Defense Program (FYDP). The basis was the Clinton Administration’s 1993 Bottom-Up Review of defense, which said the US required forces able to fight and win two major regional conflicts (MRCs) more or less at the same time.

The FYDP links policies, strategy, and objectives to specific forces

and programs. It breaks into major force programs reflecting acquisition, personnel, and support costs.

Air Force leaders said service programs are geared to USAF’s six “core competencies”—air and space superiority, global attack, precision engagement, rapid global mobility, information superiority, and agile combat support.

By far the greatest scrutiny has fallen on general-purpose forces, comprising fighter, attack, bomber, and special-mission assets, plus their weapons and support. General-purpose aviation forces are those programmed for major theater war.

Air Force spending on general-purpose aviation has declined steadily throughout the 1990s, budget reports show. In 1990, the service allocated \$25.6 billion to its general-purpose theater aviation forces. The proposed figure for 1998—\$15.8 billion—marks a 40 percent drop, largely as a result of force reductions.

Fighter Forces

Within this category, the fighter and attack aircraft component rates top priority. The Air Force had two distinct but interrelated goals—maintaining adequate force structure and modernizing tactical inventories with

“leap ahead” systems, thus keeping capabilities up, average age down, and numbers steady.

Well into the 1980s, the Air Force had a goal of 40 combat-coded fighter and attack wings. Late in the Cold War years, the figure dropped to 37, in 1991 to 26, in early 1993 to 24.3, and in late 1993 to 20. Many viewed the latter figure as inadequate.

USAF continued to view 20 wings as the requirement for two MRCs and fully funded that number throughout the six years of the program. Yet, signs are that fighter forces could shrink again.

One threat is political—the QDR’s view that US armed services should cut forces to free up money for modernization.

The service also faces a fighter gap that could affect its force structure. In the first decade of the new century, fighter inventories are expected to drop 10 to 12 percent below levels needed to fill out the 20 wings. From 2005 to 2010, the Air Force will be short the equivalent of one wing of fighters because of higher-than-anticipated attrition, the Pentagon said.

Finally, the Air Force faces threats to its modernization plan. That plan comprises two large programs—the F-22 and the Joint Strike Fighter.

The 1990s Air Force

Total Obligational Authority, FY 1998 Dollar Billions

Forces Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Strategic Forces	\$15.6	\$14.6	\$12.1	\$ 9.6	\$ 6.1	\$ 5.1	\$ 5.0	\$ 3.8	\$ 4.1	\$ 4.0
General-Purpose Forces	25.6	24.4	20.0	17.5	17.2	16.7	16.7	15.9	15.8	16.5
Airlift Forces	6.7	5.8	6.9	8.1	8.6	8.9	8.5	8.2	8.2	8.7
Reserve and Guard Forces	7.3	6.4	6.8	7.1	7.1	7.4	7.1	6.8	6.9	6.8
Special Operations Forces	1.4	.3	.3	.3	.4	.4	.4	.4	.4	.4
Total	56.6	51.5	46.1	42.6	39.4	38.5	37.7	35.1	35.4	36.4

Support Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Intelligence and Communications	\$21.4	\$19.8	\$21.3	\$21.0	\$20.3	\$17.7	\$18.1	\$18.1	\$18.8	\$18.5
Research and Development	10.8	9.3	8.9	8.3	7.4	8.3	8.4	8.1	7.8	7.1
Central Supply and Maintenance	12.0	10.4	7.1	6.3	4.4	4.3	4.0	3.7	3.7	3.6
Training, Medical, General Personnel	11.8	13.4	9.2	8.9	8.3	8.6	8.4	8.1	8.0	8.0
Administration and Other	1.7	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.6
Total	57.7	54.5	48.1	46.1	42	40.4	40.5	39.5	39.8	38.8

Should either be canceled or substantially reduced, USAF's fleet and force structure will inevitably grow smaller, older, far less capable, or all three.

Air Dominance

At present, the fighter program facing toughest scrutiny is the one that lay at the core of Air Force modernization—the stealthy, supercruising F-22 Raptor.

The Air Force program was geared to the F-22. It committed the service to invest \$20.4 billion over six years to fund research and to procure the first 70 operational F-22s. The F-22's total cost "to go," the Air Force reported, was \$44 billion.

With production set to begin next year, plans called for F-22s to start showing up in the force just after 2000 and for the first squadron to reach initial operational capability (IOC) in 2005. The program was to run until 2013 and yield 438 operational fighters—enough to change out four wings' worth of air-superiority F-15s on a one-for-one basis. Some viewed this as controversial and pushed to reduce the size of the program.

The Air Force badly wants the F-22, and the reason can be summed up in a word: capability. USAF recently published a paper comparing today's heavyweight champ—the F-15—with the F-22. The result was eye-watering: The effectiveness of the F-22 exceeded that of the F-15 by a factor of three.

Some viewed this capability to be an unaffordable luxury, given the fact the F-15 still overmatches anything that flies. The Air Force does not dispute assertions that the F-15 is still the world's top air-superiority machine. The problem, claim service leaders, is that it is getting old. The F-15 has been in service nearly a quarter of a century and will be 30 years old by the time the first F-22s arrive. This poses two problems.

First is the increasing vulnerability of the fighter force. During the F-15's long run, the fighter builders of other nations worked hard to catch up. Now, they are starting to succeed, USAF officials said, specifically noting France's Rafale, Russia's Su-35, and the multinational Eurofighter.

"The Joint Chiefs [of Staff] believe that, in fact, there still is a

threat that must be countered by our tactical forces," remarked Gen. Joseph W. Ralston, the JCS vice chairman.

The F-15, upgraded several times already, has little room to improve. The proliferation of Russian SA-10 and SA-12 surface-to-air missiles creates additional dangers for the nonstealthy F-15.

At a recent hearing in Congress, one senator questioned the F-22, noting it would be not only superior but overwhelmingly superior. "I do not dispute that at all," replied Ralston, "but I certainly would not want to be put in the position of arguing for parity in tacair."

The second problem is attrition. Without expensive measures to keep them flying, F-15s will simply age out of the force. Paul G. Kaminski, then under secretary of defense for Acquisition and Technology, said the average age of the air-superiority fleet will hit 20 years in 2003, twice the norm. The Congressional Budget Office, after looking at the basic force numbers, concluded that USAF must have a full production run of F-22s and keep its F-15s in service for "unprecedented" periods just to prevent "unmanageable" fighter shortages.

At a House hearing, Rep. John P. Murtha (D-Pa.) asked Fogleman to describe USAF's fallback plan if the F-22 goes down. "We don't have anything," the Chief of Staff answered.

Multirole and Attack

Similar problems facing USAF multirole and attack forces provided the impetus for the Air Force program's other tactical aircraft effort—the stealthy, multiservice Joint Strike Fighter.

The program calls for buying large numbers of the JSF to replace the single-engine, multirole F-16 and ground-attack A-10. The F-16 is a special problem. It was built at high rates—up to 180 per year in the 1980s—and will suffer block obsolescence not long after the turn of the century.

The inventory contains about 800 F-16s and 200 A-10s. Without a major acquisition effort, officials warned, there will be a precipitous decline in the fighter forces around 2005.

In its 1998–2003 program plans, the Air Force prepared for heavier

spending on the JSF, now being developed jointly by the Air Force and Navy. The services programmed a total of \$10.1 billion for development through 2003; the Air Force portion comes to \$5.1 billion. It put up half a billion dollars for 1998.

The first production JSF aircraft is expected to show up in 2005, with first deliveries to operational units in 2008 and IOC in 2010. According to General Fogleman, USAF's biggest buys will start about 2010, when the number of F-16s in the fleet starts to drop off rapidly.

Though fighter modernization is critical, the scope of the F-22 and JSF programs have spooked some lawmakers. They maintain that an enormous "bow wave" of unfunded fighter costs, totaling billions, is building up.

This is simply wrong, Fogleman asserted in a meeting with members of the new Airpower Caucus in Congress. "Within the budget that came over here, for the outyears of this program, the F-22 is fully funded," the Chief said. "The Joint Strike Fighter is fully funded. . . . Everybody says, 'You guys are pushing the bow wave at us. A big bow wave is coming.' Not true."

Heavy Bombers

The Air Force program projects the continuation of a lean operational heavy bomber force across the six-year period.

There are numerous estimates of the bomber requirement. The Bottom-Up Review of 1993 set a force level of up to 184 total bombers—B-1s, B-2s, and B-52s—though it was not clear how many were to be operational. The Bottom-Up Review said that 100 bombers would be needed for each MRC but that the force could "swing" from the first MRC to the second.

The Pentagon reports that today 202 bombers are in the total active-duty inventory—13 B-2s, 95 B-1Bs, and 94 B-52Hs. However, said DoD, only 105 of these are ready for combat operations. The rest are held in semiactive status or are otherwise not combat-coded. Most are to be fully modernized and equipped over the longer term.

The Air Force has programmed no new bomber purchases through 2003. The Air Force's bomber priorities center on obtaining a variety of con-

ventional weapons upgrades to the fleet to bolster bomber capability in theater combat.

B-2. The 1998 budget contains \$625 million to continue work associated with the B-2 bomber and its systems.

None of the money was programmed for additional aircraft beyond the 21 previously authorized and procured. The corporate Air Force supported the decision, but it is hotly opposed by some on Capitol Hill, who maintained that the B-2 would prove to be a makeweight of US global military power.

When asked at a Congressional hearing to explain the thinking behind the "no B-2" decision, Fogleman replied, "We have other things that are higher priority than B-2s."

The Air Force program supports the delivery of two more B-2 aircraft to Whiteman AFB, Mo., in 1998. The buildup to 21 stealth bombers will be finished with delivery of the last bomber in 2000.

B-1. The B-1 bomber, designed to be a nuclear weapons delivery system, will continue undergoing a Conventional Mission Upgrade Program to turn it into an exclusively conventional platform.

The Air Force programmed \$1.7 billion over the six-year FYDP to carry out this effort. The upgrade is intended to improve the B-1's lethality and survivability, allowing it to go into action on the first day of a war to help halt an enemy advance in its early stages.

Each remodeled bomber in the fleet will be able to carry 84 general-purpose 500-pound bombs or 30 cluster bombs. When work is done, officials said, the B-1 will be able to hold enemy targets at risk in high-, medium-, and low-threat environments.

The budget also provides money to reclassify six inactive attrition-reserve aircraft to combat-coded status so that the Air Force can reactivate the B-1 squadron it shut down in 1995.

Longer term, the Air Force would increase the operational inventory of B-1Bs. Eighty-two of the bombers will have achieved this status by 2001, when enough modern weapons will be available.

Precision Weapons

Deployment of modern, precision

guided munitions on front-line bomber and fighter aircraft figures prominently in the Air Force program. The Air Force plans to procure 76,183 advanced weapons of all types over the six-year period, at a cost of \$4.4 billion. Even so, USAF will not have enough to meet its requirement.

Under the current plan, the Air Force will begin equipping the B-1 fleet with the Joint Direct Attack Munition in 1999 and with the Joint Standoff Weapon, the Joint Air-to-Surface Standoff Missile, and the Wind-Corrected Munitions Dispenser by 2002.

USAF also has programmed the addition of these weapons to B-2 bombers, adding a formidable conventional mission capability to the stealth fleet. The aircraft will be able to attack almost any target, anywhere, anytime, said Air Force officers.

The fleet currently employs the Mk. 84, 2,000-pound unguided conventional munition. Later Block 20 aircraft carry the Global Positioning System-Aided Munition (GAM), an interim precision weapon demonstrated last year with great effect. Later B-2s will carry JDAM, JSOW, JASSM, and the GAM-113 hard-target penetration munition.

Specialized Aircraft

For theater operations, the Air Force has long maintained a broad array of specialized aircraft that perform critical functions—airborne warning and control, electronic warfare, air defense suppression, reconnaissance and surveillance, and the like.

The six-year program contains funding to acquire two additional RC-135 Rivet Joint electronic surveillance aircraft and to reengine the fleet. These systems are in heavy demand from theater commanders, and the new aircraft will reduce Rivet Joint's extremely high operations tempo.

The highly successful E-8 Joint Surveillance and Target Attack Radar System aircraft will soon go into full operation. The Air Force will buy one in 1998 and two in 1999, headed toward a fleet of 20.

The part of the program devoted to Air Force special operations forces is tiny—less than half a billion dollars per year in 1998 and 1999. General Fogleman told a Senate panel not long ago that the Air Force plan

calls for procuring 50 CV-22 tiltrotor aircraft for long-range troop insertion and extraction.

The Air Force is pursuing a longer-term proposition with another kind of combat aircraft—the YAL-1A Attack Laser, a 747 jumbo jet equipped with a high-energy laser. USAF is betting that the Attack Laser will prove critical for shooting down threatening ballistic missiles aimed at deployed forces. Under current plans, Air Combat Command would operate the YAL-1A from a US base and rapidly deploy it around the globe. The Air Force programmed a six-year outlay of \$1.6 billion for research and risk reduction. Seven aircraft are currently planned; five aircraft are required to support two high-altitude Combat Air Patrol orbits. Total costs are estimated at \$6.2 billion.

Mobility Forces

Mobility forces—transports, tankers, ground equipment, personnel, support operations, and other elements of rapid global response—form the basis of another major force program.

In the 1990s, airlift has bucked the budget trend. Spending within this broad category generally has increased throughout the decade, albeit at a modest pace. Air Force reports show that the expenditure level for airlift, \$6.7 billion in 1990, will hit \$8.2 billion in 1998 and \$8.7 billion in 1999.

Long-range mobility force structure—380 strategic lifters of all types at the start of the decade—has drifted downward, however. USAF programmed a total of 314 operational strategic airlifters in 1998. The decline is attributed to C-141 retirements.

The force structure generally lines up with the results of the latest official airlift assessment—the Mobility Requirements Study/Bottom-Up Review Update of 1994. It established a new requirement for a two-MRC scenario, calling for 49.7 million ton-miles per day (mtm/d) of airlift capacity.

The program calls for the total capacity of the US airlift fleets to grow from today's level of 48 mtm/d to 53 mtm/d as a result of the acceptance of new C-17 airlifters. The C-17s are intended to replace the aging C-141s. If the Air Force does not

purchase additional C-17s beyond the 120 planned, capacity will return to 48 mtm/d when all C-141s have been retired.

C-17. The Air Force program identifies C-17 acquisition as its number one near-term requirement and builds on the fact that USAF already has purchased 48 of 120 C-17s in the planned fleet.

Service planners allocated a total of \$16 billion over the six-year period to pay for the remaining 72 aircraft approved for purchase. The 1998 budget makes a \$2.2 billion down payment, procuring nine C-17s and associated spares and research. In the following year, 1999, the Air Force will plunk down even more—\$3 billion to procure 13 new airlifters.

The Air Force will then ramp up the program to its highest production rate, buying 15 C-17s in 2000, 2001, and 2002 and then taking the last five in 2003.

Older Lifters. The C-5 Galaxy is programmed to provide a significant portion of the nation's air cargo capability for years to come. The Air Force will concentrate on increasing the C-5's effectiveness and availability with a capital investment plan that aims to lower the aircraft's high cost of ownership and raise its currently low reliability rate.

Elsewhere, the venerable C-141 is nearing the end of its operational service life. Its structural integrity has declined in recent years. The Air Force will selectively modify a few aircraft until they are all retired in 2006.

Tankers. Programmers also gave aerial refuelers some attention. The Air Force budgeted a sufficient amount of funds to modify 180 aging KC-135 aircraft. This is part of a plan to refurbish 602 active-duty, Air Force Reserve Command, and Air National Guard KC-135s with three new types of avionics.

Air Force programmers, noting the KC-135's status as the service's "core" tanker, concluded its avionics and communication equipment "must keep pace" with advancing technology and that a major cockpit modernization effort was in order. The so-called Pacer CRAG upgrades will spruce up the entire KC-135 fleet with modern compass, radar, and Global Positioning System navigation equipment.

Strategic Forces and Space

Strategic forces are maintained at a low level. In 1990, strategic nuclear systems and operations consumed \$15.6 billion of USAF funding (out of a DoD total of \$23 billion). Today, the program allots only about \$4 billion per year.

The Air Force has programmed no money for new nuclear systems.

It funds continued operation of 550 ICBMs in each of the next two years. Today, the force comprises 500 Minuteman III and 50 Peacekeeper weapons, a level down by about half since the start of the decade. The total would shrink again in the outyears if Russia ratifies the completed START II treaty and go down even further if START III is concluded.

In 1998, the program reduces funding for ballistic missile replacement equipment by 61 percent, for missile modifications by 45 percent, and for missile spares and repair parts by 53 percent. However, it continues the ICBM modernization program to fix age-related degradations, reduce life-cycle costs, improve reliability, and strengthen nuclear surety and safety.

However, Air Force Secretary Sheila E. Widnall told Congress that USAF had decided it would modify the Minuteman III's hardware and software so that it could be fitted with the Mk. 21/W87 warhead, which would be taken from Peacekeepers set to be deactivated through the START II treaty implementation. She reported that the Air Force took the decision after an in-depth study. It determined that reusing the warhead was the best and most cost-effective way to ensure Minuteman safety and reliability.

The major force program that consumes the largest share of USAF spending—\$18 billion to \$19 billion per year—concerns intelligence and communications. This program includes not only "blue" Air Force programs but also national systems, with space being a large part.

For example, the program through 2003 would allocate \$3.3 billion for research on the next-generation Milstar communication satellite.

Another \$5.2 billion would go for development of the Spacebased Infrared System and procurement of the first two spacecraft. SBIRS is intended to replace the aging De-

fense Support Program satellites. The program calls for launch of the first of six high-Earth-orbit SBIRS craft in 2002. The first of up to 24 low-Earth-orbit satellites would go up in 2004.

Reserve and Guard Forces

The major force program that covers Air Force Reserve Command and the Air National Guard has fared well throughout the 1990s and continues to be favored in the 1998–2003 program. In response to a question, General Fogleman told the Senate Armed Services Committee that all AFRC and ANG programs are fully funded this year.

In 1990, USAF spent \$7.3 billion on the Reserve and Guard. The figure has varied only slightly over the years. Expenditures will be about \$7 billion in each of the next two program years.

The program continues to focus on those Reserve and Guard units that would deploy soonest in a major regional conflict. The program and its budget fully fund high readiness levels of these units. The Air Force also programmed funds for initiatives to increase the peacetime use of the Reserve and Guard in order to relieve the operations tempo of active-duty forces.

The program supports a combined AFRC and ANG military force of 180,786 in 1998. ANG will operate 1,157 aircraft and pull more than 361,000 flying hours in interceptor, tactical airlift, air refueling, general-purpose fighter, and reconnaissance missions.

The Reserve, with 64 flying units and 395 aircraft, was programmed to provide 100 percent of the Air Force's weather reconnaissance, more than half of its strategic airlift, and 30 percent of the air rescue and medical airlift capability.

According to Gen. Thomas S. Moorman, Jr., the Air Force vice chief of staff, the AFRC and ANG together are programmed to provide 40 percent of Total Force capability while consuming only 15 percent of the Air Force budget for personnel and operations and maintenance.

The General indicated that the favored status of the Reserve and Guard won't change any time soon. The Air Force's use of its reserve components, he said, has proved "enormously successful." ■

The Chart Page

By Tamar A. Mehuron, Associate Editor

The Squeeze on Investment

USAF's Budget: The 10-Year Record

Year	Total	Investment	Current Ops	Ratio
1989	119,898	58,231	60,667	48.6 / 51.4
1990	114,502	53,998	60,504	47.2 / 52.8
1991	106,514	43,278	63,236	40.6 / 59.4
1992	95,081	42,218	52,863	44.4 / 55.6
1993	88,793	39,695	49,098	44.7 / 55.3
1994	81,734	33,981	47,753	41.6 / 58.4
1995	79,625	31,014	48,611	38.9 / 61.1
1996	76,841	30,527	46,314	39.7 / 60.3
1997	74,345	31,304	43,041	42.1 / 57.9
1998	75,015	30,975	44,040	41.3 / 58.7

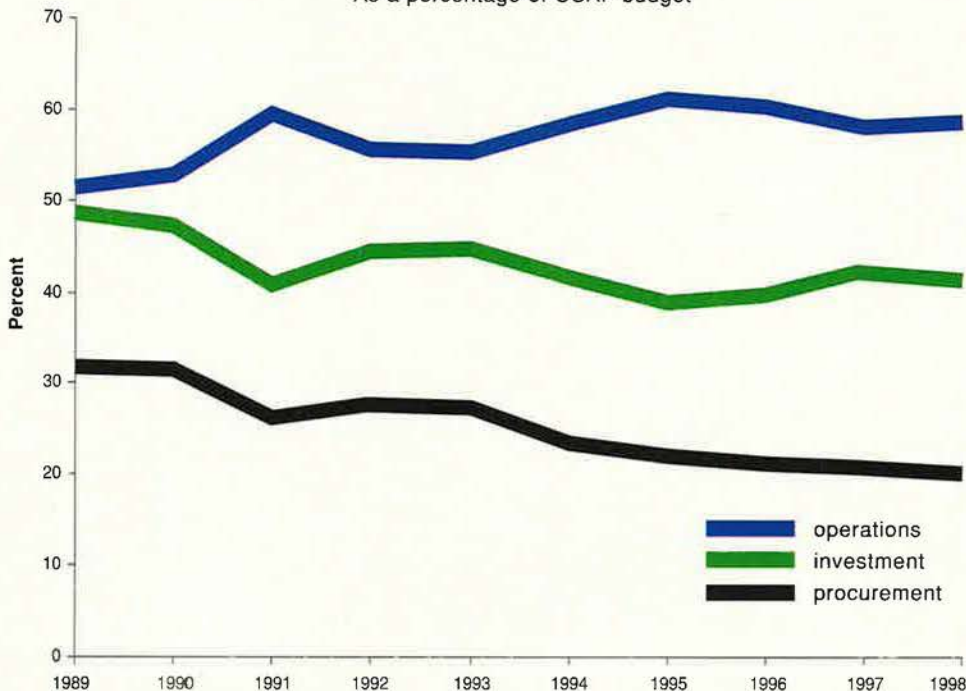
The proportion of the Air Force budget devoted to long-term investment in the future of the service has lagged over the past decade, as figures for Fiscal Years 1989 through 1998 show.

Investment comprises all funding for procurement, RDT&E (research, development, test, and evaluation), and military construction. The funding of everything else—principally operations and maintenance and military personnel—constitutes spending on current operations.

Investment funding, in absolute terms, has dropped by 47.6 percent. Air Force investment peaked at \$58.2 billion in Fiscal 1989, viewed as the final year of the Reagan buildup, but since that time has drifted downward, hitting a new low in Fiscal 1996 of \$30.5 billion, of which a little more than \$20 billion went to procurement. Despite a slight uptick in 1997 to \$31.3 billion (42 percent of the budget), the graph suggests that the gap between investment and operations is again growing.

Investment vs. Operations

As a percentage of USAF budget



Source: USAF

USAF is still refining the concept, but initial reports have been promising.

The Expeditionary Air Force

THE air expeditionary force is still a fairly new concept for the US Air Force, but it promises to become one of the service's defining capabilities for the decades just ahead.

A shrinking overseas base structure increasingly demands that the US have home-based military forces able to project power over great distances. The "plug and play" nature

of the AEFs will help USAF chart a middle course between, on one hand, the old system of fighting from permanent overseas bases and, on the other, relying too heavily on direct overseas employment of forces from North America.

AEFs will provide the nation with both an on-call "911" capability as well as the coalition-building ele-

ment envisioned in the Air Force's strategy of "Global Engagement."

