

# 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 Martin for beam and fire control, and



*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.*

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 pods that have the same basic shape

## 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.

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 SMSgt. 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. Jo-

seph 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 takeoff 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 recommendations 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.

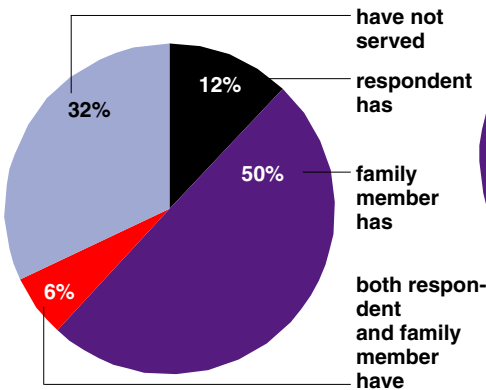
**Personnel Office Cites Banner Year**

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.

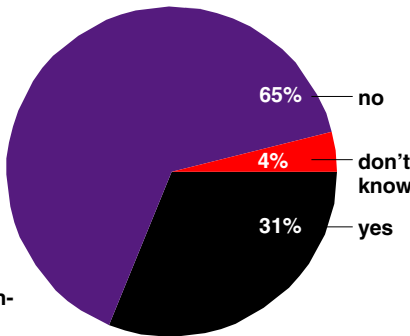
With one of its streamlining initiatives—setting up 23 regional civilian personnel offices—the Pentagon expects to save \$182 million a year.

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

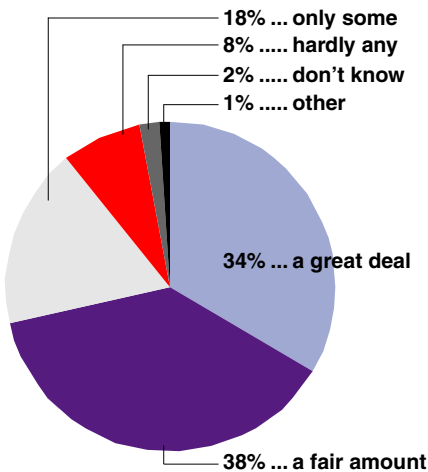


Survey Organization: Associated Press (interviews conducted by I.C.R. Survey Research Group)  
Population: national adult • Population size: 1,010 • Date: February 18–23, 1997

**I**f 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?

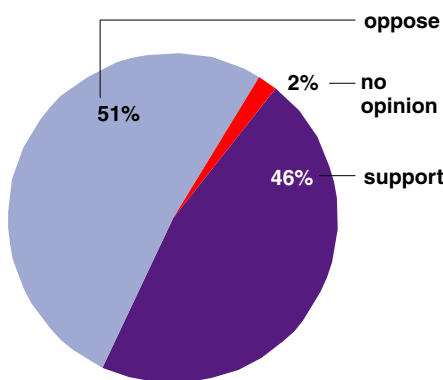


**H**ow much confidence do you have in the people running the military?



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

**D**o you support or oppose...reducing spending on defense and the military?



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

It 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

## 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.

2,000 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, Ind.; Homestead ARB, Fla.; March ARB,

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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,

USAF photo by Boyd Belcher



*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.*

enforcing 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

**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 is 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.

that the booster was outside 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-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 making 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. Kuening, 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, AIR-SOUTH, 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. McBroom . . . 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 Lead 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 SOW, 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 Comp. 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. ■



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■ Two AFRC F-16s from Homestead AFB, 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.

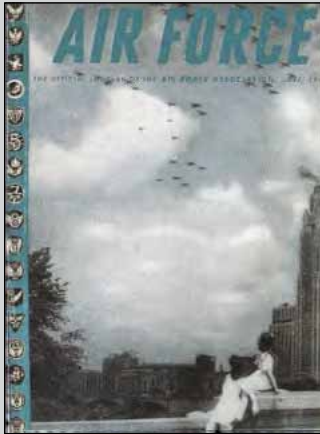
■ More than 300 members of RAF Mildenhall, UK, units set up shop in West Africa to support Joint Task Force–Guardian Retrieval, established to evacuate American citizens from Zaire, in late March. The 352d Special Operations Group brought MC-130P Combat Shadow aircraft and MH-53J Pave Low helicopters.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

■ 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 AMCC-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/gulflink/>) 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.

**USAFE**  
<http://www.usafe.af.mil/>

**Ellsworth AFB**  
<http://www.ellsworth.af.mil/>

**AFBCA**  
<http://www.afbca.hq.af.mil/>