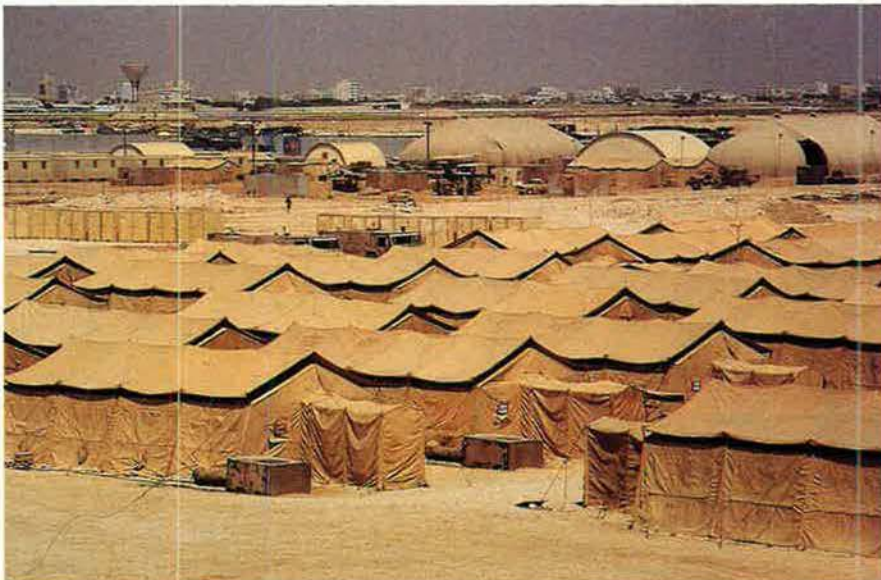
The AEF itself, however, is one of the least-understood of the new military tools at the nation's disposal. Its newness has led some supporters to oversell it and some in the other services to mistrust it as a bald attempt at mission-grabbing during a major national defense strategy review.

Access is one key to the success of air expeditionary forces, which must act with the full cooperation of the host country in such places as Doha, Qatar (above).



Takes Shape

By John A. Tirpak, Senior Editor



Advance planning in the continental US, another key to success, enables the rapid construction of tent cities that can accommodate the 1,100-plus personnel necessary for an effective deployment.

"There are a lot of misconceptions about what an AEF is," said Air Force Brig. Gen. William R. Looney III, commandant of the Armed Forces Staff College in Norfolk, Va., and commander of USAF's second air expeditionary force (called AEF II), which deployed to Jordan for several months in 1996.

"Some people think AEFs can go anywhere. They cannot," continued the General. "Some people try to tell you it's intended to replace the [aircraft] carrier. It's not, and it doesn't. It's not 'one-stop shopping'—incorporating the entire range of airpower capabilities—"and it can't operate autonomously," meaning outside of normal theater command and control.

"What it does give you is rapid, responsive, and reliable airpower that can be tailored to the specific needs of a situation . . . [and which] moves out quickly," Looney said.

In essence, the goal of an AEF is to be able to deploy a package of "shooter" airpower—including air-to-air, precision air-to-ground, and defense-suppression airplanes—into a theater and begin generating combat sorties within 48 hours of the "execute" order.

Covering Over the Gaps

Washington can use such a capability, said Air Force officials, to deter adventurism by an aggressive nation, increase the landbased air-

power already available to a regional commander in chief, or provide a temporary "filler" force that can cover naval airpower "gaps" created when an aircraft carrier leaves the scene before a replacement is on station. Such gaps can last for weeks.

The genesis of the AEF concept came in October 1994, when Iraqi forces under the control of dictator Saddam Hussein made new and threatening moves toward Kuwait. The US had long since removed the bulk of its Operation Desert Storm assets from the theater and was forced to make a hasty return to the Persian Gulf with enough forces to credibly deter a replay of Iraq's 1990 invasion of the tiny but wealthy Arab state. The return of forces—on an extremely tight schedule—proved to be a major challenge.

According to Looney, the deployment was "not as crisp as it should have been. . . . It didn't go as well as we wanted."

Coincidentally, Air Force leaders had been looking for a new way to demonstrate the capabilities of airpower to the world and the national command authorities, and the 1994 Iraqi incident provided the spur to put a concept into action.

Gen. Ronald R. Fogleman, the Air Force Chief of Staff, turned to Gen. Joseph W. Ralston, who was then commander of Air Combat Command (now vice chairman of the Joint Chiefs of Staff), and assigned him to

put together a concept for an air expeditionary force to demonstrate "the ability to project long-range, lethal, sustainable, combat power inside of normal war plan time lines," Fogleman explained.

Officers at 9th Air Force fleshed out the concept and "advertised" it to the theater commanders. The officer who headed up this effort, 9th Air Force's commander, is now USAF's deputy chief of staff for Air and Space Operations, Lt. Gen. John P. Jumper.

US Central Command responded right away, requesting AEFs to supplement Operation Southern Watch, enforcing a no-fly zone over southern Iraq. To date, there have been four AEF deployments—two to Qatar, one to Bahrain, and one to Jordan.

A typical AEF draws 34 to 40 aircraft from three or four wings. This aircraft complement includes about a dozen F-15Cs for air superiority, a mixed dozen of F-16Cs equipped with Low-Altitude Navigation and Targeting Infrared for Night pods and F-15Es for precision attack, and a half-dozen F-16Cs equipped with the High-Speed Antiradiation Missile Targeting System for defense suppression. In addition, a number of heavy bombers are "tied" to the AEF and made available to its commander at need, though they remain stationed in the United States. If needed, tankers deploy with the fighters.

Building Around the Core

Of the supporting wings, one is designated as the "core" unit and provides the skeletal framework—including headquarters staff—around which squadrons from other units coalesce. After receiving notice that they are "on call," units will fuel their airplanes, load long-range fuel tanks and ordnance, and begin loading airlift aircraft with aerospace ground equipment and support gear.

When the "go" order comes, the first airlifters will launch with a setup team. On arriving at the deployment site, they open prepositioned equipment and prepare for the arrival of the combat airplanes. With them travels a cadre of fighter pilots, who immediately begin to plan the first combat sorties. When the first fighter aircraft arrive, the airplanes are checked out, refueled, armed, and boarded by the now rested fighter pilots who flew in ahead of them on

airlifters. Combat operations begin as soon as the fighters can be turned.

As more airlifters arrive, the base becomes more fully equipped. During lulls in sortie generation, the troops erect a tent city for the 1,100 or so personnel of the provisional air wing that will run for the 90 days of the deployment.

Looney noted that the rapid transit and sortie generation times belie the extensive preparation that supports an AEF operation.

"The first thing you have to work is the diplomatic clearance," he said, noting that a host nation must volunteer a usable air base for the duration of the AEF. In addition, transit permission must be secured for aircraft seeking to get into and out of the operating area. Moreover, the host nation must be willing to harbor US warplanes and munitions on its soil and be willing to allow the United States to launch combat operations from its territory.

"Access is one of the things that's required to make a concept like this work," Jumper observed. "Access is not always trouble-free. . . . You have to be welcomed by the host country, and in times of tension that host country has to feel genuinely threatened before they're going to want to host groundbased forces."

The base offered must also have ready access to water and fuel—though, in a pinch, tankers can fulfill the latter need—and the host nation must be willing to allow the

repositioning of equipment that will be used when an AEF is activated.

In the case of the Jordan AEF, USAF needed several months' preparation to get required diplomatic clearances and bring the Azraq AB up to snuff. However, once established, an AEF base can be reactivated on short notice. When an AEF departs, it leaves behind ground equipment, fuel, food, and some munitions—so far, bomb bodies only—in a structure called a "K-Span." This structure is emptied when the advance team arrives, and then the advance team lives in it until the tent city can be erected.

"Some of the equipment we leave, . . . we allow the host nation to use, like fire trucks," Looney said. "It's better for us if it's being used and maintained in the interim, and the host nation gets the use of it until we return."

Plugging In

Usually, however, an Air Force AEF "has got to go somewhere we've been before," Looney noted. "We come back, plug in, and start generating sorties."

Cooperation and coalition-building are by-products of the AEF, Looney said. USAF units and the host air force exercise together and against each other, practicing tactics as well as command and control.

In Jordan, AEF personnel instructed Royal Jordanian Air Force personnel in maintenance of the F-16, former USAF versions of which the

RJAF will receive over the next few years. They also practiced airfield management, flight and ground safety, academic and doctrine classes, and ran a joint exercise called "Eager Tiger."

"Our Jordanian hosts were just excellent—very professional—and they told us they were sorry to see us go," Looney reported. Such cooperation builds a basis for future access, which, with the end of the Cold War and the loss of many overseas bases, is becoming a critical commodity.

All of the AEFs so far have deployed to the operational area overseen by US Central Command, where the airplanes were added to the Southern Watch Air Tasking Order.

USAF veterans will recall Cold War exercises called "Checkered Flag," in which tactical wings would pick up wholesale and deploy to sister bases in Europe—practice for the reinforcement of USAF units hit by a no-notice Soviet attack. Checkered Flag is the basic model for an AEF, Looney said, but he noted that the main difference between the two is that, under the old system, the emphasis was on the deployment and marrying up with the forward units, while an AEF concentrates on "generating combat sorties as soon as you land."

The AEF deliberately does not carry with it "the full spectrum" of combat and support aircraft because to do so would "get in the way of staying 'light and lethal,'" Looney added.

Jumper said that the AEF fits in well with national strategy by offering a strong counterpunch to an enemy army on the move.

He said, "Airpower's greatest responsibility . . . is in the 'halt phase,' due to the fact that we can get there quickly, and when we meld with other forces we think we have the ability to take on a force that's on the ground and stop it."

Jumper said that, in the 1994 Operation Vigilant Warrior deployment in answer to Iraq's threatening moves, the greatest deterrent to further aggression seemed not to be forces already in theater but those that were on the way. "The notion that large numbers of forces were deploying . . . seemed to have the greatest effect," said Jumper. "That's when [Saddam Hussein] seemed to stop and turn

Staff photo by Guy Aceto



AEFs do not carry the full spectrum of combat and support aircraft because such a package would not be "light and lethal," says Brig. Gen. William R. Looney III. But they do contain F-16s configured for precision attack and defense suppression.



F-15Es have been part of all four AEFs so far, and they are also integral to Air Combat Command's 366th Wing, which is slated to serve as the core of the developing AEF concept.

around—once the news broke that large numbers of airplanes were responding to this situation.”

Because the effort to deter an aggressor might fail, said Jumper, the AEF needs to be “a lethal threat to whomever you’re trying to persuade to do other things.”

Leaving a Footprint

Each of the first four AEFs deployed has yielded valuable lessons, Looney observed. He said that an effort is continuing to “reduce the size of our footprint,” meaning that the AEFs are constantly seeking ways to cut the number of airlifters they need to deploy. Prepositioning will help, as AEFs return to bases where large stocks of equipment and supplies are stored.

Additionally, “we are looking at ways to reduce the number of people we take,” so that it gets down to the “absolute minimum needed.” Furthermore, proper sequencing of what equipment goes, packed with what and when, can also slice the airlift requirement substantially. It is hoped that future AEFs will be able to halve their requirement for C-5-equivalent loads from the current 11 to five or six.

Among the Air Force’s new battle labs is one at Mountain Home AFB, Idaho, which will study improvements to the AEF concept. Mountain Home is home base to USAF’s sole dedicated air expeditionary wing, the

366th Wing. Originally set up as a composite wing, the 366th is intended to be USAF’s on-call AEF outfit, though “problems with spares and other things have kept us from using it for that purpose, yet,” Fogleman said.

Jumper noted that while composite wings offered excellent training-together opportunities for dissimilar aircraft, “it turned out to be ungainly in its execution. In the day-to-day training, it was marvelous to have all of those assets together, but it was offset by the ponderous way it got off the ground.”

Fogleman told Congress in February that the composite wing idea has been scrapped for the Air Force in general. It was too expensive for several bases to maintain a full range of support gear for each of the handfuls of different aircraft types they operated. Only Mountain Home’s 366th will be maintained as a composite wing to serve as the core of the developing AEF concept, and “it is my hope” that the 366th will be the AEF called on in future crises, Fogleman said.

So far, AEFs have been put together with pieces of other units, and the Chief of Staff noted that it takes “extensive” workup time to get the diverse units functioning cohesively.

Commanding the newly formed AEF Battle Lab is Col. Donald L. Oukrop, who expects to have his

organization operational with about 25 people by July 1.

“We’re working with different groups at AMC [Air Mobility Command] and ACC [Air Combat Command], . . . gathering lessons learned” from the four AEFs so far, Oukrop said. Operational aspects of the AEFs are not part of the battle lab’s charter, but rather its main focus is “exploring and delivering innovative approaches” in putting AEFs together, getting them deployed faster, and getting them up to sustained operations more quickly.

The battle lab is not assigned to come up with new technologies or to develop new hardware, Oukrop said, but must maximize the use of “anything we already have in the areas of organizing, training, or equipment.”

“Smaller . . . Lighter”

Big savings of lift assets can be expected if AEFs neck down to the point of “using the same [aerospace ground equipment] as much as possible” and take advantage of any off-the-shelf commercial systems available that could streamline the flow of aircraft, for example.

“We need to be smaller; we need to be lighter,” Jumper said. “We need . . . smaller [and] lighter pieces of equipment, a much smaller footprint on the ground. Those are the things that the battle lab will be developing for us.” He called it an attempt to “institutionalize the expeditionary mindset.”

All the battle labs, Oukrop noted, must focus on meeting the Air Force’s core competencies. If a new technology, system, or idea “does not enhance our core competencies . . . no matter how good it is, we’re not interested.”

Should the AEF Battle Lab develop a useful idea that seems to work in simulation, it would be forwarded to high-ranking USAF officials for a directive to implement it.

Jumper emphasized that AEFs “must . . . integrate with other components” and suggested that an AEF need not be made up only of USAF airplanes; Marine Corps or Navy aircraft might be added by a regional commander in chief if he felt an AEF required assets not available through the Air Force.

For example, said Jumper, “there’s nothing that would preclude” incor-

porating some Navy EA-6B Prowlers in an AEF, since the Air Force and Navy have decided to "share" the type.

The operations tempo (optempo) of the Air Force is not expected to change dramatically if AEFs become a capability frequently requested by regional CINCs.

"Those airplanes are going to fly whether they're in North Carolina or in Doha," Qatar, Fogleman observed. While the personnel tempo might go up, the capability is worth it, he said.

The cost of an AEF's operations over and above similar training at home is about \$7 million to \$10 million, Jumper said, and "that's mostly the airlift cost."

As for the number of AEFs deployed at any time, Fogleman anticipates that it "would probably be no more than two in the field and one at the ready," with "one in the field and one at the ready" as the norm.

Jumper noted that the AEF could have "a positive effect" on optempo, since a unit waiting in the continental US "on a quick-reaction basis . . . means less instability caused by many rotations" to forward bases, "which is the situation we're sort of in now."

Moreover, by planning the deployment of an AEF well in advance—to cover the planned absence of an aircraft carrier in a given theater, for example—a unit can begin focusing its intelligence efforts and



Staff photo by Guy Acello

USAF has had to switch gears in response to a changing international situation. Rather than preparing to thwart a Soviet invasion through such exercises as Checkered Flag, it now practices to be a "911 capability" in places like Doha.

mission planning on its AEF site ahead of time, making it that much more effective on arrival. In addition, some of the unit's equipment can "catch a ride" on airlift going to the area the AEF will deploy to, reducing the airlift effort when the go order comes.

But to preserve the "rapid response capability," Jumper said USAF will strive toward achieving launch of an AEF "in about a three-day time frame from a cold start."

Regional CINCs are not yet con-

vinced that an AEF on call in the US is just as good as having the same assets already forward deployed, Looney said.

"We have not yet demonstrated" that AEFs can indeed respond to a "bolt out of the blue" request, he said, but he added that warning time is likely to be adequate in most cases for an AEF to make good on its promise.

Indeed, Jumper said, some "crises" are predictable.

"We traditionally know that Saddam is going to do something crazy about once a year, and it usually has something to do with a sanctions review," the General said, meaning that an AEF can be set up to respond to what may be the inevitable threatening gesture.

The AEF also need not be an all-shooter capability. Fogleman predicted that "there may be a situation where we're doing a humanitarian relief operation, where you would form an AEF out of mainly airlift. . . . The basic idea is that this is a 'tailorable' capability."

Jumper said he hopes that the AEF will be viewed by the other services as a cooperative, and not a competitive, initiative.

"If viewed in the correct light, this is not a threat to anybody," Jumper said. "This is a way to make better use of our resources. For us, the benefit is the ability eventually to reduce our optempo." ■

Staff photo by Guy Acello



Prospective bases for an AEF must have ready access to water and fuel, and prepositioned equipment, such as fuel bladders, helps to reduce the amount of equipment that AEFs must carry with them.

An Eaker Institute panel explores strategic options and consequences for “the aerospace nation.”

Airpower and the Other Forces

ACCORDING to retired Gen. Michael J. Dugan—who was Air Force Chief of Staff when Iraq invaded Kuwait in August 1990—“the airpower hero of the Gulf War” was Army Gen. H. Norman Schwarzkopf.

Had General Schwarzkopf, as joint force commander, followed traditional thinking, he might have relied primarily on a ground counterattack, supported by airpower and seapower, to roll back the invasion. Instead, he asked the Air Force to devise an air campaign option.

Then, for the first 38 days of combat—from January 17 to February 24, 1991—General Schwarzkopf held off the ground offensive and let airpower destroy Iraq’s command-and-control system, neutralize its air force, and render a high percentage of the enemy force militarily ineffective. The ground phase of the war took only four days, ending with the cease-fire on February 28.

The US and its coalition allies won the war with only a fraction of the casualties that had been predicted ahead of time. Schwarzkopf “had been exposed to what airmen said they could do, and he decided he’d give them a chance,” Dugan said. He trusted the people on his team, and they “made him the most famous military man since MacArthur.”

Dugan spoke during a “colloquy” on strategy, requirements, and forces put on March 7 at the National Press Club by the Eaker Institute. Newly formed, the Eaker Institute is the policy and research arm of the Air Force Association’s Aerospace Education Foundation.

Although he did not say so, the Gulf War also proved Dugan something of a prophet. In a bizarre turn of events on September 17, 1990, the Secretary of Defense relieved Dugan from his position for “demean[ing] the contributions of other services” in statements to news reporters. Dugan had predicted that the coming conflict would be carried principally by airpower.

Joining Dugan on the Eaker Institute panel were retired Col. John A. Warden, initial planner of the Gulf War air campaign and now a private consultant in Montgomery, Ala.; Dr. Philip Gold, director of the Aerospace 2010 project at the Discovery Institute in Seattle; and Gene Myers, senior civilian doctrine analyst at the Air Force Doctrine Center, Langley AFB, Va.

“The United States is, first and foremost, an aerospace power,” Dr. Gold said. “We are not a land power or a sea power as these terms have been traditionally understood. Other countries have certainly had very strong air forces to support land or sea forces. We are uniquely dependent on aerospace. We are uniquely competent at it. As a rule of thumb, if something can be done from the air, it probably should be done from the air.”

One Target, One Airplane

A major factor in bringing military airpower to the fore has been the stunning advancement in what it can achieve. The combination of stealth, precision, and information technology is widely seen as representing a “revolution in military affairs.”

In World War II, Warden said, “if we wanted to put one bomb in this room with 90 percent probability, we had to drop over 9,000 bombs from B-17s, which meant 1,000 airplanes, which meant putting 10,000 men over the target. In the Gulf War, if we wanted 90 percent probability of putting a bomb on that table, we’d send one F-117, one guy, and he drops one bomb.” When weighing the cost of modern airpower, he said, the measure must include the comparative cost of maintaining 1,000 B-17s and putting 10,000 lives at risk.

Since the Gulf War, the improvements have continued. For example, the Air Force has demonstrated that it can attack 16 targets with precision on a single sortie with the B-2 bomber.

“I find it difficult to think of things that can be achieved by regular forms of military power that can’t either be done by airpower of some sort, or at

least where airpower cannot make a significant, substantive contribution," Warden said.

Gene Myers pointed out that despite these changes and the evidence of the Gulf War, the emphasis in joint doctrine is still on surface warfare and that, to some, the decisive phase of war is still synonymous with the insertion of land forces. It is a struggle to break the tradition in which land forces are automatically regarded as the "supported" component and thus the center of attention in a joint operation. It may work out that way in some conflicts, but at other times, airpower may be the central and "supported" component with land forces taking a secondary role or acting in support of airpower.

In maneuver warfare, Dr. Gold said, "sometimes the main thrust will be air. Sometimes the main thrust will be ground. Sometimes it will be a combination. Sometimes you'll start a war and have to shift halfway through. You can't have that doctrinal rigidity as regards who supports whom anymore."

Recent developments, Myers said, deliver "the capability to fulfill a promise that the US Air Force has been making for a long time—to be decisive by going to the enemy's heartland." The concept of parallel warfare, in which the Air Force expects to engage up to 1,500 targets in the first hour of conflict, means "we can fight at the strategic, operational, and tactical levels simultaneously."

For those who wonder if airpower can be decisive on its own—the question never seems to be asked about the other components—Myers pointed to examples ranging from the Battle of Britain and the Berlin Air-lift to the Persian Gulf War.

The Difference in Perspective

"Overwhelming power is a means to an end, not an end in itself," Warden said. Often, we talk about "decisive force" when what we really mean is "decisive results."

Dugan agreed, noting that there can be a big difference between the target and the objective. From the perspective of the captain who flew the mission, the objective was to take out a bridge, whereas "the operational commander's objective was to delay, deny, destroy, or do something with men and materiel moving

in the vicinity." Achieving the tactical objective—destruction of the bridge—does not always achieve the operational objective.

Similarly, he said, "the perspective and the interest of the front-line ground commander are with the very first enemy soldier standing in line. [The perspective] is not with whatever is in reserve and it is not with whatever is in the strategic reserve and it is not with the supply system behind them. The perspective of the ground fighter is that you deal with the first one in line, then you deal with the second one. You fight from the front back."

The joint force commander, who is obliged to look at the overall theater and consider what things he would like to see happen or not happen, often has different perspective. In many instances, the joint force commander will find airpower the component with the best chance of meeting his needs. "The Air Force does bring some special capabilities," Dugan said. "They can fight from the back forward. The other forces can't."

Myers said the Air Force must go beyond stating its core competencies and decide what it is that distinguishes the Air Force from the aviation arms of the other services. The answer, he suggested, is one of perspective. The other services use airpower "in relation to their other environments, on land or at sea."

The Air Force, by contrast, is "the service that has strategic perspective—the world's only true global aerospace power." The Air Force can function "at the strategic and operational level of war, as compared to other services that operate primarily at the operational and tactical level of war."

Type B Wars

The panel agreed that sweeping changes lie ahead in the nature of warfare itself.

Dugan made a distinction between "Type A" wars—"the kind we know about, maybe with new technology"—and "Type B" wars, which may be so different we do not yet know what they look like.

"If I were a state-run entity that had interests and objectives inimical to the United States, I would not take you head-on in this day or in this decade," he said. "It doesn't mean I

would give up my objectives. But I would not do it in a straightforward manner. I would pursue an indirect strategy."

In the years ahead, "high technology is going to favor the weak," such as computer hackers and others operating around the edges of power, Dr. Gold said. Technology tends to become commercially available, and all comers can acquire it. "It costs a whole lot less to buy it or steal it than it does to develop it."

A measure or a countermeasure, cheaply acquired, may be sufficient to defeat—for the user's purposes anyway—elaborate systems that cost far more. "We may be witnessing, in terms of high technologies, something equivalent to the shift from the aristocratic knight to the democratic cannonball or the democratic bullet," Dr. Gold said.

With technology that is four orders of magnitude better than what we had before, we should look beyond "marginal extrapolations" and find "entirely new concepts of operation," Warden said. For example, the term "battle" may lose much of its meaning if we take "a top-down perspective and figure out ways to use that technology so we don't have to have battles, so perhaps we don't even have to have a person flying over a target, let alone a fellow on the ground with a bayonet."

In the Halls of Jointness

Meanwhile, not every theater commander and joint service official is as open to the relative value of airpower as Norman Schwarzkopf was in 1990.

Subsequent to the Persian Gulf War, Dugan told the Eaker Institute panel, a display was set up in the Pentagon, between the Joint Staff area and the office of the Chairman of the Joint Chiefs, to commemorate the nation's victory in Desert Storm.

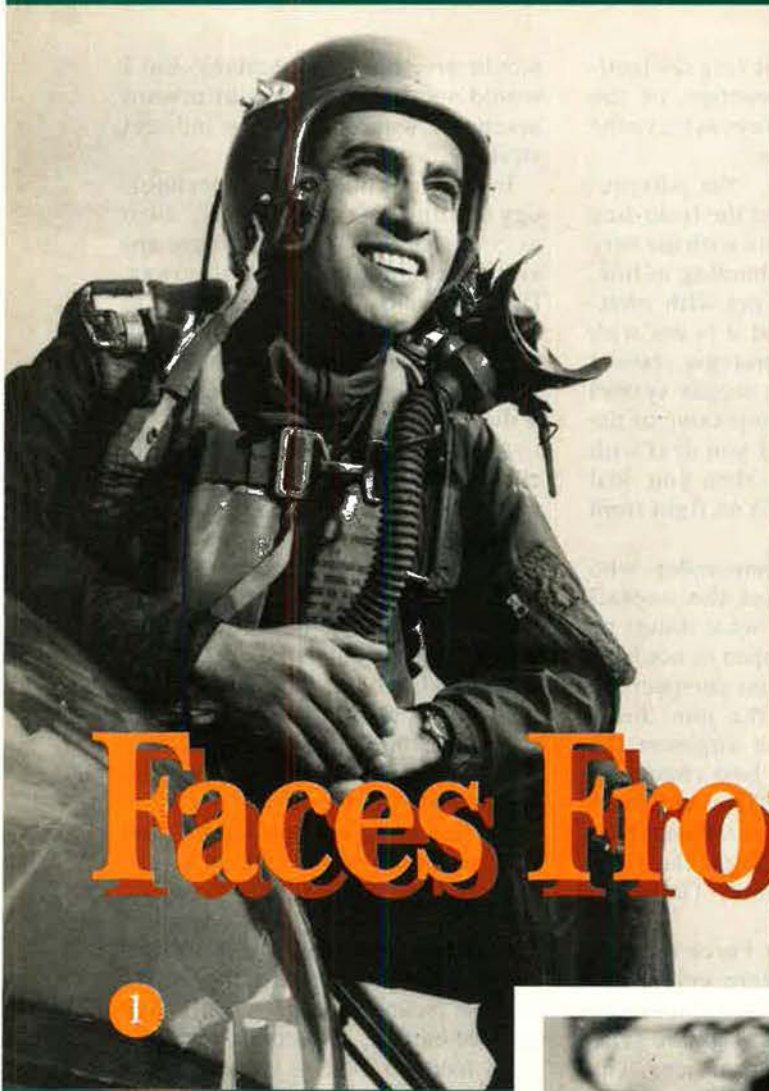
The illustration chosen to symbolize that victory, however, was of "Desert Sword," the four-day land operation, rather than the air campaign that had destroyed Iraqi's military infrastructure and left its armed forces reeling and unable to put up much of a fight.

It was a most interesting example, Dugan said, "of how joint force participation is recorded and remembered."

—John T. Correll

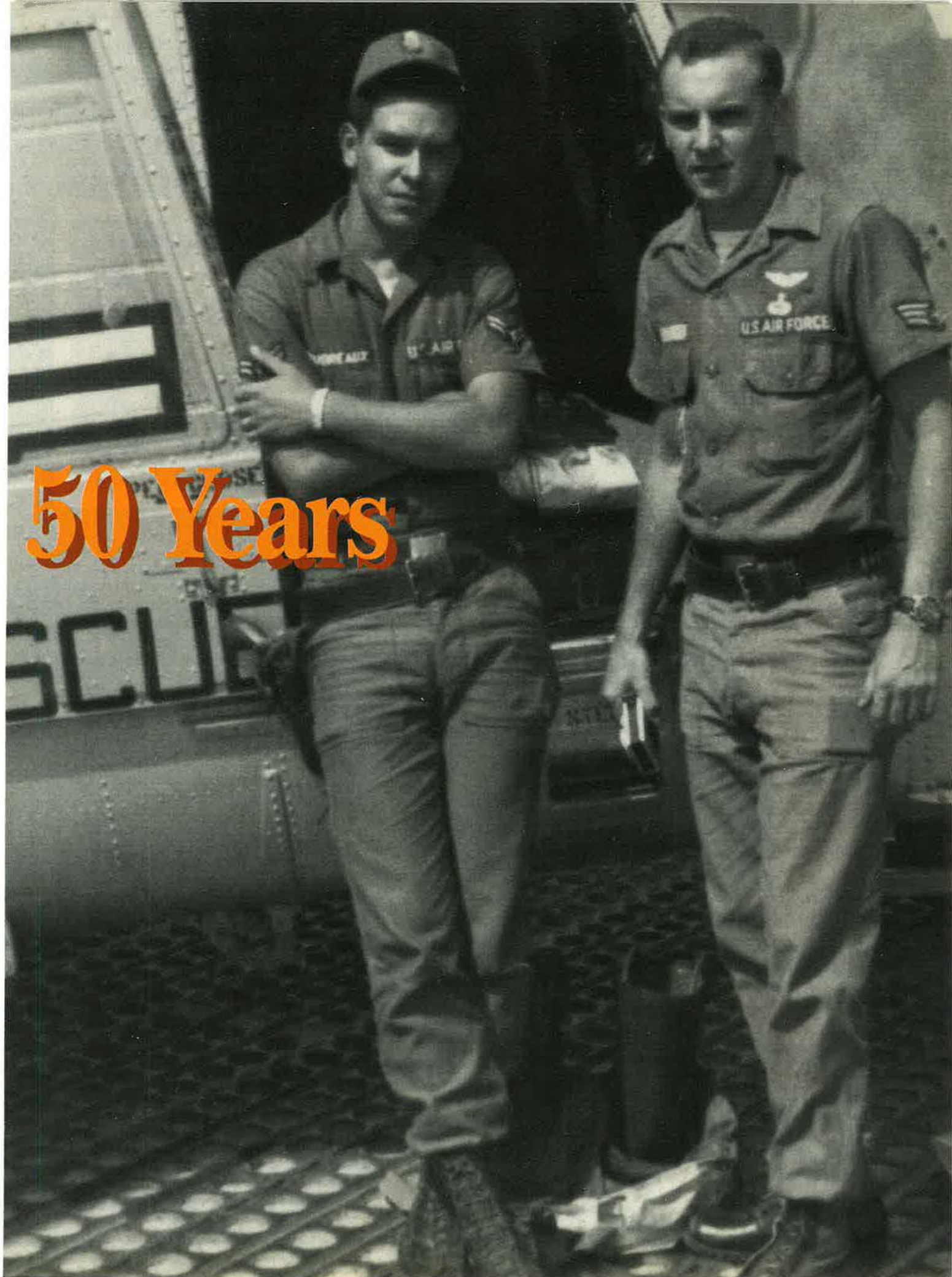
A lot of interesting people have been part of the Air Force during its first 50 years. Here are some of them.

Faces From the First



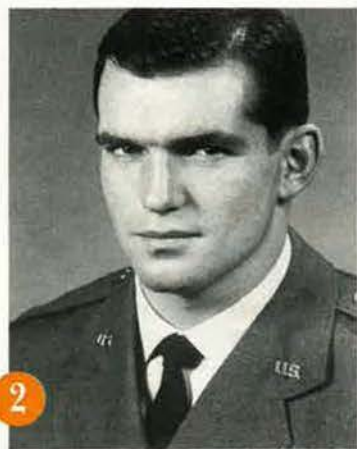
- 1 Capt. James Jabara became the world's first jet ace on May 20, 1951, shooting down his fifth and sixth North Korean MiGs.
- 2 Lt. Gen. Benjamin O. Davis, Jr., the first black general officer in the Air Force (and son of the first black general officer in the Army).
- 3 A1C William H. Pitsenbarger, first enlisted man to be awarded the Air Force Cross (posthumously). Here, Pitsenbarger (right) poses in Vietnam in 1966 with a fellow pararescueman, A2C Roy A. Boudreaux.





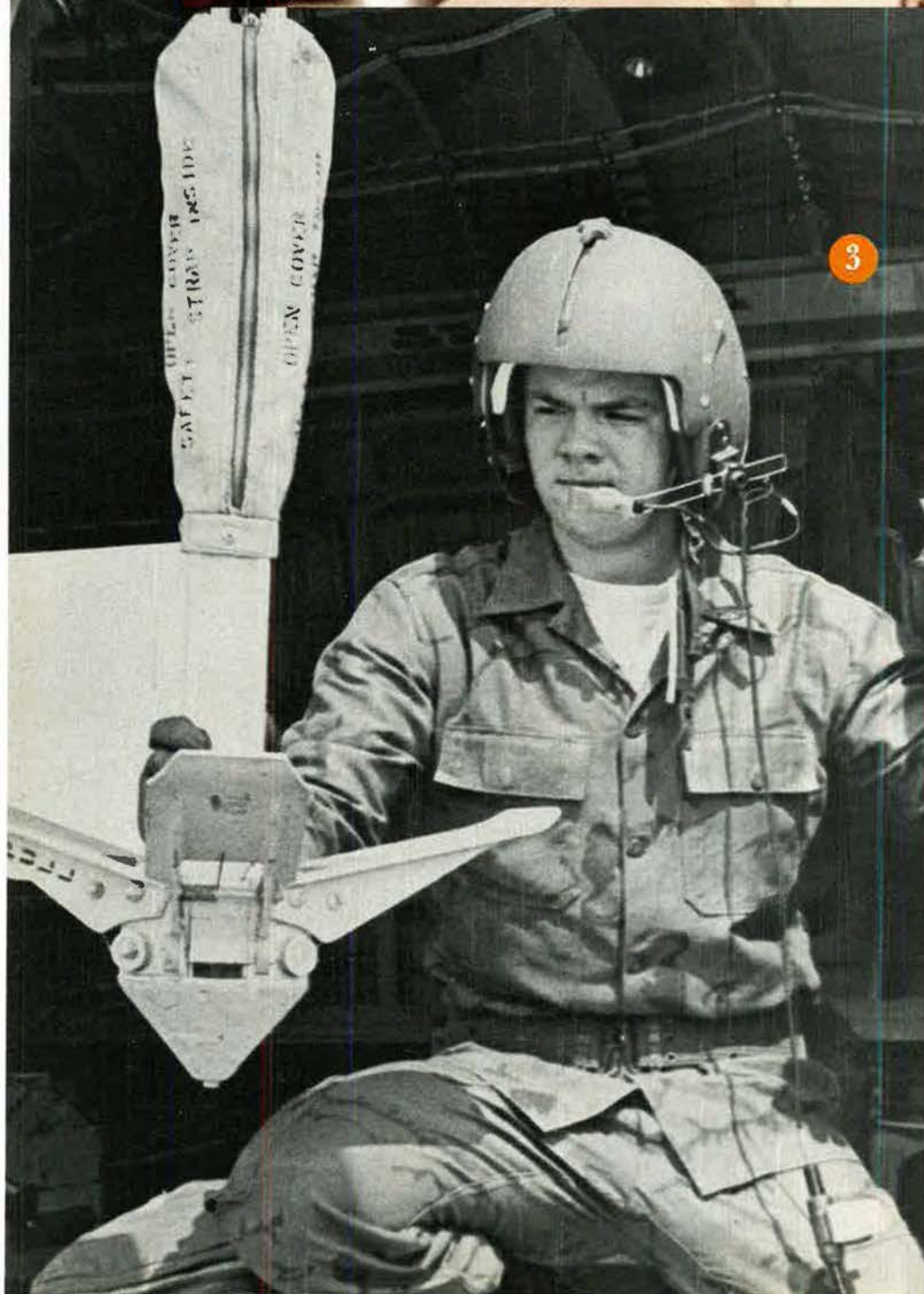
50 Years

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- 1 Lt. Gen. Charles A. Horner, air boss of the Persian Gulf War, whose leadership was instrumental in the stunning coalition victory.
- 2 Capt. Lance P. Sijan, who received the Medal of Honor (posthumously) for valor in Vietnam. Under severe torture, he refused to tell his North Vietnamese captors what they wanted to know.
- 3 Sgt. Duane D. Hackney received the Air Force Cross for bravery in the rescue of an Air Force pilot in Vietnam. He was the first living enlisted man to receive the award.
- 4 Lt. Gail S. Halvorsen, the "candy bomber," dropped candy and chewing gum by handkerchief parachutes to German children during the Berlin Airlift.
- 5 Col. Robin Olds, leader of the "MiG Sweep" and the first USAF ace with victories in both World War II and Vietnam.
- 6 CMSgt. Daisy L. Jackson is primarily a manager now, but is best known as one of the most popular vocalists ever to star with the Air Force Band.

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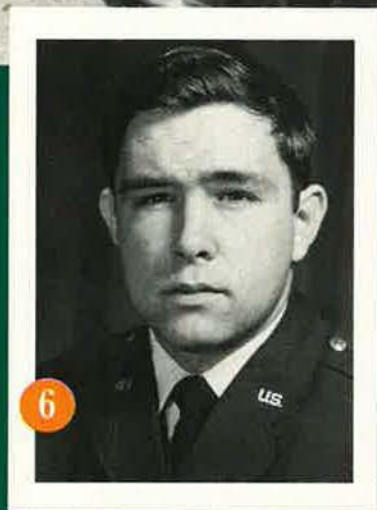
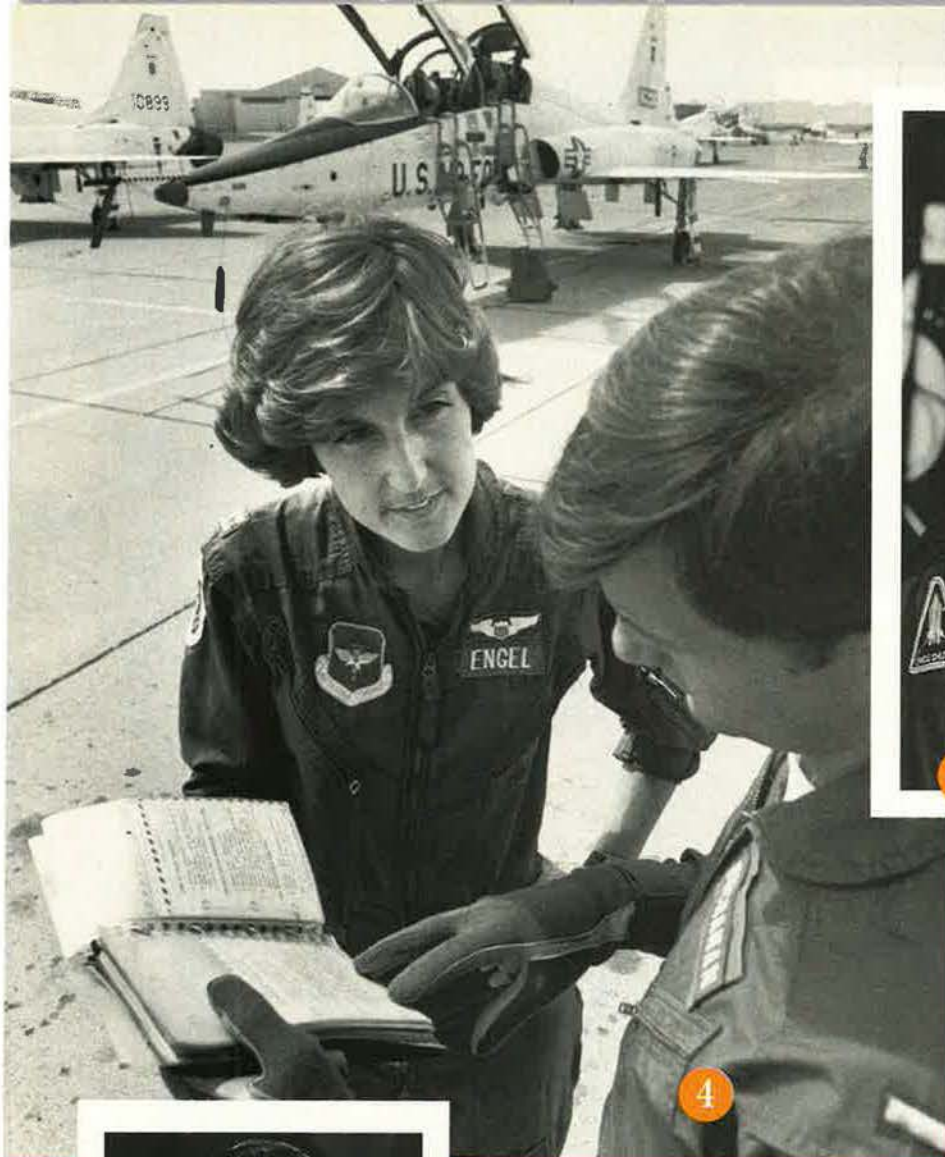


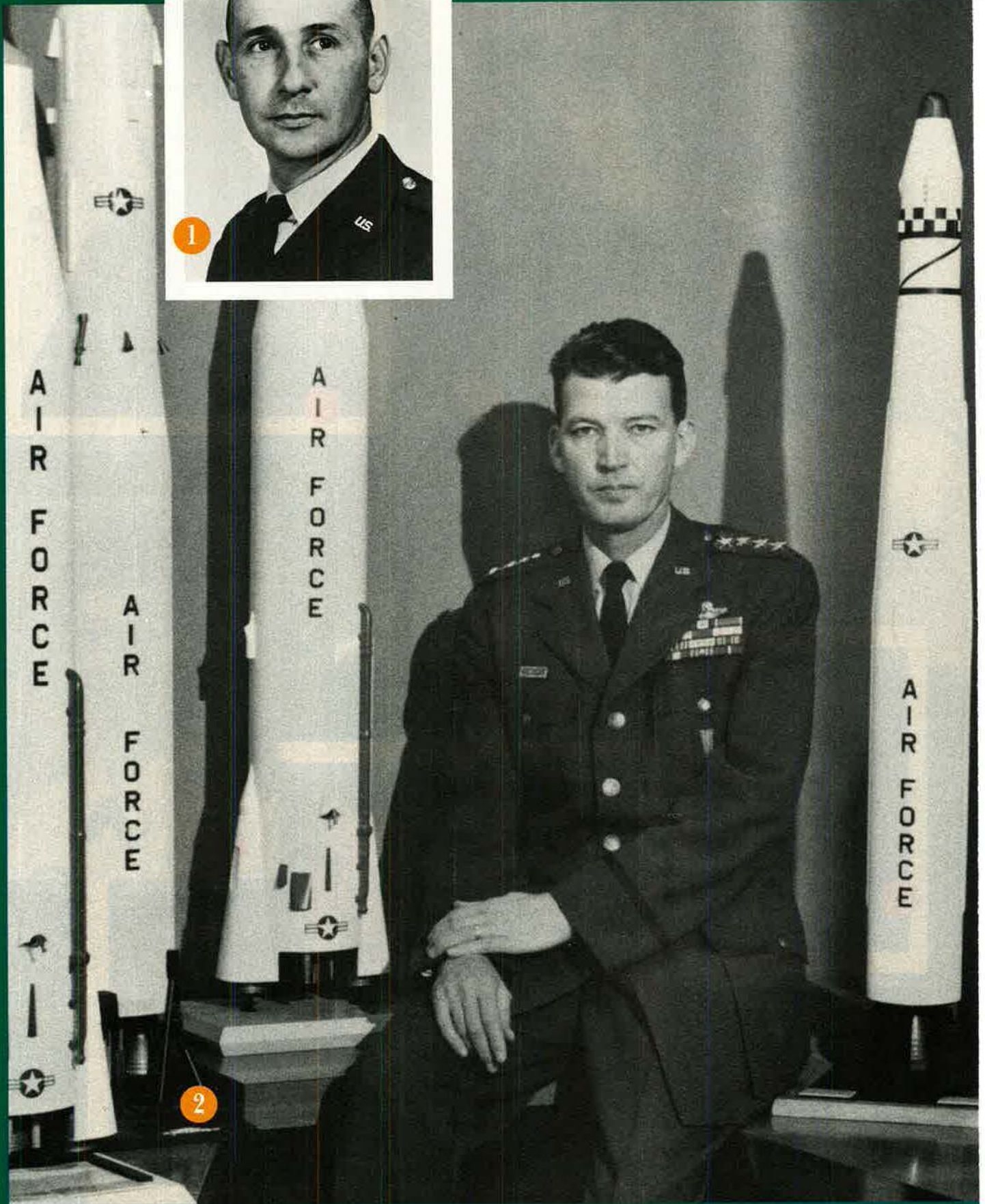
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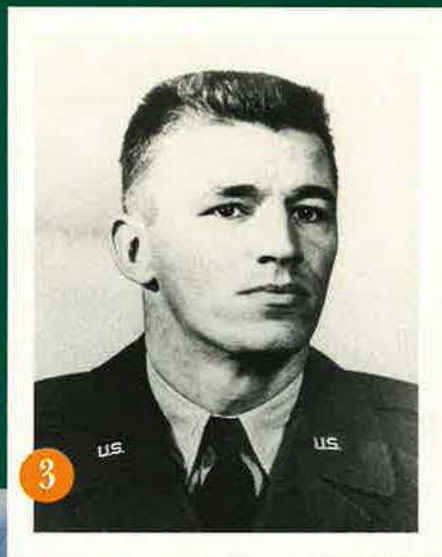




- 1 Gen. Jerome F. O'Malley, charismatic commander of Tactical Air Command—and almost universally seen as headed for greater things—when he was killed in a CT-39 crash in 1985.
- 2 Capt. Virgil I. Grissom, first USAF astronaut into space. He attained an altitude of 118 miles on the second Mercury mission in 1961. He was killed in a flash fire that destroyed the Apollo 1 command module during a ground test in 1967.
- 3 Maj. George A. Davis, Jr., received the Medal of Honor (posthumously) for valor in Korea. He repeatedly attacked a large formation of MiG-15s to protect US aircraft operating deep in enemy territory.
- 4 Capt. Connie J. Engel, one of the first women (in 1976) to graduate from USAF pilot training and the first female instructor pilot in the Air Force.
- 5 Col. Guion S. Bluford, Jr., F-4 combat pilot in Vietnam and the first black American astronaut in space.
- 6 Capt. Steven L. Bennett, received the Medal of Honor (posthumously) for valor in Vietnam. To save his back-seater, he crash-landed his OV-10 in the sea, knowing his own chances of surviving were nil.
- 7 Lt. Regina Aune, flight nurse, received the Cheney Award in 1975 for valor in rescuing children from the crash of a C-5 at Saigon during Operation Babylift.
- 8 TSgt. Timothy A. Wilkinson, pararescueman, awarded the Air Force Cross for bravery in rescuing, under fire, Army Rangers shot down in Mogadishu, Somalia, in 1993.







1 Capt. Hilliard A. Wilbanks received the Medal of Honor (posthumously) for valor in Vietnam. At mortal risk to himself, he diverted enemy fire with his unarmed aircraft, allowing a South Vietnamese Army Ranger force to escape.

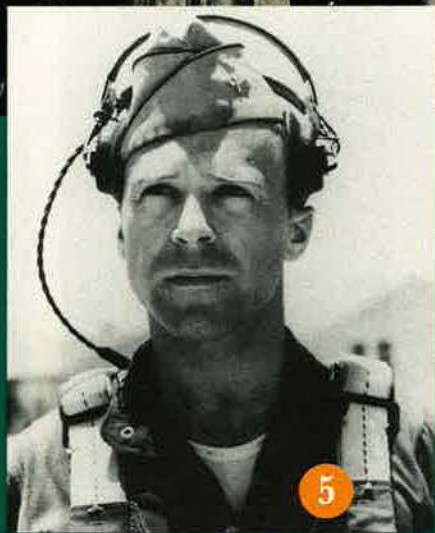
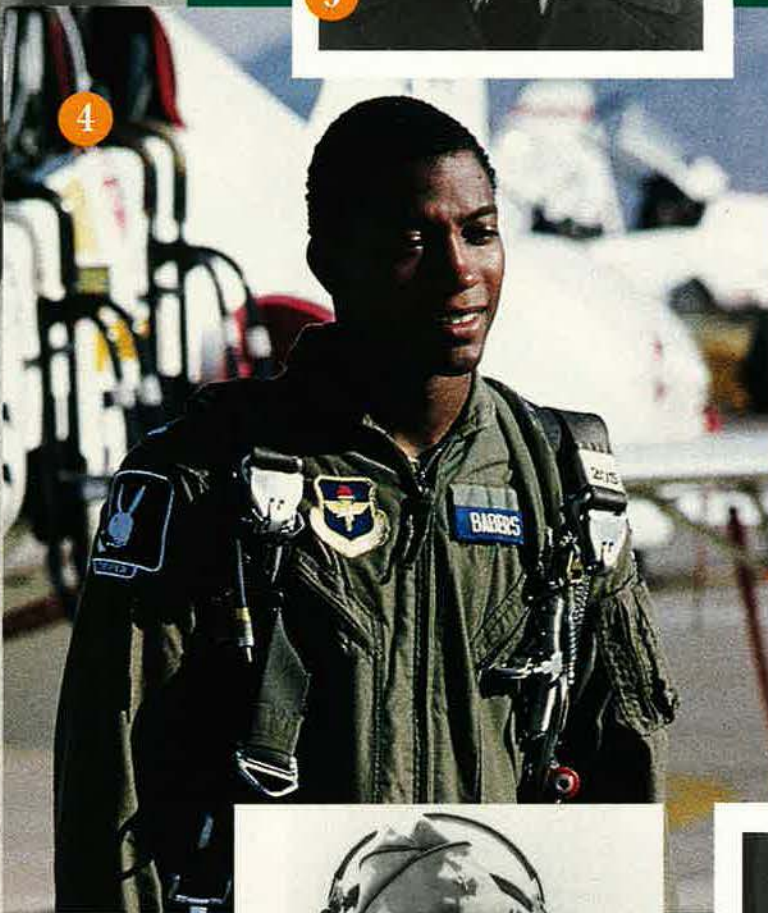
2 Gen. Bernard A. Schriever, the architect and driving force behind the US ballistic missile program from primitive beginnings to Minuteman.

3 Maj. Charles J. Loring, Jr., received the Medal of Honor (posthumously) for valor in Korea. He dived his F-80 aircraft directly into the midst of enemy gun emplacements to protect UN ground forces.

4 Capt. Alonzo Babers, Air Force pilot and Olympic gold medalist (400 meters and 1,600-meter relay), at the Los Angeles Olympics in 1984.

5 Maj. Louis J. Sebill received the Medal of Honor (posthumously) for valor in Korea. Despite battle damage to his F-51 fighter, he continued the attack on the enemy, ultimately diving into a North Korean gun battery.

6 Maj. Merlyn H. Dethlefsen received the Medal of Honor for valor in Vietnam. He flew repeatedly into the teeth of SAMs, AAA, and MiG interceptors to suppress enemy fire on a US strike force.





GLAMOROUS GLENNIS



- 1 Lt. Col. John Paul Stapp, flight surgeon, rode rocket sleds at awesome speeds to learn if safe ejection was possible in supersonic flight.
- 2 Capt. Charles E. "Chuck" Yeager. First man to fly faster than the speed of sound, October 14, 1947, in the Bell X-1.
- 3 Lt. Col. Joe M. Jackson received the Medal of Honor for valor in Vietnam. He landed his C-123 amid intense enemy fire to rescue an Air Force Combat Control Team.
- 4 Virginia N. Foster. In her fifty-second year of federal service, now with the USAF Legislative Liaison, earning her an AFA Presidential Citation.
- 5 Sam Johnson, fighter pilot, Air Force Thunderbird, POW in Vietnam, and now a member of Congress from Texas.
- 6 Nemo, the hero USAF sentry dog from Vietnam. On patrol at Tan Son Nhut in 1966, he detected four Viet Cong infiltrators who opened fire and hit both Nemo and his handler. Despite a head wound, the powerful German shepherd charged and killed two of the intruders.



1 Paul W. Airey became the first Chief Master Sergeant of the Air Force on April 3, 1967. He traveled more than 500,000 miles in the job.



2 Jeanne M. Holm was the Air Force's first female general officer. She put on the stars of a brigadier general on July 16, 1971.

3 1st Lt. James P. Fleming received the Medal of Honor for valor in Vietnam. Low on fuel and under fire, he put his UH-1F helicopter in an exposed position to rescue a Special Forces patrol.

4 Capt. John S. Walmsley, Jr., received the Medal of Honor (posthumously) for valor in Korea. He attacked a critical enemy supply train until his ammunition ran out, then exposed his B-26 to deadly fire to guide other aircraft onto the target.

5 Capt. Maxine J. "Micki" King, Air Force Special Services officer, won a gold medal in the three-meter springboard diving competition at the Munich Olympics in 1972.

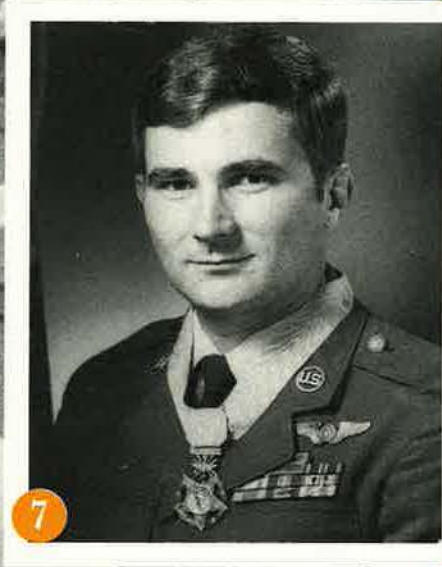
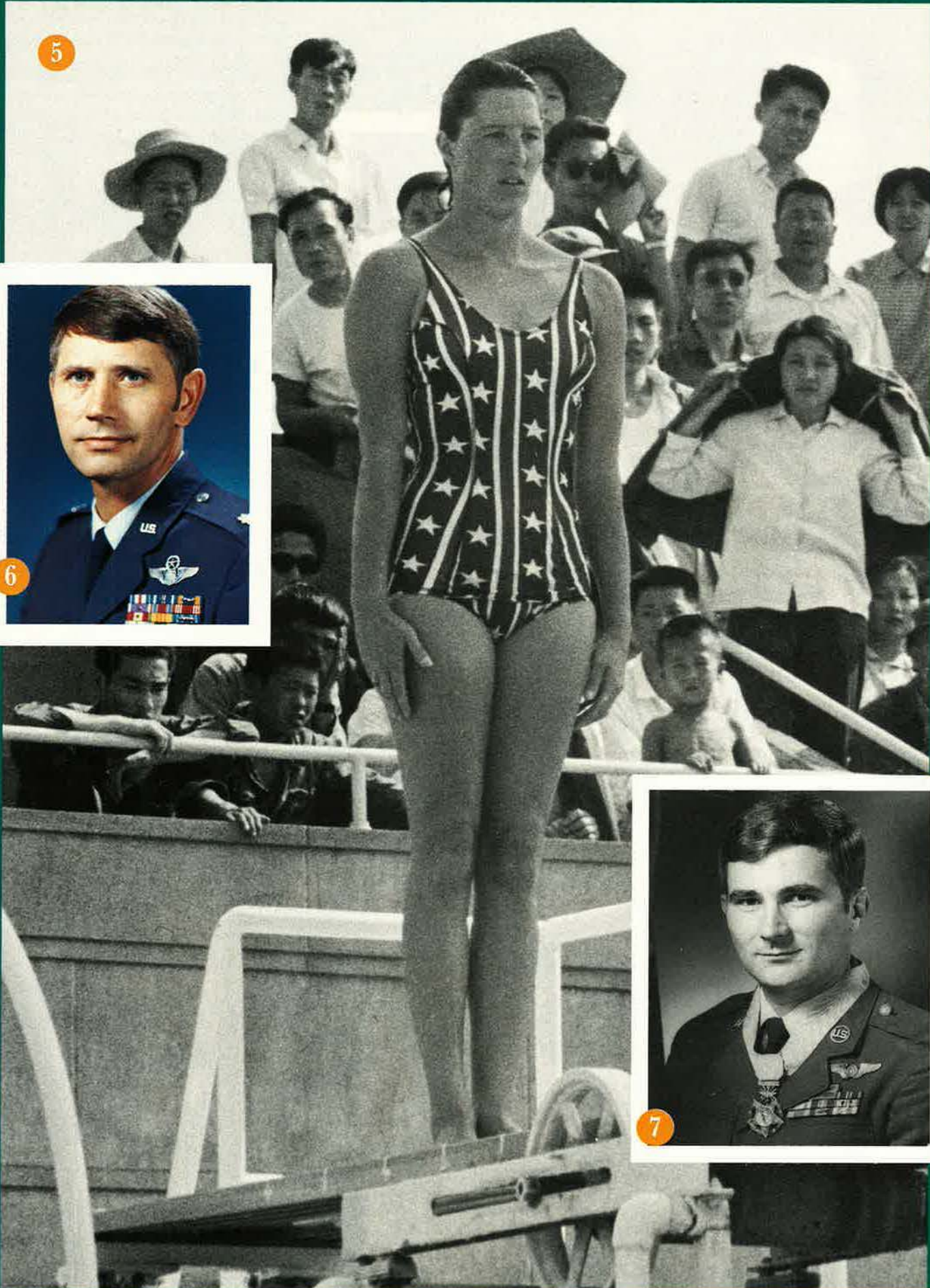
6 Lt. Col. Leo K. Thorsness received the Medal of Honor for valor in Vietnam. On a single mission, he destroyed two SAM sites, shot down a MiG-17, scattered another MiG formation, and lingered in the area on low fuel to cover downed aircrews and rescue forces.



7 A1C John L. Levitow, loadmaster of an AC-47 gunship and the only USAF enlisted man to receive the Medal of Honor in the Vietnam War.



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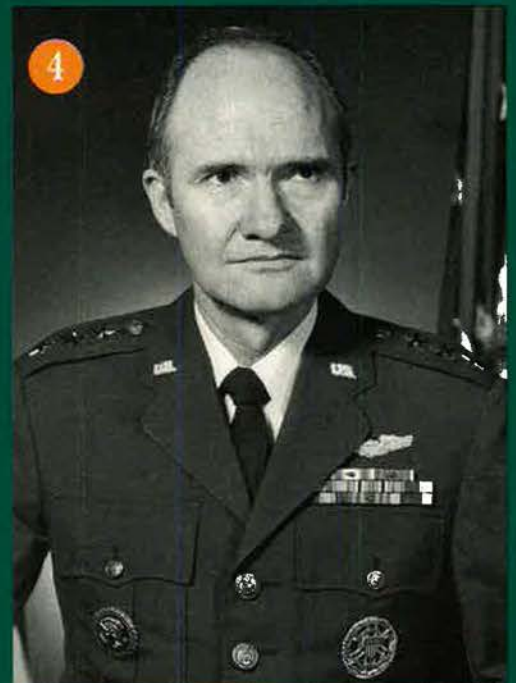


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- 1 Gen. Daniel "Chappie" James, Jr., first black officer to achieve four-star rank. He was a combat leader in Southeast Asia.
- 2 Terrie Ann McLaughlin, the first woman (in 1986) to be named the Air Force Academy's outstanding cadet.
- 3 Capt. Joseph C. McConnell, Jr., leading USAF jet ace of the Korean War with 16 victories.
- 4 Lt. Gen. Brent Scowcroft was an Air Force pilot and acting head of the US Air Force Academy's Political Science Department before achieving fame as deputy to Henry Kissinger and then National Security Advisor in the Ford and Bush Administrations.
- 5 CMSgt. Dick Red, who logged 40 years of service, was mobilized along with his Air National Guard unit for three wars. AFA's ANG Aerospace Maintenance Award is named for him.
- 6 Gen. Curtis E. LeMay, legendary commander of Strategic Air Command (from 1948 to 1957) and probably the most famous airman of the postwar period.
- 7 Robinson Risner, Korean War fighter ace and leader among the American POWs in Vietnam. He spent seven and a half years in Hanoi's prisons.
- 8 Capt. Richard S. "Steve" Ritchie (right) became USAF's first Vietnam ace on August 28, 1972. All five of his victories were against MiG-21s. Capt. Charles B. DeBellevue (left), F-4 weapon systems officer and top US Vietnam War ace. His six victories came between May and September 1972.



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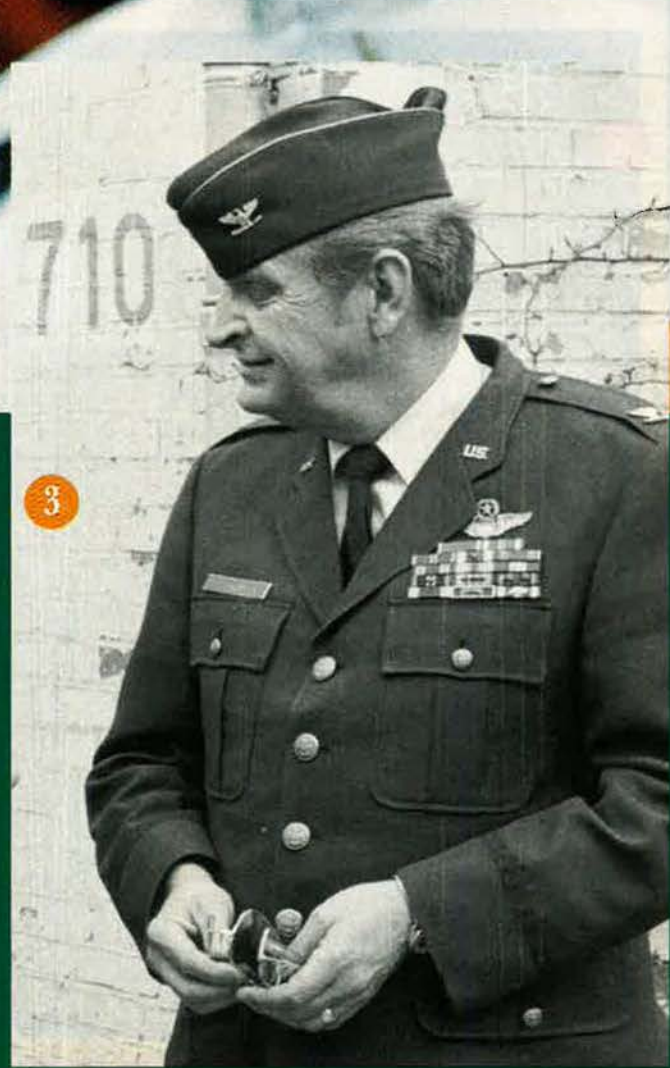




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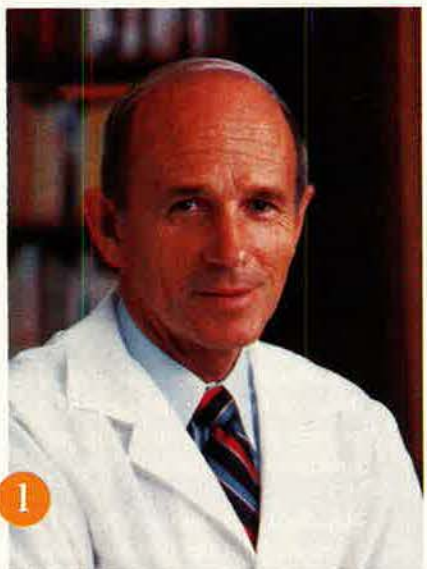
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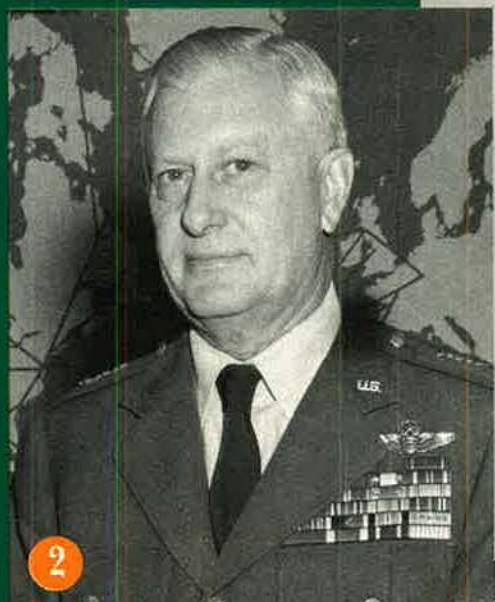


- 1 Marcelite Jordan Harris, first female aircraft maintenance officer, first black woman to achieve star rank in USAF, eventually retired as a major general.
- 2 Col. William A. Jones III, received the Medal of Honor for valor in Vietnam. Unable to transmit by radio, he flew his crippled and burning A-1H back to base to report information critical to the rescue of a downed pilot.
- 3 Col. Richard Moody Suter created and designed Red Flag, the Air Force's premier fighter training program, conducted at Nellis AFB, Nev.
- 4 Maj. Bernard F. Fisher (left), A-1E Skyraider pilot and first Air Force officer awarded the Medal of Honor in the Vietnam War. He landed his A-1E amid fire and explosions on the airstrip at A Shau to bring out a fellow pilot.
- 5 Capt. Gerald O. Young received the Medal of Honor for valor in Vietnam. Disregarding serious burns and personal risk after his helicopter was shot down, he warned rescue forces of entrapment by enemy fire and refused rescue himself until the approach was safe.
- 6 Col. John A. Warden III, initial planner of the air campaign for the Persian Gulf War, based on concepts stated in his 1989 book, *The Air Campaign*.





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- 1 Lt. Col. Kenneth H. Cooper was an Air Force flight surgeon when his 1968 book, *Aerobics*, started a revolution in physical fitness.
- 2 Gen. William H. Tunner, commander of the Berlin Airlift.
- 3 Col. Francis S. "Gabby" Gabreski, whose 28 victories in World War II, combined with 6.5 during the Korean War, make him USAF's leading living ace.
- 4 Col. George E. Day received the Medal of Honor for valor in Vietnam. After escaping from the enemy, he gave his captors false information and demonstrated personal bravery in the face of enemy pressure. ■



4

Tiny Broadwick



Smithsonian Institution

Née Georgia Ann Thompson, the diminutive Tiny Broadwick traveled with a carnival in the early 1900s as a daredevil. Billed as "The Doll Girl," dressed in a skirt and ruffled bloomers, she jumped out of hot air balloons and descended by parachute. On June 21, 1913, during Glenn L. Martin's parachute experiments, Broadwick became the first American woman to

make a jump from an airplane (above). On September 13, 1914, she performed the first parachute demonstration for the US Army—and possibly the first free-fall jump when she cut a tangled static line that day. When asked if she ever had a reserve chute, she said, "Oh, yes, I always had a reserve chute in the hangar in case the one I was using got wet or torn."

This health-care option—old CHAMPUS with some refinements—may be the only one open to those living in some areas.

A Standard for Tricare

By Suzann Chapman, Associate Editor

TRICARE Standard is simply CHAMPUS by another name. Even so, some complain that implementation of the Defense Department's regional managed-care contracts has led to serious problems with the program. They say that physicians who once accepted CHAMPUS decline to accept Tricare Standard. They maintain that the claims process has become more convoluted and, in some cases, much more restrictive.

In Fiscal 1994, Congress instructed the Pentagon to combine the health programs of the three services and come up with a new, nationwide program modeled on health maintenance organization (HMO) plans. The program would have to provide health care at no greater cost to the government and with reduced out-of-pocket costs to beneficiaries who enrolled.

Enter Tricare with its package of three health-care options. Tricare Prime is the option, similar to HMOs, in which beneficiaries must enroll and use network providers, whether military or civilian. Tricare Extra is similar to a preferred-provider organization, in that it offers somewhat reduced cost for beneficiaries who use providers within the Tricare

Prime network. Tricare Standard is CHAMPUS (Civilian Health and Medical Program of the Uniformed Services) and provides the most freedom but costs the beneficiary and the government more.

CHAMPUS marked its thirtieth anniversary last year. Congress created the DoD-administered, insurance-like program in 1966 to handle the needs of a growing population of dependents and retirees and their family members, who could not get medical care in a military treatment facility (MTF).

In Fiscal 1967, the CHAMPUS budget was \$106 million. CHAMPUS officials estimate that probably no more than a few thousand claims were made that first year. In Fiscal 1997, the budget is \$3.6 billion. The program received about 22 million claims in Fiscal 1996.

Essentially, Tricare/CHAMPUS operates as a fee for service health-insurance plan, paying a percentage of medical costs after taking a deductible. It does not require premiums, but beneficiaries do share the cost. It also does not cover all health care. As a result, most beneficiaries obtain supplemental insurance.

Several recent changes to procedures

for Tricare/CHAMPUS probably have heightened confusion and problems.

Changing the Rules

A recent, critical change for the Tricare/CHAMPUS program has been the gradual institution of Medicare reimbursement levels. In some cases, Tricare/CHAMPUS payment levels were higher than those established for Medicare. However, that changed for the most part in 1993 with the implementation of the same billing limitation used by Medicare.

According to Pentagon health officials, DoD is making progress in

bringing Tricare/CHAMPUS reimbursement rates in line with the Medicare level. However, current Tricare/CHAMPUS rates are less than Medicare for 61 out of 7,000 reimbursable services. Officials state that the Pentagon needs legislative assistance and a rule change to move those rates up so that they are equivalent to the Medicare rate levels.

By law, since November 1, 1993, providers who do not participate in Tricare/CHAMPUS are prohibited from billing more than 15 percent above the CHAMPUS maximum allowable charge. For instance, if the CMAC for

a procedure is \$100, then the nonparticipating provider may charge no more than \$115. Providers who do participate in Tricare/CHAMPUS are those who have agreed to accept the CMAC as their full fee for services.

Military health-care beneficiaries who opt to see a nonparticipating provider, who will not comply with the 115 percent rule, have two choices. They can pay the additional amount, as well as the copayment. Or, they can mail a written complaint to the Tricare/CHAMPUS claims processor, who will send a letter to the provider stating the law and asking for a refund.

Tricare Contacts and Contract Status

First stop for questions about military health-care benefits is the health-benefits advisor at the nearest military treatment facility or the Tricare Service Center at or near the MTF. You may also call the following numbers within each region to ask general questions or find a number for the nearest TSC.

Region	States	Lead Agent	Contractor	Start Date
1 (202)782-1486	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, northern Virginia	Rotates annually among Walter Reed Army Medical Center, National Naval Medical Center, and Malcolm Grow Medical Center in the Washington, D. C., metropolitan area	Pending	December 1997
2 (800) 990-8272	North Carolina, southern Virginia	Navy Medical Center Portsmouth, Portsmouth, Va.	Pending	February 1998
3 (800) 444-5445	Florida (excluding panhandle), Georgia, South Carolina	Dwight David Eisenhower Army Medical Center, Fort Gordon, Ga.	Humana Military Healthcare Services	July 1996
4 (800) 444-5445	Alabama, Mississippi, Tennessee, Florida panhandle, eastern Louisiana	Keesler Air Force Medical Center, Keesler AFB, Miss.	Humana Military Healthcare Services	July 1996
5 (937) 255-9690	Indiana, Illinois, Kentucky, Michigan, Ohio, West Virginia, Wisconsin	Wright-Patterson Air Force Medical Center, Wright-Patterson AFB, Ohio	Pending	February 1998
6 (800) 406-2832	Arkansas, Oklahoma, Texas (except extreme western area), most of Louisiana	Wilford Hall Air Force Medical Center, Lackland AFB, Tex.	Foundation Health Federal Services, Inc.	November 1995
7 (888) 874-9378	Arizona, New Mexico, Nevada, extreme western Texas	William Beaumont Army Medical Center, Fort Bliss, Tex.	TriWest Healthcare Alliance, Inc.	April 1997
8 (888) 874-9378	Colorado, southern Idaho, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming	Evans US Army Community Hospital, Fort Carson, Colo.	TriWest Healthcare Alliance, Inc.	April 1997
9 (800) 242-6788	Southern California	San Diego Naval Medical Center, San Diego, Calif.	Foundation Health Federal Services, Inc.	April 1996
10 (800) 242-6788	Northern California	David Grant Air Force Medical Center, Travis AFB, Calif.	Foundation Health Federal Services, Inc.	April 1996
11 (800) 404-0110	Washington, Oregon, northern Idaho	Madigan Army Medical Center, Fort Lewis, Wash.	Foundation Health Federal Services, Inc.	March 1995
12 (800) 242-6788	Hawaii	Tripler Army Medical Center, Honolulu, Hawaii	Foundation Health Federal Services, Inc.	April 1996

The second course would probably lead to the removal of the provider from the list of authorized Tricare/CHAMPUS providers, as well as from the Medicare list. In which case, Tricare/CHAMPUS will not pay any portion of bills from that provider.

There is an exception, however. If the CMAC rates are so low in a given area that providers refuse to participate, DoD can increase the rate for that area. But that would be an unusual exception, since in most areas a number of providers are usually willing to accept CMAC rates.

Another fundamental change also caused some consternation for both providers and beneficiaries. Beginning October 1, 1996, federal law required all institutional or individual providers, except pharmacies, to file claims on behalf of Tricare/CHAMPUS patients.

Previously, only participating providers routinely filed claims for their Tricare/CHAMPUS patients. Since last October, it no longer matters whether or not the provider chooses to participate in the Tricare/CHAMPUS program.

The law prohibits patients from filing the claims themselves, unless they request and receive a waiver from the appropriate regional Tricare contractor. What's more, the contractors will grant waivers only if they decide that the patients would have reduced access to needed medical care unless they receive care from that provider. In other words, there must be a shortage of providers in that location for a particular service. The beneficiaries must submit the waiver with each claim.

Without a waiver, if a provider refuses to file on behalf of the patient or charges an administrative filing fee, the CMAC will be reduced by 10 percent. The provider may not pass this charge on to the patients. Additionally, repeated failures to file claims for patients may lead to removal of the provider from the list of those authorized to provide care to Tricare/CHAMPUS beneficiaries. At that point, the government will not pay any portion of the bill.

There is an exception to this claims filing law. If a beneficiary has other health insurance that provides primary coverage—that is, it pays before Tricare/CHAMPUS—then the beneficiary may file the claim. They do not

need a waiver but must show what the other insurance company paid.

Tricare/CHAMPUS officials maintain that although some providers have raised concerns, especially about the new pricing levels, most have accepted the recent changes. According to the Pentagon, providers across the nation accept the new payment levels on 86 percent of Tricare/CHAMPUS services, about the same as five years ago.

Officials also state that participation by civilian providers is highest where Tricare has been implemented and where military presence is great. For example, in California and Hawaii, where military managed-care demonstration programs were established in 1988, provider participation in Tricare Standard/CHAMPUS is at 94 percent and 98 percent, respectively. Other states with large military beneficiary populations also show higher provider participation—Florida at 91 percent, Texas at 88 percent, and Virginia at 92 percent.

On the other hand, states with a smaller military presence have lower provider participation—Connecticut at 64 percent, Minnesota at 63 percent, Iowa at 62 percent, Vermont at 60 percent, and Idaho at 55 percent.

Those Pesky NASs

The Defense Department also instituted two rule changes on September 23, 1996, regarding the infamous nonavailability statement (NAS).

First, the easy part. Those beneficiaries who are not enrolled in Tricare

Prime and who are using Tricare Extra or Standard do not need an NAS for outpatient care from civilian providers. They will need an NAS for non-emergency inpatient care from a civilian provider if the beneficiary lives within the MTF catchment area, that is, within the ZIP code service area.

Second, the hard part. Although an NAS is not required, the civilian provider must have certain procedures (currently the list includes 17, ranging from cataract removal to tonsillectomy) approved ahead of time by the regional Tricare contractor. Whether or not they participate in Tricare/CHAMPUS, providers must ask for pre-authorization by letter or phone. The beneficiary may check with the regional health-care finder to ensure the procedure will be covered if the provider does not, or will not, make the request.

If the procedure is not pre-approved, it may not be covered, or the government could reduce the amount it pays to the provider by 10 percent. And, since the list of 17 may change over time, there is no guarantee that Tricare/CHAMPUS will honor a second claim just because it covered a procedure once.

Some beneficiaries feel that these kinds of changes and the implementation of Tricare nationwide may have prompted providers who once accepted CHAMPUS payments to refrain from doing so now. However, individual providers have always had the option to participate in CHAMPUS on a case-by-case basis.

Tricare/CHAMPUS Claims Processors

The contractors who currently process claims for Tricare/CHAMPUS are the same four who handled claims processing before the start of Tricare. In two cases, the names have changed, and some areas of coverage have shifted. As of July 1996, they are:

- Foundation Health Federal Services, Inc., which processes claims for part of Idaho, Oregon, and Washington. It is also the current Tricare contractor for Regions 6, 9, 10, 11, and 12.
- Palmetto Government Benefits Administrators, known as Palmetto GBA, which handled CHAMPUS claims processing as Blue Cross/Blue Shield of South Carolina until 1994. It now covers Alabama, Alaska, Arizona, California, Colorado, District of Columbia, Florida, Georgia, Hawaii, Idaho (excluding Benewah, Bonner, Boundary, Kootenai, Latah, and Shoshone counties), Iowa, Kentucky (excluding the Fort Campbell area), Louisiana (New Orleans area), Maryland, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Ohio, South Carolina, South Dakota, Tennessee, Utah, Virginia, West Virginia, Wisconsin, and Wyoming.
- Unisys Corp.—Health Information Management Service Center, or Unisys for short, formerly AdminStar Defense Services, Inc., and before that Uniformed Services Benefit Plans, Inc. Unisys covers Connecticut, Delaware, Illinois, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
- Wisconsin Physicians Service, which processes claims for Arkansas, Kansas, Kentucky (Fort Campbell area), Missouri, Oklahoma, and Texas.

Painful Process

Many beneficiaries are unhappy with the new state of military health care, and defense officials agree that there are no easy answers. They emphasize that it's a tough process to move from what had been essentially an open medical system to a highly structured managed-care arrangement.

In testimony before Congress last March, the senior noncommissioned officers from each service stated that there were problems with the new health-care system and stressed the importance of the health-care benefit to recruiting and retention in the future. However, all of them felt that, given time, the Tricare program will succeed.

CMSAF Eric W. Benken, USAF's top enlisted man, said that he heard good reviews at Fairchild AFB, Wash., which is in the first region to implement Tricare. At other locations, such as in the Texas-Oklahoma area, "it's been a little bit tougher, a little bumpier, although it's getting better," he said. "It's going to have fits and starts—you know, it's not a small process to undertake."

Dr. Stephen C. Joseph, who recently retired as the Pentagon's top health official, told a Congressional committee in March that the shift of military medicine in a few years from three cottage industries into a corporate endeavor has been an evolutionary process that has some problems inherent in it, "But [we're] convinced we're on the right road of balancing the triangle of access, quality, and cost-containment—but it is not without pain and it's not without difficulties."

Some of those difficulties arise from the varying desires of beneficiaries. For example, some beneficiaries want to have health care provided within an MTF, but they live in an area where they're forced to use a civilian provider. Others want to be able to choose any civilian provider rather than choosing a military provider at an MTF or being limited by a network. And some retirees want to continue to use an MTF but don't want to pay an annual premium because they are accustomed to free health care.

The annual premium for retirees enrolled in Tricare Prime is \$230 for singles and \$460 for families. By charging retirees an annual premium, the Defense Department expects to keep its costs down and still live up

Tricare on the Internet

The Tricare Support Office (formerly Office of CHAMPUS), Aurora, Colo., established an Internet home page as a way to ease problems and frustrations during Tricare's implementation. Provided on that page (<http://www.ochampus.mil/>) is a discussion site, called "Forum."

Individuals may post general questions—not specific claims—on the Forum. A public affairs representative responds to queries and, in some cases, starts a process to correct problems. In other instances, the TSO may respond directly via e-mail or ask the e-mailer to send more data to the TSO's Benefits Services Branch.

The Forum is open; anyone can review any posted question or response. The TSO said that questions and complaints are shared with contract monitors and are available to DoD health officials.

As of April 16, the Forum contained a list of 38 topics, including Illogical Rules; Claim Filing, 115 Percent Rules; Claims Service; CHAMPUS Allowables; Resources for Finding CHAMPUS Providers; and Appeals.

- Several individuals stated that the new 115 percent rule has left them with larger portions of the bills. Under the old rules, CHAMPUS paid more.

- A few individuals complained that, in areas with a limited number of specialists, they are hard-pressed to find ones willing to abide by the 115 percent law. (The TSO said Tricare/CHAMPUS may provide some kind of exemption.)

- Many complaints revolved around poorly trained and rude customer-service personnel and inadequate telephone lines.

- A few entries maintain that the Tricare/CHAMPUS Maximum Allowable Charge must be wrong for their area. (The TSO stated that the CMAC is calculated annually for each area based on 80 percent of the average for each procedure but must not exceed Medicare rates.)

- Several individuals complained about the limited selection of providers and hospitals—they may have the required number but not quality—in the Tricare networks in their areas.

The gripes are often long and sometimes colorful. For instance, "Makes you wonder why you put your life on the line for a bunch of bureaucratic automatons whose only purpose in life is to make things as difficult as possible for you."

to the Congressional mandate of "reduced out-of-pocket costs." According to DoD, the average retiree paid \$900 per year for health care prior to implementation of Tricare.

Among the many associations that are closely following this military health-care issue is the National Military Family Association, whose officials admit that Tricare Prime is less costly than Tricare/CHAMPUS.

In testimony before Congress March 12, NMFA's Sylvia Kidd noted, "While copayments in the civilian part of [Tricare] Prime and enrollment fees for retirees are certainly a departure from free health care, [Tricare] Prime still offers a reduction in health-care costs to those who have been forced to use the standard CHAMPUS program."

In fact, the Defense Department expected military health-care beneficiaries to prefer its HMO option, thus reducing their dependence over time on Tricare/CHAMPUS. However, even when Tricare is fully implemented in early 1998, Tricare Prime will not be available in all areas. Some beneficiaries will have to use Tricare/CHAMPUS.

It is a bureaucratic and often confusing process—both for the beneficiaries and the claim processors. Dr. Joseph stated that the Pentagon is

increasingly aware of the complexities of Tricare/CHAMPUS claims processing.

He said that a critical element in the Tricare program is to make sure the contractors process claims quickly, accurately, and fairly. Each of the contractors must process 75 percent of claims submitted within 21 days or face monetary penalties. "We have taken the necessary actions in certain instances," noted Dr. Joseph. "In one region we've cited for deficiencies, we've exerted financial penalties—\$200,000 in one case."

With three regions still waiting to implement Tricare, the arduous process is far from over. Probably the best summation of the current state of military health came from Benken in his recent testimony.

"I think that Tricare is something that has to grow," he said. "We have to be optimistic, I think, because I don't think we have too many alternatives. We're not going to get the 35 percent of the infrastructure that we lost when we did the drawdown. You can stand outside of Austin, Tex., [at] Bergstrom AFB, and rattle the gate all you want. They probably just have tumbleweeds in the hospital. And we're not going to get that back. So for us, I think Tricare is kind of a do-or-die situation." ■

Increased deployments and a smaller force have combined to generate new worries about readiness.

Readiness at the Edge

Staff photo by Guy Aceto



By Peter Grier

The Air Force is as busy as it has ever been in peacetime, but patrolling the skies over Bosnia-Herzegovina and Iraq is no substitute for high-quality combat training. Instructors at the Air Force Weapons School (above) have noticed a decline in piloting skills, especially in basic fighter maneuver skills.

AT THE Air Force Weapons School, located at Nellis AFB, Nev., instructors say that the students aren't what they used to be.

The Weapons School continues to provide the air-combat equivalent of an Ivy League graduate education. Each pilot (and specialist) who passes its rigorous, five-and-a-half-month course earns a coveted patch and special personnel code that marks him or her as an expert for an entire career.

Even so, increasing numbers of incoming pilots require remedial flight training. School officials say they have noticed a drop in new student basic fighter maneuver skills. In 1995, the bust rate for BFM sorties at the Weapons School was 21 percent. In 1996, the rate almost doubled, to 37 percent.

The principal reason, said instructors, is simple: Many pilots have spent long tours flying dozens of sorties over Bosnia-Herzegovina or Iraq in support of Air Force contingency operations. These patrol flights, while important to the execution of US global strategy, actually provide poor training.

"We are almost certain that [these] sorties . . . are not enhancing basic aviator combat skills," said Brig. Gen. Teed M. Moseley at a recent Congressional hearing. The General is commander of the Air Force's 57th Wing, also at Nellis.

The General was making a point that many service officials have made in recent months—the US military's heavy load of operational commitments, combined with years of budget cuts and force reductions, is be-

ginning to take a toll on unit readiness.

The situation has become bad enough to worry some important members of Congress's defense establishment. Rep. Floyd D. Spence (R-S. C.), chairman of the House National Security Committee, has said he believes readiness problems have pushed the nation's armed forces near their "breaking point."

On April 9, Spence and other House Republicans published "Military Readiness 1997," a scathing research report that flayed the Clinton Administration for running US forces into the ground. The key passage claimed, "The expanding demands of . . . peacekeeping and humanitarian operations . . . are placing at risk the decisive military edge that this nation enjoyed at the end of the Cold War." Moreover, it said, "high personnel and operational tempos have all but obscured the reality that the nation's ability to deploy and sustain large military forces during war has been placed in jeopardy or, in some cases, has clearly been lost."

In a personal introduction to the report, Spence said, "Indicators of a long-term systemic readiness problem are far more prevalent today than they were in 1994," when he first began to raise concerns about the direction of force readiness. He



Staff photo by Guy Aceto

When USAF assets, such as this F-16 launching for a sortie over Iraq, are deployed, not only do the pilots miss training, but the aircraft cannot be as well maintained, cutting mission capable rates and increasing cannibalization rates.

added, "Declining defense budgets, a smaller force structure, fewer personnel, and aging equipment, all in the context of an increase in the pace of operations, are stretching US military forces to the breaking point."

The focus of concern is the US military's escalating involvement in peace and humanitarian operations. A recent RAND report, *Preparing the US Air Force for Military Operations Other Than War*, concluded

that the operations tempo generated by "MOOTW" is putting great stress on USAF personnel and equipment and making it difficult for Air Force units to prepare for the demands of major regional conflicts.

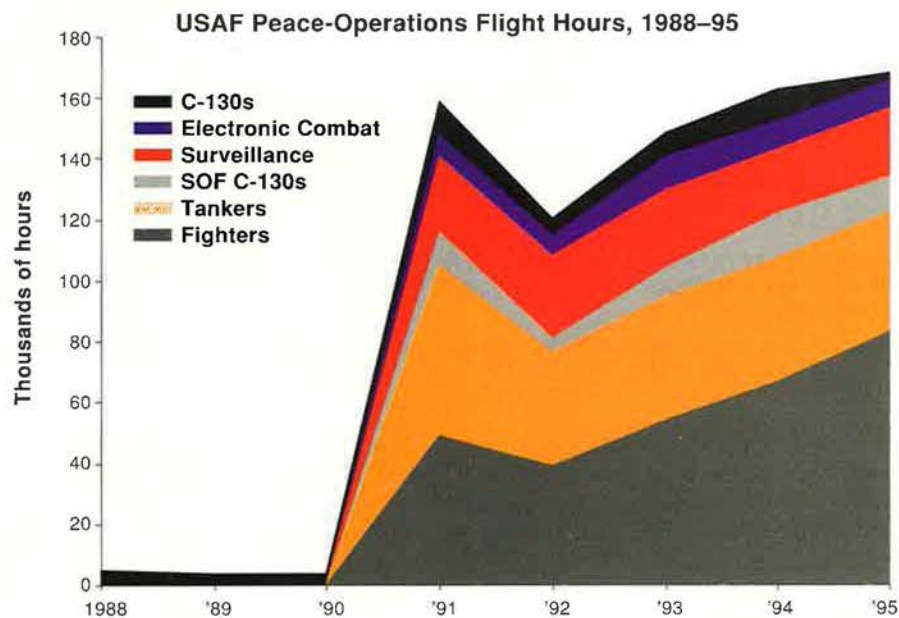
RAND's authors—Alan Vick, David Orletsky, Abram Shulsky, and John Stillion—said peace operations cause special problems for the Air Force. They are large, long-lasting, overlap each other, and generate high demand on scarce, specialized aircraft (such as the E-3 Airborne Warning and Control System aircraft and RC-135 surveillance craft) and on the fighter force [see chart at left].

Though peace operations represent only nine percent of all MOOTW operations, they account for 90 percent of MOOTW sorties flown, the RAND study said. Moreover, these long deployments have cut into time and resources available for combat training. In USAFE and Air Combat Command, operational training flying hours have been cut by as much as 20 percent.

Signs of Strain

By traditional measures of merit, at least, overall readiness continues to stay strong within the services. This is particularly true of the Air Force. However, in the little things—hangar heating, base child-care centers—and also in a few big things—like flight skills—the signs of strain are beginning to show.

The current pace of operations has



After the Cold War, fighter, tactical airlift, and other aircraft experienced a profound rise in flying hours devoted to peace operations—from virtually zero in 1990 to some 170,000 in 1995.

Source: *Preparing the US Air Force for Military Operations Other Than War*, by Alan Vick, David Orletsky, Abram Shulsky, and John Stillion, RAND's Project Air Force, 1997.

resulted in some short-term readiness degradations, Maj. Gen. Stephen B. Plummer, Joint Staff director for Operations (Current Readiness and Capabilities), told a House readiness panel in March.

The operations tempo has been particularly brutal on units and skilled personnel who are in both short supply and high demand for overseas operations. Air Force officials say they have tried to lessen the work load for some of these high-demand/low-density (HD/LD) systems, such as U-2 reconnaissance aircraft. The Air Force may actually increase the numbers of some other HD/LD systems, such as the RC-135 Rivet Joint electronic intelligence aircraft.

The strain on today's Air Force can be seen in hard statistics: Since the end of the Cold War, the service has seen a fourfold increase in the number of personnel deployed away from base at any given time, from an average 3,500 a day in 1989 to an average 13,700 a day in 1996. This has occurred despite the fact that Air Force end strength is 32 percent lower than it was in 1989, the year the Berlin Wall came down.

Peacetime contingencies that have grown out of recent regional conflicts remain nearly as demanding as the original combat operations themselves. As of the beginning of 1997, the Air Force had flown more than 5,000 sorties over Bosnia, a place virtually unknown to many airmen early in the 1990s. Operation Southern Watch, the coalition air operation to enforce a no-fly zone over southern Iraq, generated 28,800 US sorties in 1996. A similar operation in northern Iraq, called Provide Comfort, generated another 4,500 sorties.

This work load makes it difficult for the Air Force to keep certain units within the planned limit of 120 days deployed away from home per year.

The service's strategy for meeting the 120-day TDY goal has three main facets: First, spread the burden of increased work across all of the major commands as much as possible; second, find alternative capabilities; and third, use Air Force Reserve Command and Air National Guard units wherever possible.

Participation of the Reserve and Guard in contingency operations and joint exercises is now so high it almost matches the level at which these

citizen-airmen participated in the 1990 Operation Desert Shield mobilization. For example, Maj. Gen. Donald L. Peterson, assistant deputy chief of staff, Air and Space Operations, told Congress in March that the Air Force has established a Reserve Associate unit for the E-3 AWACS wing at Tinker AFB, Okla., to reduce personnel tempo in that highly tasked system.

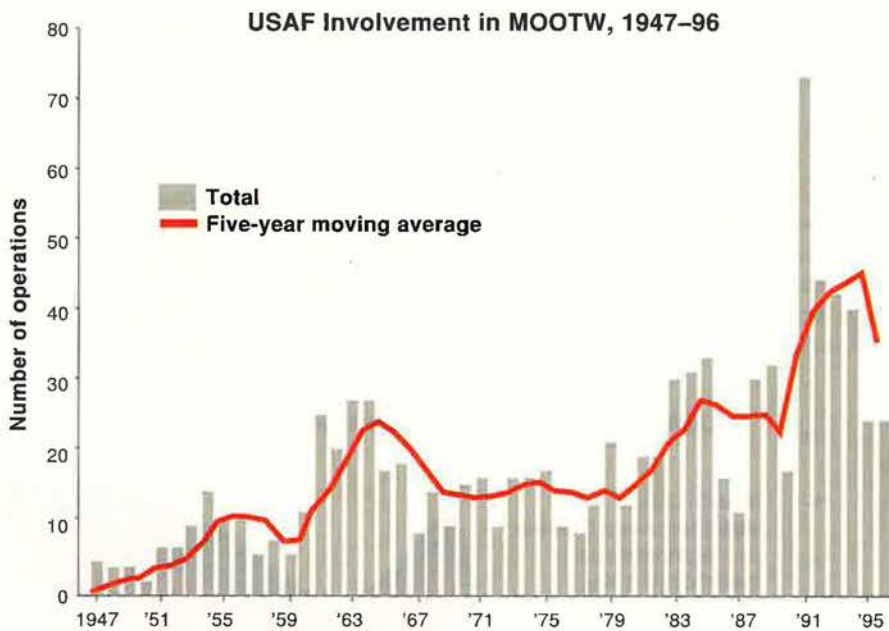
The three-pronged strategy has brought some relief to some units, but many still find that keeping their operations tempo down is a struggle.

Take, for example, the 1st Fighter Wing, based at Langley AFB, Va. Because the wing's 54 F-15 fighters are such important assets and are in such demand, an average of 38 percent of wing personnel were deployed away from home base at any given

cases, expanding" TDY requirements. Throughout 1996, he added, the 1st FW fulfilled more than 2,100 deployment tasks. On average, more than 500 wing personnel were deployed at any given time.

The problem was especially acute with respect to the wing's pararescuemen (PJs). In the past year, many of the PJs were deployed for more than 200 days. As a result, said Carpenter, "we project that only 70 of our 95 authorized PJ billets will be filled in the immediate future."

The resulting strain affects the personnel left behind as well as those on the road. In March 1996, for instance, the 1st FW was the lead unit for Air Expeditionary Force II, a major bare-base exercise in Jordan. The event required unit Security Police in such numbers that those



From 1991 to 1995, USAF participated in 194 Military Operations Other Than War, nearly double the 100 operations of the preceding five Cold War years (1986-90).

Source: *Preparing the US Air Force for Military Operations Other Than War*, by Alan Vick, David Orletsky, Abram Shulsky, and John Stillion, RAND's Project Air Force, 1997.

time in 1996. These tours of duty aren't just week-long trips; most last for more than 90 days, according to wing Vice Commander Col. William D. Carpenter.

"Demanding, Enduring, . . . Expanding"

Carpenter said that many of the wing's major readiness concerns are directly related to the high level of "demanding, enduring, and, in some

remaining in Virginia had to work overtime to take up the slack.

"We don't have a great deal of depth in the Security Police squadron, so we've been on 12-hour shifts for nine of the last 12 months," Carpenter told Congress in March.

Some of the 1st FW personnel have been deployed to southwest Asia five times, counting Operation Desert Storm. So great is the operations tempo strain that unit commanders

fear it will soon begin to drive down retention rates. They're particularly worried about midrange captain fighter pilots. The average work week for these 1st FW officers is more than 60 hours. Their TDY rate is between 120 and 140 days per year.

Second-term enlisted airmen may also become a retention problem, if 1st FW experience is any guide. This group makes up most of the unit's critical level-five technicians, and they are already opting out of the service in increasing numbers. The second-term airman retention rate was 77 percent in Fiscal 1996—down from 84 percent just a year earlier.

Training is becoming another operations tempo casualty, say 1st FW leaders. When on TDY, a fighter squadron cannot complete many of the approximately 7,000 maintenance and ancillary training actions it is supposed to finish every year. The Air Force says that it takes at least a month for pilots newly returned from a desert deployment to regain basic proficiency in fighter maneuvers and weapons use in high-threat environments.

Overmatched

When the 1st FW's 27th Fighter Squadron returned from the Middle East recently, for instance, it was no match for a sister squadron, the 71st, which had been home for almost a full year and had participated in two Red Flag exercises.

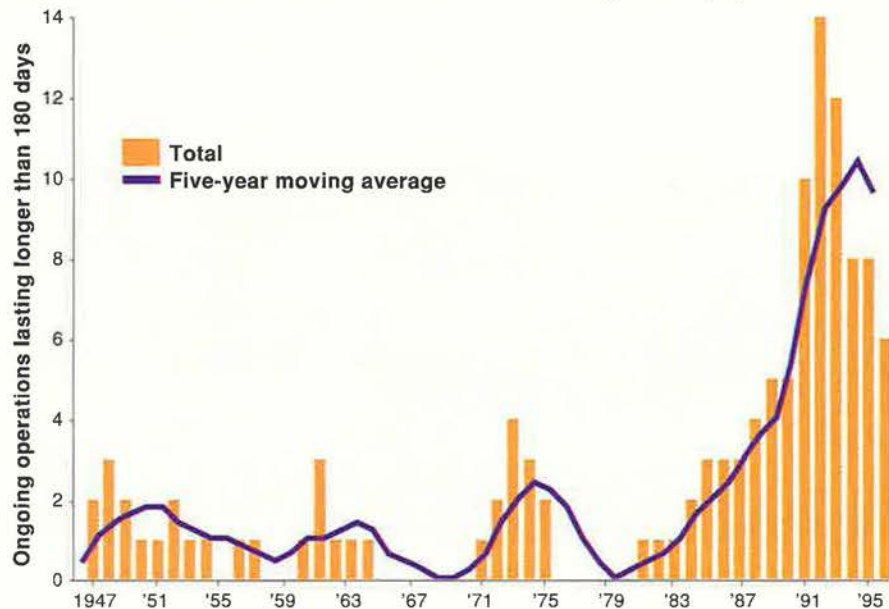
It is the advanced combat skills that suffer as a result of these deployments, and it takes a significant but essential training effort to regain them, said Carpenter.

The airplanes suffer, too. Deployment to southwest Asia means more time in the air—wing aircraft flew a total of almost 21,000 hours last year rather than the normal total of 18,000 hours. As of March, the 1st FW's mission capable rate had dropped to 81.1 percent, below the Air Combat Command standard of 83 percent.

Parts shortages for the 1st FW's F-15s have similarly increased the rate of cannibalization, in which a key component is removed from a designated "hangar queen" and used to keep another airplane in the air. The unit's "cann rate" has shot up as high as 44.4 per 100 sorties, though it has declined recently.

"Not having the required [part] available can easily reduce efficiency

USAF Involvement in MOOTW Exceeding 180 Days, 1947-96



The Air Force is especially feeling the effect of the tremendous growth in the number of MOOTW lasting longer than 180 days.

Source: *Preparing the US Air Force for Military Operations Other Than War*, by Alan Vick, David Orletsky, Abram Shulsky, and John Stillion, RAND's Project Air Force, 1997.

and double a technician's work load," said SMSgt. Dennis M. Krebs, a 1st FW sortie-generation flight chief.

Not that Krebs doesn't have more annoying things to worry about. His dormitory has at times been without hot water due to boiler and storage problems. "Our squadron's own maintenance area only has adequate heat in one-third of the building, which is produced by portable, wall-mounted heaters," he told a Congressional panel.

Not all Air Force units face the same operations tempo problems. Some—such as the 437th Airlift Wing, at Charleston AFB, S. C.—have actually seen an easing of their work load in 1997. That is because this year the C-17s and C-141s of the 437th have not been called on to handle emergency airlifts, as they were in 1996 with major operations into Rwanda and Bosnia.

"This has afforded our personnel more stability in their schedules and therefore a higher quality of life," said Brig. Gen. Steven A. Roser, 437th Airlift Wing commander. "Of course, this could dramatically change overnight, depending on the next world crisis."

Still, the pace of recent years has been fast and, as a result, Roser foresees a major pilot retention problem just ahead. With their multiengine experience, aircrew members from

the 437th are among the personnel most prized by civilian airlines.

"I anticipate a much higher [percentage of pilots] will leave us in 1997 than did in 1996," said Roser. "Within the next 12 to 15 months, I think we probably will lose 40 percent of the majors who currently fly the C-17."

It's not just the sheer pace of operations that causes dissatisfaction among airlift crews. The unpredictability of operations is a problem, as well. One example: Last November, on short notice, C-17s from the 437th were hurried to Germany and Africa to support relief efforts in Rwanda. Once on the scene, the crews waited for weeks as the United Nations tried to decide what, exactly, should be done.

Can't Plan

C-17 loadmasters say their number one complaint is that an uncertain schedule makes it difficult to plan time with their families and friends. "People are severely restricted from seeking off-duty education or employment because our manning and our operations tempo won't allow for it," said MSgt. Rodger McElrea, C-17 instructor loadmaster and superintendent of Aircrew Training for the 437th AW.

One way to ease the load would be an increase in C-17 crew members,



USAF's C-17s were busy in 1996, deploying to Rwanda and Bosnia. Now, worries have arisen about pilot retention, because flyers with experience in four-engine aircraft are particularly prized by civilian airlines.

said McElrea. The C-17 is designed to be operated by a three-person crew—two pilots and a loadmaster. Changing the average to one-and-a-half loadmasters per crew, as is currently the case with the C-141, would ease operations tempo strain and provide training and scheduling flexibility.

Such seemingly small changes could greatly improve the quality of life in the Air Force at the grass-roots level. The service needs to work on incentives for the young personnel it wants to keep, according to McElrea. Already, the lower-level airmen know that they are not getting retirement packages as attractive as those their older compatriots will receive, and some of the benefits can actually turn out to be expensive to use.

"We have a very good child-development facility at our base," said McElrea, "but I recently had to turn to an off-base day-care provider because the cost of care for my child on base became too expensive."

The news on the quality of Air Force life is not all bad. New military construction investments have improved the living conditions in Europe, for instance. In general, Air Force housing remains the envy of the other US military services.

Even so, housing is still a major USAF concern. Currently, 41,000 names are on the waiting list for base residence, according to Air Force officials. Service personnel say that saving money isn't the only reason they want to live within blue-suit bounds. Many want neighbors who share their values and who are in sync with the military culture. For others, it's a matter of safety. Frequently, they say, the only affordable off-base housing is in dangerous neighborhoods. "Right outside Robins AFB, Ga., you can hear gunfire," said USAF's top enlisted man, CMSAF Eric W. Benken. "We have a lot of people who want to live on base for that reason."

Second-termers are the service's key retention issue at present, said Benken. The entry-level, first-term force is more transitory, he said, and top service officials know it. But those who have chosen to reenlist once have shown a commitment to the Air Force life. They've had training that makes them valuable, and they have acquired skills that provide them good employment opportunities in civilian life.

Furthermore, today's incoming Air Force recruits might not be as high-quality as the members of the exist-

ing force. In the first quarter of Fiscal 1997, the percentage of recruits who scored in the upper half of the Armed Forces Qualification Test was 79 percent, down from 83 percent in 1996.

"Our recruits are a little less qualified than they have been in the past," said Benken, "so the caution lights are on."

Recruitment Worries Increase

In fact, recruitment could become an important readiness issue. The Air Force continues to meet almost all numerical recruitment goals and still enjoys the highest-quality incoming force of any of the armed services—and 1996 was a slightly easier recruiting year than 1995—but 1995 was the worst recruiting period in almost two decades. Since the late 1980s, the number of youths who say they have a propensity to join the Air Force—a leading recruitment indicator—has slid downward by about 30 percent.

"We remain concerned about our ability to continue to attract a sufficient number of qualified individuals, even if accession requirements remain at the current low levels," said Lt. Gen. Michael D. McGinty, USAF deputy chief of staff for Personnel.

One relatively simple way to ease the recruitment problem might be to hold onto the new personnel already in the pipeline. To that end, officials say they want to improve the washout rate from Basic Military Training. BMT attrition was seven percent back in 1991. In 1995, it was 11 percent.

Last year, the service implemented a number of reforms designed to reverse that trend. Many seem obvious—one entails adopting a break-in period for combat boots to reduce nagging leg problems—but they seem to have worked. BMT attrition ran at nine percent in the first quarter of Fiscal 1997.

Further improvement may come from values education. Air Force officials have discovered—perhaps belatedly—that today's incoming recruits often do not share the service's core values of integrity and service, so they've started a values program in BMT and technical training.

"This training will lead us to an Air Force characterized by cohesive units, manned by people who exhibit loyalty, and who act in a manner consistent with Air Force values," claimed McGinty. ■

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, concerning information warfare, appeared in the March 1997 issue.

By John L. Frisbee, Contributing Editor

A Spectacular Save

A tanker crew broke the rules to save two "Thuds" about to flame out over the jungle.

THE Vietnam War was unique in many respects. It was the first air war in which both tactical and strategic operations were heavily dependent on air refueling. Strategic Air Command (SAC) tankers on temporary duty in the Pacific and Southeast Asia began flying missions in June 1965 and completed nearly 200,000 sorties during the course of the war. Except from the aircrews they served, the tankers have not received the recognition they earned.

One of the most unusual refuelings was flown on May 3, 1967, by a crew of the 902d Air Refueling Squadron operating from U Tapao RTAB, Thailand, on TDY from Clinton-Sherman AFB, Okla. The crew was led by Maj. Alvin Lewis and included copilot Capt. Kenneth Kelly, navigator Capt. Manuel Macias, and boom operator TSgt. Walter Baker. They were on their second five-hour refueling sortie of the day.

The action began when an F-105 "Thud" was shot down over North Vietnam. Wabash Flight, two of the F-105s covering the downed airmen, was led by Col. Jack M. Broughton of the 355th Tactical Fighter Wing at Takhli RTAB, Thailand. To protect the downed pilots, Wabash stayed in the area until their fuel was approaching zero. There was no friendly base they could reach without refueling. Their emergency call for a tanker resulted in all frequencies immediately becoming jammed by transmissions from numerous ground controllers and tanker crews, each anxious to help in their own way. The redoubtable Colonel Broughton told everyone to get off the air so he could contact a tanker, then, as described in his book *Thud Ridge*, gave a synopsis of what he would do to any noisemakers if he and his wingman had to walk out of the jungle.

Lewis's crew was holding at 32,000 feet on its assigned refueling track about 80 miles south of Wabash.

They had completed their refueling for the day and were about to head for home with enough fuel to reach U Tapao—but not a lot to spare—when they picked up Wabash leader's emergency call. While keeping radio silence, navigator Macias plotted the Thud's reported position at 18,000 feet. Despite their own fuel situation, the Lewis crew decided to go for it. It was a tight spot. Wabash leader reported that both fighters were down to 100 to 200 pounds of fuel. Unless help arrived in minutes, they would be traveling by parachute.

At this point, Major Lewis broke radio silence, gave Wabash a heading, and informed him there would not be time for a standard refueling pattern and that because of their lack of fuel, they could give the fighters only enough to keep them out of the jungle, but not a full load. While en route to the F-105s, Macias got a firm fix on the fighters, copilot Kelly began draining fuel from the KC-135's wing tanks to pump to the F-105s, and boomer Baker made ready for a quick hookup.

As soon as Lewis established visual contact with the fighters, he rolled the KC-135 over in what he describes as the closest to a split S you could perform in a four-engine aircraft. Any bank of more than 45° was considered an unusual position and was frowned on by SAC. As they came over the top of Wabash Flight in a most unorthodox approach, he slowed the diving tanker to 320 knots to get into position for a hookup.

Maneuvering a four-engine airplane over the top of the F-105s, then under the nose of a starving fighter—at the right heading, airspeed, and separation—called for some very delicate flying by Major Lewis. As he was about to move into final position, the number two F-105 flamed out. Its pilot was on the verge of punching out, but, encouraged by the tanker crew, he stayed with his Thud and, guided by the signals from Sergeant Baker, glided up to the tanker. Baker drove the refueling boom into the fighter's receptacle with an unerring eye. Fuel began to



KC-135 pilot Maj. Al Lewis received a DFC for his part in saving two F-105s.

flow as the two aircraft headed for the jungle at a dive angle between 20° to 30°.

The Thud pilot was able to restart his engine. After receiving a minimum of fuel, he pulled off to let Colonel Broughton, whose engine was surging and about to quit, onto the boom. When the Colonel's aircraft had taken on several hundred pounds—with the ominous gray jungle rushing up at him—his wingman returned to the boom for enough fuel to get to Takhli. Two badly needed fighters worth several million dollars—but more important, the lives of two experienced fighter pilots—had been saved in a spectacular refueling.

The Lewis crew arrived at Takhli with enough fuel for a go-around. It was the last refueling sortie of their TDY, though all of them would return to Southeast Asia. For them, saving the two pilots had been a team effort all the way and a day they will always remember with pride. For that magnificent performance, each member of the crew received the Distinguished Flying Cross and earned an honored place in the annals of air refueling. ■

With thanks to Col. Howard V. McDonald, former commander of the 902d Air Refueling Squadron, and to Maj. Alvin Lewis, both now retired.

From before Dien Bien Phu to the fall of Saigon, USAF played a major role in the fight against the forces of Ho Chi Minh.

Air War Vietnam



This F-105D Thunderchief, en route to targets in North Vietnam in July 1966, carries 2,000-pound bombs that appear enormous even on that huge fighter. Here, several "Thuds" and a KC-135 execute a complex refueling operation. The F-105 and KC-135 are just two in a long list of US Air Force aircraft indelibly identified with air war in Vietnam.





USAF's entrance into the war was inconspicuous; Washington approved sending a mobile control and reporting post to Tan Son Nhut AB, near Saigon, and, on October 5, 1961, a detachment of the 507th Tactical Control Group from Shaw AFB, S. C., began operation. Involvement grew with the arrival of Det. 2A, 4400th Combat Crew Training Squadron, at Bien Hoa AB in November 1961, marking the start of Operation Farm Gate. Flying modified T-28s (as at left), B-26s, and C-47s, USAF crews began training 25 Vietnamese Air Force (VNAF) pilots in bombing, rocket firing, and gunnery. The 155-man unit had 16 aircraft, all in the yellow-and-red VNAF markings. Soon, Farm Gate crews were flying combat missions—reconnaissance, close air support, and surveillance. By early 1963, Farm Gate had grown to 275 USAF personnel and 40 aircraft.

In early 1962, USAF began Operation Ranch Hand—aerial spraying missions to defoliate jungles that provided natural cover to the Communist Viet Cong. Ranch Hand rapidly grew to comprise 19 UC-123Ks, and its crews flew against heavy antiaircraft and small-arms fire. The first Air Force aircraft lost in the war was a Ranch Hand C-123, which crashed on February 2, 1962, killing all three crew members. Conceived as a "limited" plan, Ranch Hand lasted nine years.

By 1963, 15,000 US military advisors were in Vietnam. Bombers began targeting the North in August 1964, after reports that North Vietnamese ships had attacked US Navy destroyers Maddox and C. Turner Joy in the Gulf of Tonkin.

Airfields around Saigon became busy places, as US equipment and personnel poured in. The C-121 at lower left in this photo, identifiable by its signature triple tail, is unloaded alongside three C-124s and a civilian 707.



Via Robert F. Dorr



The war featured a surprisingly wide variety of fighters, the first being F-100s, F-102s, and F-104s. A small number of F-102s began flying air defense missions in 1962. At left are two Delta Daggers complete with pilot helmets resting on intakes, ready to scramble. At first, fighter numbers were small and crews rotated out every 90 days, but they clearly presaged the future, as did aerial refueling operations. On June 9, 1964, four KC-135s (nicknamed Yankee Team Tanker Task Force) from Clark AB, the Philippines, refueled eight F-100 fighters on their way to strike Pathet Lao air defense sites in Laos, the harbinger of feats to come.

As 1965 began, the Viet Cong, who had attacked Bien Hoa AB and detonated a bomb in a US billet in Saigon, staged more attacks. The year saw an abrupt transition for US forces in Vietnam. The advisory role was retained and training went on, but the US now was engaged in direct combat. In February 1965, Strategic Air Command deployed two B-52 squadrons to Andersen AFB, Guam, and, two months later, four O-1 squadrons stood up in Vietnam. In October 1965, the first F-100 squadrons moved to Bien Hoa and Da Nang, followed by F-4Cs at Cam Ranh Bay. The number of US military personnel in Southeast Asia jumped from 23,310 in 1964 to 184,314 in 1965.

The war drew in other Southeast Asian nations. By the mid-1960s, North Vietnam and the Viet Cong in the South had planted bases in eastern Cambodia. (President Nixon in 1969 ordered their bombing and in 1970 launched a ground incursion against them.) By the end of 1964, USAF had begun a series of limited air campaigns to disrupt operations of Communist Pathet Lao in Laos. Thailand provided key bases (see map).

The map shows the Ho Chi Minh Trail, over which Hanoi moved critical war materiel and combatants through Laos and Cambodia to the South. The trail began in the North and threaded through key passes, among them Nape (1), Mu Gia (2), and Ban Karai (3). Another key pass was the Barthelemy, further north (4). On March 2, 1965, USAF launched Operation Rolling Thunder, sending 20 B-57s and 25 F-105s against targets in North Vietnam. By September 1965, US aircraft had mounted 4,000 strikes against radars, rail lines, highways, trails, and bridges in the North. USAF also carried out Operations Steel Tiger, Tiger Hound, and Commando Hunt, aimed at interdicting Communist forces in Laos.



Ralph DeClairmont via Warren Thompson

Hanoi began expanding the trail in 1959. Though long in use, it was until then little more than a footpath. With a 30,000-man work force, North Vietnam developed the mountain paths into what later became a network of roads. When the project began, it took months to travel the trail from North Vietnam to the road's end, west of Saigon. By 1975, the same trip took less than a week. This junction of the network suggests how difficult it was to strike at targets on the Ho Chi Minh Trail.

In Vietnam, close air support called for an aircraft able to carry a great deal of ordnance and deliver it well. Early in the war, USAF units flying the lightly armed T-28s were re-equipped with the far sturdier, though still Korean War-era, A-1E Skyraider. Despite its technological age (it had been developed for the Navy at the end of World War II), the A-1 proved to be a serviceable ground-attack weapon throughout the war. Maj. Bernard F. Fisher used an A-1E like the one at right in his daring rescue of fellow A-1 pilot, Maj. D. Wayne Myers, from the A Shau airstrip in March 1966. Fisher received the first of 12 Medals of Honor earned by Air Force members in Vietnam.



Robert Kelsey via Warren Thompson

Robert Tolstead via Warren Thompson



In adapting to the war, Air Force special operations forces often took innovative steps. A close relationship between these pilots and the ground forces they supported was the catalyst for ideas like one from Capt. Ronald W. Terry, who in late 1964 spurred the effort to convert the C-47 into a lethal gunship. At left is the first FC-47, nicknamed "Puff, the Magic Dragon" because, with its three side-firing 7.62-mm Gatling guns blazing at night, it resembled a dragon spitting fire. Troops on the ground welcomed the withering firepower that the gunships brought to a battle. Their success set the stage for the development of new types—the AC-47, AC-119, and AC-130.

Air Force gunships were significant tactical innovations. The "Spooky," "Shadow," and "Spectre"—as they were called—not only provided close air support for ground combat troops but also flew night interdiction missions along the Ho Chi Minh Trail. Working with C-130s and C-123s as 'lareships' to spotlight truck parks and troop concentrations, they delivered fire in sweeping lefthand "pylon turns." At right is a view of the side-mounted Miniguns firing from an AC-47. As the gunships evolved, so did the ordnance. AC-130s, developed in 1968, were armed with four 7.62-mm and two 20-mm Bofors cannons. They had infrared sensors, radar, low-light-level television, and laser designators to mark targets.





The F-100 Super Sabre proved to be a multipurpose workhorse in Vietnam, with a long list of ordnance for missions ranging from close air support and "Wild Weasel" work to bridge busting with AGM-12 Bullpup guided missiles. F-100s and F-4s even served as armed forward air controllers—"Fast FACs." The FAC made an invaluable contribution, whether in the fast movers or in O-1s, O-2s, or OV-10s. It was a dangerous job, always exposed to enemy fire.

Above, Capt. Thad Crooks prepares for a mission in November 1967. At right, a 615th Tactical Fighter Squadron ordnance crew prepares a fighter-bomber for its next mission. Below, with target in sight and loaded with napalm, an F-100 from the 35th Tactical Fighter Wing goes after the enemy in December 1967.



Photos Thad Crooks via Warren Thompson





SAC U-2s first detected surface-to-air missiles in North Vietnam in April 1965. In July, a Soviet-built SA-2 downed an F-4C, opening a new chapter in air warfare. USAF and industry responded with "Wild Weasel" radar-suppression aircraft. F-100Fs, packed with electronics to locate SAM sites, were armed with four internal 20-mm cannon and 2.75-inch rockets (and later with missiles) to attack radar and missile sites. By November 21, 1965, the first of seven F-100F Wild Weasels had arrived at Korat RTAB, Thailand, forming the nucleus of the 6234th TFW (Wild Weasel Detachment). Their missions were known as Iron Hand strikes.

The first Wild Weasel success came in late 1965 when Capt. Al Lamb and Jack Donavon destroyed a SAM site during a Rolling Thunder strike on the railyard at Yen Bai, 75 miles northwest of Hanoi. Upgrades led to equipment installed on two-seat F-105Fs and later F-105Gs. At left, two Weasels armed with Shrike antiradar missiles refuel from a KC-135.

The men flying the F-100 Weasels were the pioneers. Only the very best pilots could handle the mission. They were complemented by equally skilled electronic warfare officers, who had to withstand the stress of high-G maneuvers in a potentially fatal environment while operating the new radar warning systems. The F-100s were flown in four-ship flights, often with an F-105 escort. Weasels—whose motto was "First In, Last Out"—were vulnerable to the high density of antiaircraft fire in the area of SAM sites.

At right are photos taken by F-104 pilot Capt. Mike Korte, of the 435th Tactical Fighter Squadron, as he and a second F-104 pilot flew with two SAM-hunting F-105Gs. The first shot shows the layout of a typical missile-launch complex surrounding the controlling radar. The SAMs launched on the F-104s. Korte tracked them with a camera and at the last moment did a split S to avoid being hit. He held his camera over his shoulder to get the lower photo showing the explosion of one of the SAMs, which missed its target.



Mike Korte via Warren Thompson



The F-111A, the first USAF aircraft with variable-swept wings, arrived in Thailand in March 1968 on its first combat deployment, called "Combat Lancer." Things soon turned rocky; despite 51 successful missions, three aircraft were lost and the F-111 was withdrawn from action. Four years later, however, the Aardvark returned to Southeast Asia and soon proved deadly efficient. The all-weather F-111s played a key role in Operation Linebacker in May 1972, attacking SAM sites, airfields, and marshaling yards. They went on to impress many, including the Viet Cong, who referred to the F-111s as "Whispering Death."



Tom Gernschild via Warren Thompson

Via Robert F. Dorr



Vietnam was the scene of widespread use of helicopters, which transported troops and supplies, evacuated wounded, were modified into gunships, and performed reconnaissance and search-and-rescue missions. At left, a Bell UH-1F from the 20th Special Operations Squadron keeps its engine running at Ban Me Thuot, South Vietnam, in 1968.

That year was a watershed for the US war effort. The North Vietnamese and Viet Cong launched the Tet Offensive in January 1968, with simultaneous attacks on major cities and military bases. Tet was, in fact, a crushing disaster for the Communists, who suffered 45,000 dead. Yet this victory in the field for US and South Vietnamese forces was portrayed in the US media as a massive victory for the North. Tet eroded US public support for the war and split the Democratic Party. President Lyndon Johnson halted the bombing and announced he would decline to seek reelection in November 1968.

In November 1970, US forces attempted to free US POWs with a surprise raid on Son Tay prison west of Hanoi. Though it did not succeed, it was one of the most notable and heroic rescue efforts of the war. Search-and-rescue teams performed countless other acts of heroism, often under fire, to retrieve downed pilots and aircrew. At right, pararescueman Sgt. Charles P. Vogeley (in wetsuit) and Sgt. Dennis M. Richardson attend to F-4C pilot Col. Devol Brett in an HH-3 Jolly Green Giant, after rescuing him from a bailout in the South China Sea on December 17, 1967. At far right: Although Brett wasn't a regular smoker, he was happy to accept a cigarette from Vogeley after this mission, during which his aircraft was hit by enemy ground fire. Brett's back-seater, Capt. Myron Smith, did not survive, but the rescuers did recover his body.



USAF photos by Sgt. Robert F. Witowski via Lt. Gen. D. Brett, USAF (Ret.)



USAF photo

The Viet Cong hated the B-52 more than any other weapon, for the first warning of its presence was an explosion of bombs in a huge corridor. On June 18, 1965, B-52s flew their first strikes, called "Arc Light," against a guerrilla camp in the South. In November, B-52s began close-support operations, driving off the Viet Cong at Plei Mei. B-52s were soon dropping 8,000 tons of bombs a month on Viet Cong targets. Sortie rates rose to 1,800 per month.

In 1965, a massive program called "Big Belly" was established to increase the capacity of B-52Ds. Maximum bomb load was raised to 54,000 pounds when the Stratofortress was carrying all 500-pounders.

At right is a view of the two-mile-long eruption of earth that a B-52 could inflict—often without warning, since a typical three-ship cell flew high enough to be undetectable from the ground. B-52s brought this bombing power to the battles of Ia Drang Valley in November 1965, Khe Sanh in 1968, and An Loc in 1972. During Operation Linebacker in mid-1972, the bombers destroyed strategic sites in North Vietnam until missions were cut back in response to political factors. When peace negotiations broke down in December 1972, President Nixon launched Linebacker II against Hanoi. The December raids featured concentrated use of B-52s. The assault is credited with forcing Hanoi to accept a military stalemate and sign the Paris Peace Accords in January 1973.



Photo by Darrell D. Whitcomb



USAF photo

USAF FACs were deployed to Vietnam in 1961. They acted as local air commanders, flying over the battlefield in light, propeller-driven aircraft. They maintained radio contact with ground forces and strike aircraft, provided target descriptions and locations, and marked targets.

Armed only with phosphorous smoke rockets and the pilot's .45-caliber pistol and M16, they were vulnerable targets themselves. In 1967, O-2s replaced O-1s, and the next year USAF introduced OV-10s like the one at right.

Precision guided weapons also debuted in Vietnam, perhaps most memorably when F-4s armed with Paveway laser-guided bombs knocked down the Paul Doumer Bridge. A massive structure—8,467 feet long—the bridge over the Red River was defended by 300 guns and 81 SAM sites. It had survived 113 attacks from F-105s. In Linebacker in 1972, a single F-4 attack with "smart" weapons knocked it out.



Photo by Darrel D. Whitcomb

A. J. Merrick via Warren Thompson



Big and sophisticated, the F-4 Phantom II made a name for itself in Vietnam: F-4s scored the first USAF air-to-air victories of the war (against MiG-17s). In an F-4, Col. Robin Olds became the first and only Air Force ace to achieve victories in both World War II and Vietnam. And all of the USAF Vietnam War aces flew F-4s. The aircraft was designed as an interceptor, relying on radar-guided and heat-seeking missiles to bring down its quarry. It also doubled as a strike aircraft, like the F-4C in the foreground at left, armed with a full load of bombs. Along with the striker are an RF-4C (on the tanker) and an F-4E, the latter there to provide CAP. The Phantom's size, weight, and initial lack of an internal gun put it at a disadvantage in a dogfight, but its speed and power allowed it to perform rolling, up-and-down maneuvers to successfully combat MiGs.

Unlike the early F-4s, the F-105 always had a gun, as shown in the destruction of a MiG-17 (right). In Operation Bolo, led by Robin Olds January 2, 1967, F-4s masquerading as F-105s lured MiG-21s into the biggest aerial battle of the war up to that time. The MiGs reacted as expected and came up behind the US fighters, which they presumed were bomb-laden F-105s. To their surprise, they encountered F-4s, with their tanks already jettisoned and ready to fight. In the space of a few minutes, seven MiGs were shot down, Olds himself getting two of his four victories in Southeast Asia.



USAF photo via M. F. Winter



USAF photo

Between 1962 and 1973, USAF delivered more than seven million tons of passengers and cargo within South Vietnam. The versatile C-130 dominated airlift operations in the war after 1965 and took on many roles, including gunship, flareship, Airborne Battlefield Command and Control Center, and medical evacuation. Above, a Hercules delivers a pallet using the low-altitude parachute extraction system developed in the early 1960s for pinpoint aerial deliveries. For airlifters, too, flight operations in Southeast Asia required new tactics. Crews flew visually whenever possible, looking for breaks in the cloud cover and staying underneath low ceilings. They adapted to hostile conditions, dangerous terrain, and crowded ground- and airspace, relying on their own wits and judgment.



Ernie Banks via Warren Thompson



Via Robert F. Dorr

Between August 1964 and January 1973, 1,740,000 Air Force personnel served in the Vietnam War. USAF casualties numbered more than 3,500.

Only one percent of US personnel wounded in the war died after reaching a medical facility. The key to the high rate of survival was aeromedical evacuation linked with medical advances. The Air Force's specialized aircraft like the C-9 Nightingale and long-range transports, such as the C-5 and C-141, brought the patients to quality medical care in time to save them.

After nearly five years of on-again, off-again negotiations and secret talks, cease-fire agreements were finally signed in Paris on January 27, 1973. The last of the released US POWs left North Vietnam in March. Col. Laird Gutteresen, below right, returned to US soil on March 17, 1973, after five years of captivity (including 27 months of solitary confinement). Though a signatory of the Geneva Convention of 1949, North Vietnam murdered and tortured American POWs and paraded them before reporters for propaganda purposes. The photo of Gutteresen's homecoming is a reminder of an issue still unresolved—the full accounting for POWs and those missing in action in Southeast Asia.



USAF photo



USAF photo

Via David Brog



For many Air Force members, the Vietnam War symbolically ended well before the family's warm welcome home. It came when they received a heartfelt cheer and the traditional hosing down from squadron mates at the completion of their last mission in-country. At left, an F-105 crew celebrates their survival in a long, complex, and difficult war. ■

**AFA President Doyle Larson
has appointed these advisors and
councils for 1997.**

AFA Advisors and Councils



By Crystal L. Givens

AFA Presidential Advisors

Robert L. Brooks, Civil Air Patrol Advisor
Sandra G. Grese, Civilian Personnel Advisor
Col. Julius R. McRee, Senior AFROTC Advisor
Donna L. Tinsley, Medical Advisor
Jule Zumwalt, Junior AFROTC Advisor



Brooks



Grese



McRee



Tinsley



Zumwalt

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Lt. Col. Linda K. McTague (Vice Chair)	Col. Henry S. Parker
TSgt. Nancy J. Butcher	SSgt. Julie A. Singewald
Matthew J. Garofalo	Maj. Mary Ann Tipton (Liaison)
Lt. Col. Scott R. Leitner	Brig. Gen. Paul A. Weaver, Jr.



Tuxill



McTague



Butcher



Garofalo



Leitner



McDaniel



Parker



Singewald



Tipton



Weaver

Civilian Advisory Council

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 Robert Barrett
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 Lynn Matsler Brod (Liaison and Recorder)
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 Paul G. Hutchins
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 John M. Ledden
 Chris P. Remillard
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 David S. Stargel
 Sandra G. Grese (Advisor)



Evey



Barrett



Beaman



Brod



Gomez



Hall



Hutchins



Jones



Ledden



Remillard



Simpson



Stargel



Grese

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 TSgt. John O. Twigg, Jr., AETC
 TSgt. Paul Venturella, AFSOC
 CMSAF Eric W. Benken (Advisor)



Ellison



Addison



Ashmore



Brannock



Devine



Fischer



Ford



Gasper



Gilpin



Hauger



Lavoie



Lopez-Velazquez



Miller



Pallotta



Shaffer



Shupe



Smith



Sullivan



Tunaley



Twigg



Venturella



Benken

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 Capt. Kristina L. Butler, ANG
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 Capt. Denise L. Sweeney, AETC
 Brig. Gen. John F. Regni, Hq. USAF (Advisor)



Auch



Abair



Armentrout



Bertini



Bigger



Butler



Butterbaugh



Corallo



Glebocki



Jett



King



Marcinowski



Ramsby



Sweeney



Regni



Peters



Barruel



Gracie



Hill



Leli



Paich



Poulin



Rausch



Stitzer



Vander Linden



Wysong



Zuehlke

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Coffinger



Galloway



Guzman



Hooper



Kemp



Lucas



Roberts



Schittulli



SeEVERS



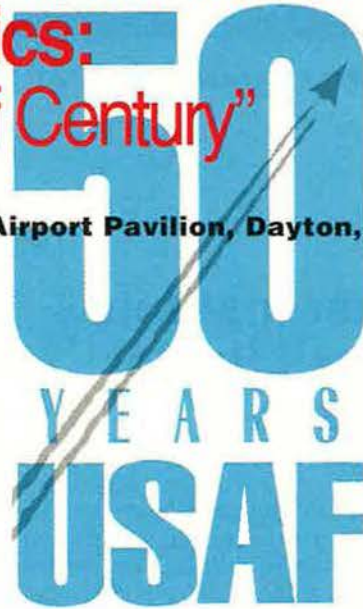
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Invited Speakers

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Planned speakers include:

- Sheila E. Widnall**, Secretary of the Air Force
- Gen. Ronald R. Fogleman**, Chief of Staff, USAF
- Norman R. Augustine**, chairman and chief executive officer of Lockheed Martin
- Gen. Larry Skantze**, USAF (Ret.)
- Lt. Gen. (Gen. selectee) George T. Babbitt**, commander, Defense Logistics Agency
- Lt. Gen. William P. Hallin**, deputy chief of staff, Installations and Logistics
- Rebecca Grant**, IRIS Independent Research
- William G. T. Tuttle**, president, Logistics Management Institute

Other Activities

This event will take place in conjunction with a week-long salute to the Air Force's fiftieth anniversary, which will include Technical Sessions sponsored by the National Aerospace and Electronics Conference (NAECON), July 15-17; an industrial exposition jointly sponsored by NAECON and AFA's Wright Memorial Chapter, July 15-20; and the Dayton Air Show on July 19-20, featuring the USAF Thunderbirds. Also, the National Aviation Hall of Fame will hold a dinner on Saturday, July 19, at which AFA will receive the Milton Caniff Spirit of Flight award.

Hotel

For hotel reservations for the symposium, call the Crowne Plaza Hotel at (513) 224-0800, and mention that you are attending the AFA symposium for a special rate of \$99 single, \$109 double, and between \$119 and \$129 for Club Floor.

Exhibitors

For information on exhibiting, call Rick DePrato at (937) 429-7733, or fax (937) 429-2756.

1997 Air Force Association National Symposium

Advance registration closes Thursday, July 10, 1997. No refunds can be made for cancellations after this date

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AFA / AEF National Report

By Frances McKenney, Assistant Managing Editor

Eaker Institute Names Senior Fellows

The Eaker Institute for Aerospace Concepts, the Aerospace Education Foundation's new policy and research arm, has announced the selection of its first senior fellows, prominent members of the military and civilian aerospace communities.

They are Charles G. Boyd, consultant and former deputy commander in chief of US European Command; Walter J. Boyne, author and former director of the National Air and Space Museum; Russell E. Dougherty, former commander in chief of Strategic Air Command, Air Force Association Executive Director from 1980 to 1986, and an AFA National Director; Michael J. Dugan, former USAF Chief of Staff and an AFA National Director; Jacques S. Gansler, executive vice president, The Analytic Sciences Corp.; Rebecca Grant, president of IRIS, a research organization in Arlington, Va.; Gerald D. Griffin, consultant on space issues and former director of NASA's Lyndon B. Johnson Space Center in Houston, Tex.

Charles A. Horner, who was commander in chief of North American Aerospace Defense Command and US Space Command and commander of Air Force Space Command; Jay W. Kelley, former commander of Air University; Andrew W. Marshall, director of Net Assessment, Office of the Under Secretary of Defense for Policy; James M. McCoy, Chief Master Sergeant of the Air Force from 1979 to 1981, former AFA President and Chairman of the Board, and an AFA National Director; Gene Myers, senior analyst at the Air Force Doctrine Center, Langley AFB, Va.; and Larry D. Welch, Air Force Chief of Staff from 1986 to 1990 and president and chief executive officer of the Institute for Defense Analyses.

The Eaker Institute, an affiliate of AFA, promotes aerospace power by hosting discussions among the nation's top aerospace specialists. It will also



Photo by Ray Dávila

AFA Board Chairman Gene Smith (right) received an unusual memento from Florida State President Robert Patterson—a brick from the “Hanoi Hilton,” where Smith had been held as a POW. About three-fifths of the prison was demolished in 1994 to make way for a hotel, conference, and shopping complex.

publish papers on defense and aerospace issues, conduct colloquia on America's security needs, engage in national policy debates, and sponsor air- and spacepower studies.

“Hanoi Hilton” Souvenir

While Lt. Col. Randall F. Garrett was serving as the operations officer for Det. 2 of the Joint Task Force—Full Accounting, he witnessed the demolition of Hoa Lo Prison—nicknamed “Hanoi Hilton” by the POWs who were kept there during the Vietnam War. He purchased unusual mementos of the event: bricks imprinted with the maker's logo and the word “Hanoi.”

Now the plans, programs, and inspections flight commander for the 53d Wing at Eglin AFB, Fla., Garrett spoke to the **Eglin (Fla.) Chapter** in January about his experience with the Joint Task Force, emphasizing its mission “to achieve the fullest possible accounting for Americans unaccounted for from the war in Southeast Asia.”

He has given Hanoi Hilton bricks

to George E. Day—who earned a Medal of Honor for gallantry as a POW during the Vietnam War—the USAF Enlisted Heritage Hall at Maxwell AFB, Gunter Annex, Ala., and the Air Force Armament Museum at Eglin. In January, he gave one to the Eglin Chapter.

The next month, at the Florida state executive council dinner in Orlando, Robert E. Patterson, Florida state president, and Loyal L. Weaver, Eglin Chapter president, presented the brick to AFA Chairman of the Board Gene Smith.

In October 1967, Smith was an Air Force major, flying a 355th Tactical Fighter Wing F-105 out of Takhli RTAB, Thailand, over Hanoi when ground fire brought him down. He spent the next eight months in the Hanoi Hilton and was then imprisoned for two years at Son Tay. Four months before US forces attempted a rescue at Son Tay in November 1970, Smith was moved and eventually ended up at the Hanoi Hilton again. He was repatriated in March 1973.



POWs Honored

A belief in God and the backing of his country helped AFA Board Chairman Gene Smith survive more than five years as a POW.

"You absolutely had to believe that you were going to make it and that your country was behind you," he told a meeting of the **Central Oklahoma (Gerrity) Chapter**.

In his address on "Taking Freedom for Granted," Smith described how he was shot and stripped of his clothing with a machete when he first hit the ground in Hanoi, what it was like to live in a four-foot by seven-foot cell, and what it took to endure as a POW.

Smith's speech was the highlight of the chapter's luncheon honoring Oklahomans who were POWs during World War II, the Korean War, and the Vietnam War.

At the gathering, attended by 150 guests, the chapter presented four awards. MSgt. Timothy Parker received the chapter's Beacon of Freedom Award for improving the quality of life at Tinker AFB. He is superintendent for Civil Engineering Support with the 31st Combat Communications Squadron.

The chapter's quarterly Extra Mile Awards, recognizing outstanding contributions, went to Capt. Dennis Dabney, a logistics career-broadening officer with the Propulsion Directorate; Cozetta Gillette, a logistics management specialist for the Aircraft Directorate; and 2d Lt. Bryan Reeves, an electronics systems engineer in the C/KC-135 Aircraft Directorate.

Tracing Amelia Earhart's Flight

Linda Finch, who is following the path of the last flight of Amelia Earhart in a Lockheed Electra like the one the pioneering aviatrix used in 1937 for her around-the-equator attempt, was guest speaker at an Air Force JROTC Aerospace Education symposium in Texas in March, just before she embarked on her 10-week trip.

The twenty-first annual symposium was held at Samuel Clemens High School in Schertz. The school's JROTC unit, Texas AFA, and the **Alamo (Tex.) Chapter** sponsored it.

Kaye H. Biggar, chapter vice president for Aerospace Education, and Brig. Gen. Garry R. Trexler, commander of 12th Flying Training Wing at Randolph AFB, Tex., were among the other speakers at the event, attended by representatives from more than 50 JROTC units from around the state.

A San Antonio businesswoman who owns nursing and retirement homes in Texas, Finch has more than two decades of experience in flying, maintaining, and restoring vintage aircraft. The rare Electra was found in Wisconsin and restored as a replica of Earhart's Electra 10-E.

Finch took off from Oakland, Calif., on March 17, the sixtieth anniversary of the beginning of the flight on which Earhart disappeared. She will be making more than 30 stops in 20 countries.

Pratt & Whitney is sponsoring her journey, called World Flight 1997. A website at <http://worldflight.org/> contains information on Finch's progress and her daily log.

Full Circle

Second Lt. Richard A. Davis died in September 1944 when the B-17 bomber from Kingman AAF, Ariz., in which he was a student pilot caught fire and crashed in the San Francisco Mountains, north of Flagstaff. He was buried in Lincoln, Neb.

For 40 years, a gold signet ring he was wearing at the time of the crash lay in the aircraft's wreckage. A US Department of Agriculture Forest Service employee surveying the site in 1984 found the ring and by matching the engraving inside its band—"EJ to RD"—with a list of crew members who died in the crash, determined that Davis was most likely its owner. However, the Forest Service was never able to locate a Davis family member.

Last summer, **Longs Peak (Colo.) Chapter's** Larry E. Carpenter learned of the efforts to return the ring to Davis's relatives. "I just had to see what I could do to get the two together," said Carpenter, who does genealogy research as a hobby.



AFA National Secretary Mary Anne Thompson was inducted into the National Congress on Aviation and Space Education Crown Circle for Aerospace Education Leadership at a convention in Houston, Tex., sponsored by the Civil Air Patrol. The award recognizes her as the driving force behind AEF's and AFA's increasing emphasis on aerospace education and programs. CAP member Jack Sorenson (left) congratulated Thompson on the award.



USAF Chief of Staff Gen. Ronald Fogleman (second from right) spoke about the future of the Air Force at a meeting in Kansas City, Mo., co-hosted by the Harry S. Truman Chapter. Earl Clark, Jr., AEF vice president; James Watkins, chapter president; Charles Church, Jr., AFA National Treasurer; and James Snyder, Missouri state president (l-r), greeted him at the luncheon.

Through obituaries obtained from the library in Lincoln and Social Security records and nationwide telephone listings on CD-ROMs, he located Davis's half-sister, Dorothy Worster Crook of Monett, Mo. Carpenter noted that although Crook was only 11 when her brother died, she recalled enough details of the ring to identify it.

The **Ozark (Mo.) Chapter** invited Carpenter to return the ring to Crook at a meeting of Missouri State AFA in March.

Crook brought family photos of Davis to the meeting, and the event attracted much attention from the local television stations and newspapers.

Promoting USAF in Florida

The US Air Force was a prominent part of the Dade County (Fla.) Fair and Exposition this year because of groundwork laid by the **Miami Chapter** and extra efforts by the **John W. DeMilly, Jr. (Fla.), Chapter**.

AFJROTC honor guards and drill teams from four high schools led a parade at the fair's opening ceremonies, saluting USAF's fiftieth anniversary as a separate service. Four F-16s from the 93d Fighter Squadron, Homestead ARB, flew overhead to signal the fair's opening, and Col. David J. Kozak, 482d Fighter Wing vice commander, spoke on the wing's history.

Aviation and aerospace displays

took center stage at an exhibition hall that featured moon rocks, an Apollo spacesuit, and a video wall provided by NASA, a Cessna 152, and a small helicopter. Steven A. Bachmeyer, a teacher at South Dade Senior High School in Homestead and runner-up for AFA's 1996 Christa McAuliffe Memorial Award, organized an aerospace technology competition for students.

Pointing out the importance of integrating aerospace topics into the fair, the DeMilly Chapter's Michael Richardson noted that the Dade County Fair is ranked thirteenth largest in North America. Last year, attendance was approximately 850,000.

AFA Day at MacDill

Celebrating AFA Day, more than 200 AFA members and guests from eight Florida chapters visited MacDill AFB, Fla., on March 15.

The 6th Air Refueling Wing served as host for the **Central Florida Chapter, Florida Gulf Coast Chapter, General Nathan F. Twining Chapter, Jerry Waterman Chapter, John C. Meyer Chapter, Morgan S. Tyler Chapter, On Wings of Eagles Chapter, and Peace River Chapter.**

The day began with two hours of briefings from Col. Richard C. Wirth, 6th ARW vice commander, who spoke about Air Mobility Command's mission. Col. Rusty Findley, 6th Operations Group commander, covered the wing's mission and the deployment of the 91st Air Refueling Squadron in support of Operation Deny Flight. Lt. Col. Robert Veale, deputy commander, 6th Operations Group, provided information on KC-135s.

Following the briefings and lunch at the Officers' Club, the visitors were taken by Air Force buses to the flight line, where they toured two Stratotankers and talked to flight and ground crew members about operations and maintenance. Lt. Col. Steven B. King,



Three AFA National Directors—William Lafferty, R. L. Devoucoux, and James Trail (l-r)—and Rosemary Trail (second from left) were among those attending a Tucson (Ariz.) Chapter meeting where AFA National President Doyle E. Larson spoke on information warfare.

91st ARS commander, joined them for these tours.

AFA Day was created and organized by Robert F. Cutler, area vice president for central west Florida. He told the base newspaper, "The wing put on a first-class presentation, and the people who attended left MacDill knowing that the base was an important player in our nation's defense."

A Deal at McDonald's

They don't exaggerate when they call themselves "an aggressive sales team." Ivan L. McKinney, National Vice President (South Central Region), and William F. Cocke, vice president of the **Ark-La-Tex (La.) Chapter**, recently signed up six Community Partners at once.

They hit a Community Partner lode when Roy Griggs moved into the Bossier City, La., area in February and bought four McDonald's Restaurants. McKinney and Cocke immediately signed up Griggs, of Griggs Enterprise, Inc., his store managers Else Garcia, Ruby Ashley, Kerry Putnam, and Henry Brown, and a supervisor, Stanley Vallis.

By becoming a Community Partner, said Griggs, "I believe that all of us are contributing to the mental set that I think we need to maintain in order to ensure a strong national defense."

The Ark-La-Tex Chapter now has an impressive 191 Community Partners.

Also in Louisiana, **Maj. Gen. Oris B. Johnson Chapter** President Ralph W. Stephenson, Jr., and Louisiana State President Michael F. Cammarosano presented \$500 to the AFJROTC unit at Pointe Coupee Central High School, New Roads, La. The chapter's gift will allow six cadets to attend a week-long summer leadership school this month. Cam-



National Vice President (South Central Region) Ivan McKinney (far left) and Ark-La-Tex Chapter President Capt. Gilbert Petrina (far right) invited their newest Community Partners to see a B-52H at Barksdale AFB, La. They are Roy Griggs, Stanley Vallis, Else Garcia, Ruby Ashley, Kerry Putnam, and Henry Brown (l-r).

marosano noted that 25 schools in the southwest are sending cadets to the leadership school, but the New Roads unit is the only one representing Louisiana. Chapter member Allan L. Novak, who is the unit's instructor, accepted the check for his students.

More Chapter News

AFA National President Doyle E. Larson addressed the topics of information warfare and information security at a March meeting of the **Tucson (Ariz.) Chapter** at Davis-Monthan AFB, Ariz. Guests included National Directors R. L. Devoucoux, William A. Lafferty, and James M. Trail and members of the **Richard S. Reid (Ariz.) Chapter**. Lt. Gen. Frank B. Campbell, commander of 12th Air Force and US Southern Command

Air Forces and Air Force Component commander, US Strategic Command, also attended. MSgt. Guy W. Smith, 355th Logistics Group, was recognized as the 355th Wing's Senior NCO of the Year at the evening event. He received an AFA Citation and a \$100 savings bond.

The **Richard D. Kisling (Iowa) Chapter's** midwinter banquet featured a speech by chapter member Lawrence S. Slotsky, radar operator on the B-29 *Omaha*, *One More Time* in the Pacific during World War II. He recalled the low-level incendiary raids over the Japanese cities of Tokyo, Nagoya, Osaka, and Kobe. As part of an air escort, Slotsky later got a bird's-eye view of the assembly of US warships in Tokyo Bay for the surrender ceremony. "My greatest fear," he told the audience, "is that those of us who experienced the horrors of war, now in our 70s and 80s and falling fast, will eventually be gone and history could be rewritten by those who have no actual firsthand knowledge of the events."

Bob Hope (Calif.) Chapter officers visited the Palm Springs Air Museum, which opened last Veterans Day. The museum contains two 20,000-square-foot hangars with about 18 flyable aircraft. This includes such classic warplanes as the A-26 Invader, B-17 Flying Fortress, B-25 Mitchell, P-38 Lightning, P-40 Warhawk, and P-63 Kingcobra. It also has examples of all five Navy "cats"—the Grumman F-4F Wildcat, F6F Hellcat, F7F Tigercat, F8F Bearcat, and F-14 Tomcat (on static display). John

Coming Events

June 6-7, **New York State Convention**, Niagara Falls, N. Y.; June 13-14, **North Dakota State Convention**, Fargo, N. D.; June 13-14, **Ohio State Convention**, Cleveland, Ohio; June 20-21, **Arkansas State Convention**, Hot Springs, Ark.; June 27-28, **Missouri State Convention**, Whiteman AFB, Mo.; July 11-12, **Iowa State Convention**, Des Moines, Iowa; July 18-19, **Kansas State Convention**, McConnell AFB, Kan.; July 18-20, **Alabama State Convention**, Birmingham, Ala.; July 18-20, **Texas State Convention**, Fort Worth, Tex.; July 18-20, **Virginia State Convention**, Alexandria, Va.; July 25-26, **Georgia State Convention**, Robins AFB, Ga.; July 25-26, **Mississippi State Convention**, Biloxi, Miss.; July 25-27, **Florida State Convention**, Panama City, Fla.; July 25-27, **Pennsylvania State Convention**, Pittsburgh, Pa.; August 1-2, **Colorado State Convention**, Colorado Springs, Colo.; August 8-9, **Michigan State Convention**, Alpena, Mich.; August 14-17, **California State Convention**, Riverside, Calif.; August 15-16, **Oklahoma State Convention**, Oklahoma City, Okla.; August 16, **Connecticut State Convention**, East Hartford, Conn.; August 16, **Indiana State Convention**, Indianapolis, Ind.; September 6, **Delaware State Convention**, Dover, Del.; September 15-17, **AFA National Convention and Aerospace Technology Exposition**, Washington, D. C.



At a symposium cosponsored by the Alamo Chapter, Linda Finch (center), who is tracing Amelia Earhart's last flight, met AFJROTC cadet Celia Bautista, AFA National Director Maj. Kevin Sluss, Chapter Vice President for Aerospace Education Kaye Biggar, and cadet Erika Ratcliffe (l-r).

W. Lynch, a former National Vice President (Far West Region) and a docent at the museum; Col. Charles E. Whited, state vice president for Area III and a **General B. A. Schriever Los Angeles Chapter** member; and Jerry J. Busch, Bob Hope Chapter president, presented a plaque to Robert J. Pond at the museum. A Navy veteran and businessman, Pond donated his collection of World War II airplanes to the museum, located at Palm Springs Regional Airport.

The **Dale O. Smith (Nev.) Chapter** joined several community organi-

zations in sponsoring a program for the state's teenagers, young adults, and their parents, aimed at encouraging a life free from substance abuse. The all-day event, called "Join Together '97," was held at the 152d Airlift Wing (ANG) facility at Reno/Tahoe IAP. It offered a job fair, speakers, seminars, discussion groups, and workshops on such topics as developing life skills, making the transition from school to the working world, and avoiding substance abuse. The chapter also had a display in a hangar filled with exhibits from nearly

Correction

In the caption for the photo on p. 200 in the May 1997 "AFA/AEF National Report," we did not identify Nation's Capital (D. C.) Chapter President William B. Driggers, Jr., as the individual who presented the Distinguished American Award to Sen. Trent Lott (R-Miss.). We regret the omission.

100 organizations. Chapter President Kathleen Clemence reported that the event attracted several hundred visitors, and a door prize of a ride in a private plane owned by former chapter president Don Schwartz generated the most excitement.

Fort Wayne (Ind.) Chapter's Tom Hissem, vice president for Government Relations, has revived a program to give AFA citations to Boy Scouts in the northeast Indiana area who achieve the rank of Eagle Scout. Hissem noted that about 70 youngsters become Eagle Scouts each year in the 19 counties covered by the local Boy Scouts of America council. He said the certificates help recognize outstanding leadership by young men.

Have AFA/AEF News?

Contributions to "AFA/AEF National Report" should be sent to *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Phone: (703) 247-5828. Fax: (703) 247-5855. ■

Unit Reunions

Air Force Technical Applications Center, including units involved in long-range detection. September 14-16, 1997. **Contact:** Hq. AFTAC, Attn: Fiftieth-Anniversary Committee, 1030 S. Hwy. A1A, Patrick AFB, FL 32925-3002. Phone (407) 494-7332 or DSN 854-7332.

Tan Son Nhut Ass'n, 7th Air Force veterans. October 8-12, 1997, in Hampton, Va. **Contact:** John F. Peele, 6203 57th Ave., Riverdale, MD 20737. Phone: (301) 277-0072 or (301) 277-7474.

Tuskegee Airmen. August 11-17, 1997, at The Westin Hotel in Indianapolis, Ind. **Contact:** Tuskegee Airmen, Inc., P. O. Box 15, Washington, DC 20001. Phone: (317) 283-4064.

14th Tactical Reconnaissance Squadron. September 25-28, 1997, in San Antonio, Tex. **Contact:**

Col. Dale L. Flowers, USAF (Ret.), 4330 W. Orchid Lane, Glendale, AZ 85302. Phone: (602) 937-5544. Fax: (602) 939-7278.

F-16 "Viper" Pilots. June 12-15, 1997, at the Hilton and Tower Flamingo in Las Vegas, Nev. **Contacts:** Capt. David Meyer, USAF, or Captain Fantini, USAF, 4269 Tyndall Ave., Nellis AFB, NV 89191-6074. Phone: (702) 652-2964 or DSN 682-2964.

20th Air Depot Group, Hq. and Repair Squadrons, North Africa and Italy (1942-45). August 21-24, 1997, at the Holiday Inn South in Moraine, Ohio. **Contact:** Scott C. Ide, Jr., 195 Patrice Terr., Williamsville, NY 14221-3924. Phone: (716) 634-2197.

27th Bomb Group (World War II). September 22-25, 1997, at the Holiday Inn Resort in Pigeon

Forge, Tenn. **Contact:** Paul H. Lankford, 105 Hummingbird Dr., Maryville, TN 37803. Phone: (423) 982-1189 (home) or (423) 984-7004 (office).

39th Bomb Group, Guam (1945). August 14-17, 1997, in Albuquerque, N. M. **Contacts:** James W. Wyckoff, 2714 Hayts Corners E. Rd., Ovid, NY 14521-9768. Phone: (607) 869-2574. Robert E. Weiler, 2045 Hyde Park St., Apt. #3, Sarasota, FL 34239-3941. Phone: (941) 365-8287.

43d Aerial Port Squadron (AFRES), Bergstrom AFB, Tex. June 21, 1997, in Austin, Tex. **Contact:** C. J. Johnson, 5106 Ponderosa Pkwy., Austin, TX 78727. Phone: (512) 219-5381.

43d Bomb Group Ass'n. September 7-14, 1997, at the Hilton Albuquerque in Albuquerque, N. M. **Contact:** Jack Caperton, 7524 Prairie Rd. N. E., Albuquerque, NM 87109. Phone: (505) 888-5411.

Army Air Forces Pilot Classes of 1944. October 16–19, 1997, in New Orleans, La. **Contact:** Stan Yost, 13671 Ovenbird Dr., Fort Myers, FL 33908. Phone: (941) 466-1473.

Pilot Class 47-C "Guinea Pigs," fiftieth-anniversary reunion. October 8–10, 1997, in San Antonio, Tex. **Contact:** Robert M. Campion, P. O. Box 1712, Fulton, TX 78358-1712. Phone: (512) 729-3491.

Pilot Class 53-C. September 25–27, 1997, in Colorado Springs, Colo. **Contact:** Kenneth C. Ewing, 7741 A.S. Curtice Dr., Littleton, CO 80120. Phone: (303) 797-0420.

Aviation Cadet Class 60-06. October 10–12, 1997, in Crystal River, Fla. **Contact:** Col. James M. Hembree, USAF (Ret.), 5379 N. Sierra Vista Dr., Crystal River, FL 34428. Phone: (352) 563-1680.

62d/37th Troop Carrier Squadrons Ass'n. September 4–7, 1997, in Kansas City, Mo. **Contact:** Kemp F. Martin, 806 Oak Valley Dr., Houston, TX 77024. Phone: (713) 464-0401.

68th Air Service Group. October 15–19, 1997, in Cocoa Beach, Fla. **Contact:** Dick Force. Phone: (904) 262-0446.

Undergraduate Pilot Training Class 73-03, Columbus AFB, Miss. October 17–19, 1997, in Columbus, Miss. **Contact:** Jerome Coolidge, P. O. Box 243, Hainesport, NJ 08036-0243.

74th Troop Carrier Squadron (World War II). June 11–15, 1997, at the Marriott Southern Hills in Tulsa, Okla. Other squadrons assigned to the 434th Troop Carrier Group are welcome. **Contact:** P. Lindloff, P. O. Box 9147, Waco, TX 76714.

75th Troop Carrier Squadron (World War II). September 11–14, 1997, at the Red Lion Inn Omaha in Omaha, Neb. **Contact:** Robert C. Richards, 266 Woodlawn Dr., Tipp City, OH 45371. Phone: (937) 339-7508.

84th Bomb Squadron, 47th Bomb Wing. September 10–14, 1997, in Colorado Springs, Colo. **Contact:** Charles R. Palmer, 511 Wellington Ave., Newark, OH 43055-6440. Phone or fax: (614) 345-3229.

85th Bomb Squadron, RAF Sculthorpe, UK. September 10–14, 1997, in Colorado Springs, Colo. **Contact:** George E. Watson, 5 Ryder Ct., Stony Point, NY 10980. Phone: (914) 786-5366.

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.

90th Bomb Group (World War II). September 11–14, 1997, in Santa Clara, Calif. **Contact:** M. O. Freeman, 7367 Via Montecitos, San Jose, CA 95135. Phone: (408) 270-7598.

91st Intelligence Squadron/91st Aero/Photographic Mapping and Charting/Reconnaissance/Strategic Reconnaissance/Tactical Reconnaissance Squadrons. August 19–21, 1997. **Contact:** MSgt. Mark Soulliard, USAF, 91st Intelligence Squadron/CCQ, 9827 Love Rd., Fort

Meade, MD 20755. Phone: (301) 677-0870 or (301) 677-0759.

96th Air Refueling Squadron (1953–65). Altus AFB, Okla. October 23–26, 1997, at The Menger Hotel in San Antonio, Tex. **Contact:** Richard F. Lyon, 1054 Woodlore Cir., Gulf Breeze, FL 32561. Phone: (904) 932-0124.

98th Bomb Group/Bomb Wing Ass'n. October 14–18, 1997, at the Branson Grand Ramada in Branson, Mo. **Contact:** Stan Fientje, 310 Sunnywood Lane, San Marcos, TX 78666-8914. Phone: (512) 396-2509.

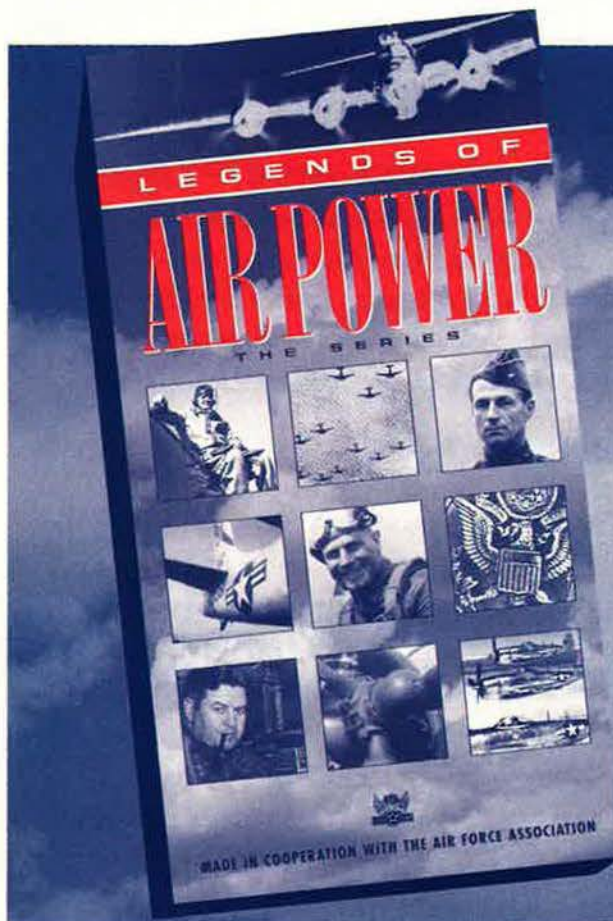
F-100C Pilots, 53d Fighter-Day/Tactical Fighter Squadron, Landstuhl and Ramstein AB, West Germany (1956–61). July 4, 1997, weekend in Colorado Springs, Colo. **Contact:** Mel Anderson, 2965 Enchanted Cir. W., Colorado Springs, CO 80917. Phone: (719) 591-4924.

390th Bomb Group Veterans Ass'n, 8th Air Force (World War II). August 24–31, 1997, in Chicago, Ill. **Contact:** Ken Rowland, P. O. Box 28363, Spokane, WA 99228-8363. Phone or fax: (509) 467-2565.

452d Bomb Wing, Korea (1950–52), forty-seventh anniversary reunion. August 9, 1997, at the Petroleum Club in Long Beach, Calif. **Contact:** Gene Hoffman, P. O. Box 3785, Long Beach, CA 90803. Phone: (562) 438-7138.

485th Tactical Missile Wing, Florennes AB, Belgium. June 27–29, 1997, in Washington, D. C. **Contact:** Ellen Merkle, 8507 Woodland Manor Dr., Laurel, MD 20724. Phone: (301) 688-9992 (work) or (301) 604-4746 (home).

686th Aircraft Control and Warning Squadron, Walker AFB, N. M. July 11–13, 1997, in



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Unit Reunions

Dayton, Ohio. **Contact:** Dallas Roth, 3532 Butler Rd., Fort Wayne, IN 46808. Phone: (219) 484-4731.

Seeking **1st Mobile Communications** personnel, Airways and Air Communications Service, Johnson AB, Japan (1953-58), for a reunion.

Contact: Philip Leever, 9735 Lamantin Dr., Fort Richey, FL 34668-3632. Phone: (813) 842-4106.

Seeking **22d Troop Carrier Squadron** personnel who were stationed at Tachikawa AB, Japan, 1952-54, for a reunion. **Contact:** Tom Switzer, P. O. Box 206, Canyon City, OR 97820-0206.

Seeking **Pilot Class 53-A** personnel, Colum-

bus AFB, Miss., or Webb AFB, Tex., for a reunion. **Contact:** Don Runyon, 113 Deer Wood Lane, Easley, SC 29642-3313. Phone: (864) 855-5932.

Seeking members of the **358th Fighter Group**, World War II, for a reunion. **Contact:** Lt. Col. Robert W. Bowen, USAF (Ret.), 215 Mockingbird Ct., Pinehurst, NC 28374-8111. ■

Bulletin Board

Seeking information on any Chinese Nationalists (especially **Charles Wan**) who received pilot training at Kelly Field, Tex., from the late 1920s to the early 1930s. **Contact:** Capt. Mike Wan, 162d Operations Group, 195th Fighter Squadron, 1660 E. Tigre Way, Tucson, AZ 85706-6086.

For interviews, seeking contact with **Women's Airforce Service Pilots**. **Contact:** Claire Vandenberg, P. O. Box 25741, Little Rock, AR 72221-5741.

Seeking contact with pilots and maintenance personnel who have experience with or knowledge of Polish-built **MIG-15** aircraft. **Contact:** John Swihart, Combat Air Museum, P. O. Box 19142, Topeka, KS 66619.

Seeking contact with or information on **Robert K. Billings**, Class 43-G, Williams Field, Ariz. **Contact:** Col. Warren G. "Beans" Campbell, 5045 S. W. Hillview Ave., Corvallis, OR 97333-3904.

Seeking contact with crew members of F-84E #FS-630-A **Catskill Hillbilly/Auquicherbellaichin**. Also seeking contact with **Gordon Blood, Charles Cathcart, Ray Metera, John Rose, Clayton "Bud" Silliman, and Paul Wood**. **Contact:** R. C. Roark, 2216 S. 132d E. Ave., Tulsa, OK 74134.

Seeking information on and photos of ANG B-26s of **108th Bomb Squadron**, 126th Bomb Wing, 1949-51. **Contact:** Richard Terlecki, 1801 35th St. #314, Annex Building, Oak Brook, IL 60521.

Seeking historical information on the **B-29s Erlola Gay and Dave's Dream**. **Contact:** Eugene L. Klouser, Box 168C Rt. 1, Grove Dr., Hegins, PA 17938.

Seeking information on a 91st Bomb Group, 8th Air Force, mission, September 27, 1943, over Emden, Germany, flown by B-17 pilot **Cleo Clinton Struble**. **Contact:** Lt. Col. Melvin R. Scott, USAF (Ret.), 1935 3d St., Brookings, SD 57006.

Seeking contact with **A2C Phillip Parker**, AMFEA, Châteauroux, France, 1957-58, originally from Washington, and **TSgt. Martin Paul Gardner**, Hq. USAFE, Wiesbaden, West Germany, 1965-68, originally from Arizona. **Contact:** Fred Hemmerly, P. O. Box 3453, Hampton, VA 23663.

Seeking information on and contact with **Robert Wilson**, probably from Wisconsin, and other personnel who were stationed at North Pickenham, UK, in 1956. **Contact:** Barbara Eggleton, Sand Pit Cottage, Reepham Rd., Briston, Melton Constable, Norfolk NR24 2LJ, UK.

Seeking information on **Ground Observer Corps and Operation Skywatch**, 1949-59. **Contact:** Peter J. Esterle, 3427 Wright Rd., Uniontown, OH 44685.

Seeking contact with or information on **Capt. Elmer L. Blankenship**. **Contact:** Robert P. Hill, 2002 Maple St., Liberty, TX 7757-4130.

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Seeking contact with or information on **John Parks**, who was stationed at Kelly Field, Tex., 1944-45. **Contact:** Joe Peters, 118 West St., Bainbridge, GA 31717.

Seeking Army Air Corps **flight jackets** and memorabilia. **Contact:** Capt. Peter J. Guerra, USAF, 1300 N. L St., Apt. #37, Lompoc, CA 93436.

Seeking contact with the **36th Fighter Wing Association**. Also seeking a 36th FW baseball cap. **Contact:** Lt. Col. Douglas K. McKnight, USAF (Ret.), 2130 Camino Dr., Escondido, CA 92026.

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 contact with the **pilot and copilot of a C-47**, which refueled in Knoxville, Tenn., bound for India in December 1944, who allowed a private to "pilot" the aircraft. **Contact:** Charles A. Winter, 2580 S. Williams St., Denver, CO 80210.

Seeking information on **Capt. Charles Marvin Williams, Jr.**, born in Vero Beach, Fla., bombardier in the North Africa campaign and B-25 instructor in 1942 or 1943 at Columbia, S. C. **Contact:** Clarence M. Harrison, Jr., 2004 6th St., W. Palmetto, FL 34221.

Seeking information on and contact with B-24 crew members in the **63d Bomb Squadron**, 43d Bomb Group, 5th Air Force, during World War II in the Pacific theater. **Contact:** Albert G. Webber, 75 Silk Rd., Fulton, NY 13069.

Seeking Army Air Forces **memorabilia** from World War I and II. **Contact:** Jon G. Cerar, 425 John St., Carlinville, IL 62626.

To return a footlocker, seeking contact with or information on **Lloyd G. Whitton, Jr.**, presumably stationed in Lancashire, UK, at either Washington Hall Camp at Euxton or at Burtonwood, during World War II. **Contact:** Malcolm J. Speight, 142 Collingwood Rd., Chorley, Lancashire PR7 2QF, UK.

Seeking **Medal of Honor** memorabilia from all wars and contact with recipients from the Vietnam War. **Contact:** Lee A. Kampstad, 500 S. Edwards Blvd. #45, Lake Geneva, WI 53147-4542.

Seeking contact with **Majs. Robert M. Hopkins and Kirby Ludwig**, who ejected from F-111A #67-040 over Zion National Park, Utah, after a birdstrike on July 11, 1973. **Contact:** Lt. Col. William T. Allen, USAF (Ret.), 4409 Inwood Rd., Fort Worth, TX 76109.

Seeking contact with former members of the **488th Bomb Squadron**, 340th Bomb Group, a B-25 unit during World War II. **Contact:** A. E. Baxter, 7816 Antiopi St., Annandale, VA 22003-1405.

Seeking contact with 449th Bomb Group personnel who knew **Joseph F. Mumford**, gunner with the 716th Bomb Squadron, killed in action November 16, 1944, aboard *Princess Helen* #42-78479. **Contact:** Joe Doudera, 1732 Lake Christopher Dr., Virginia Beach, VA 23464.

Seeking contact with or information on **Andrelle Cavenah**, whose father was Col. Kenneth Cavenah, stationed at Hickam AFB, Hawaii, in the late 1950s and early 1960s. **Contact:** Georganne Leppert Harrison, 125 Glen Eagle Way, Vacaville, CA 95688.

Seeking contact with **Vernon Leroy Jensen**, who was stationed at RAF Station Manston, UK, 1958-59. **Contact:** John Healy, 1 Beechwood Crescent, Bexleyheath, Kent DA7 4EL, UK.

Seeking contact with a fighter pilot, possibly named Lieutenant O'Neil, with the **332d Fighter Group**, who was shot down near Trets, France, and saved by the French Resistance. **Contact:** Seeking USAF personnel who were based in Brisbane, Australia, during World War II and attended services at or visited **Saint John's Anglican Cathedral**. **Contact:** Dean Arthur Grimshaw, GPO Box 421, Brisbane 4001, Australia.

Seeking USAF personnel who were involved with a base at **Grendon Hall** in Northamptonshire, UK, during World War II. **Contact:** Willy Gilder, BBC Northampton, Abington 4, Northampton NN1 2BH, UK.

Seeking information on and memorabilia from the Army Air Corps **air mail service** in 1934 and about a pilot, **Lieutenant Poole**, from Newark, N. J., who was killed flying mail during this period. **Contact:** Martin Seibel, 167 Buttermilk Bridge Rd., Asbury, NJ 08802.

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