Aerospace World

By Suzann Chapman, Associate Editor

Air Staff Gets New Look

The Air Force has changed its Air Staff organization "to more effectively employ its warfighting capabilities," according to a December statement. The changes mark the first top-level reorganization since 1991.

The reorganization took effect last month and made several changes to the deputy chief of staff, assistant DCS, and directorate structure. The DCS for Plans and Operations split into the DCS for Operations and the DCS for Plans and Programs. USAF eliminated the ACS for Intelligence and made intelligence part of the DCS for Operations. The DCS for Plans and Programs absorbed the directorate for Programs and Evaluations.

The DCS for Logistics became the DCS for Installations and Logistics and absorbed the directorates of Civil Engineer and Services. The DCS for Communications and Information became a directorate. And, finally, the Air Force created a new directorate, called Security Forces, with responsibility for force protection.

Air Force officials stated that the merger of intelligence with operations would "lead to creation of an information-operations culture." The DCS for Operations now controls functions in intelligence, surveillance and reconnaissance, weather, command and control, and operations.

The service also wanted to centralize programming and planning processes. The new DCS for Plans and Programs now hosts all long-range planning efforts and ties "the revitalized long-range planning process" into programming plans to meet national objectives.

The new Security Forces directorate also will oversee a new direct reporting unit, slated to be located at Lackland AFB, Tex. Air Force officials said the new DRU would focus on quick and effective responses to protect airmen around the world.

The Air Force Doctrine Center will move from Langley AFB, Va., to Maxwell AFB, Ala., where it will become a DRU. Another new DRU, the Air Force Communications Center, will set up in the Washington, D.C., area. The service expects to establish all three DRUs in April.

On December 5 at the Pentagon, US Postal Service and Air Force officials unveiled this 1997 commemorative stamp featuring the USAF Thunderbirds. The stamp honors the Air Force's fiftieth anniversary and goes on sale September 18.

EELV Enters New Phase

The Air Force announced on December 20 the selection of Lockheed Martin and McDonnell Douglas for the next phase in its Evolved Expendable Launch Vehicle program.

The EELV is to be based on a single, modular family of launch vehicles designed to replace the current medium- and heavy-lift expendable launchers—Delta, Atlas, and Titan.

Each company will receive $60 million for the 17-month pre–engineering and manufacturing development (pre-EMD) phase. The two companies competed against Alliant Techsystems and Boeing in a 15-month, low-cost concept validation phase.

Once the pre-EMD phase is concluded, USAF will select a single contractor to develop the standardized EELV family of boosters. The estimated contract value is $1.6 billion.

Service officials expect the EELV program to cost at least 25 percent less than existing launch vehicles. They estimate savings of $5 billion to $10 billion between 2002 and 2020. The first test launch of the EELV medium-lift version is set for Fiscal 2001 and the first government operational payloads for the following year.

Teams Develop New Core Boosters

Both Lockheed Martin and McDonnell Douglas have developed common core booster designs based on long-running, proven launch vehicles. Each also selected new first-stage main engines.

Lockheed Martin bases its EELV concept on an updated version of its Atlas booster, the Atlas IIAR, powered by the new RD-180 engine, developed by Pratt & Whitney and its Russian partner, NPO Energomash. The company plans to launch the first Atlas IIAR in December 1998. It expects to use the RD-180 as the baseline engine for its EELV entrant, as well as the Agena 2000, developed by Atlantic Research Corp. and Aerojet, for its storable propellant upper stage and the Pratt & Whitney RL-10E for the Centaur upper stage.

Boeing, McDonnell Douglas to Merge

Boeing and McDonnell Douglas in December announced their decision to merge, the first step in a $13.3 billion transaction that will create "the world's largest aerospace company."

Only weeks earlier, Boeing successfully acquired Rockwell aerospace and defense units—now grouped under the title Boeing North American, Inc.—for approximately $3.2 billion. Acquisition of McDonnell Douglas means that the new megacompany will have about 200,000 employees and operate in 27 states.

Boeing estimates its 1997 revenues will top $48 billion.

Based on those numbers, Boeing would step ahead of Lockheed Martin in the lineup of defense aerospace giants, which may soon have even fewer major players. Various reports predict that 1997 will feature more defense business gamesmanship—most likely, major buyouts of Hughes Electronics and Texas Instruments' military interests.

Consolidations within the defense industry have been considered a necessary response to the Pentagon's overall scaling back of its forces. However, some defense analysts wonder now whether the trend may have gone too far. Other analysts and some senior Pentagon officials believe the Boeing–McDonnell Douglas combination will create an entity capable of competing successfully with Lockheed Martin.

Two industrial teams, one led by Boeing and another by Lockheed Martin, were selected in November to compete for the Joint Strike Fighter, the only major combat aircraft program in the foreseeable future. *[See "JSF Competition Narrows," January 1997 "Aerospace World," p. 9.]*

The following month, the Air Force selected McDonnell Douglas and Lockheed Martin for the final stage of its Evolved Expendable Launch Vehicle program. *[See p. 9.]*

Moreover, Boeing's merger with McDonnell Douglas leaves the Washington-based aerospace giant on center stage as the nation's only manufacturer of large commercial jets.

The two companies agreed to retain the Boeing company name, but officials stated that they "do not intend to let fade the proud heritage of the McDonnell Douglas name." Officials said their target for approval by the two companies' shareholders and government regulators is mid-1997.

Plans call for company headquarters to remain in Seattle. Principal manufacturing entities will operate in three locations: the Puget Sound area of Washington state; Saint Louis, Mo.; and southern California.

Boeing's current president and chief executive officer, Philip M. Condit, will be chairman and CEO of the new industrial giant, while McDonnell Douglas's president and CEO, Harry C. Stonecipher, will be president and chief operating officer.

Boeing and McDonnell Douglas Programs by Market Segment

(The companies are sole or primary subcontractors on the following systems.)

Boeing	McDonnell Douglas
Defense Systems	
Airborne Warning and Control System	AH-64 Apache
Attack Laser aircraft**	Airborne surveillance
Aircraft modifications	AV-8B Harrier
Bombers	C^4I systems
CH-47 Chinook	C-17 Globemaster III
Defense electronics	F-15 Eagle
F-22 fighter	F/A-18 Hornet
Government Contractor Logistics Support	Harpoon missile
Intercontinental ballistic missile systems	Information warfare
Information systems	Joint Direct Attack Munition
Joint Strike Fighter**	KC-10 tanker
Maritime patrol aircraft	Mast-mounted sight for OH-58D Kiowa scout helicopter
RAH-66 Comanche	Standoff Land-Attack Missile/Joint Air-to-Surface Standoff Missile
Tactical missiles	T-45 trainer
Tankers/transports	Thermal imaging
V-22 Osprey	Training systems
Space Systems	
Commercial space systems	Delta II and III Expendable Launch Vehicle
Global Positioning System satellites	Titan IV payload fairing
Launch vehicle propulsion	
Sea launch	
Space launch processing	
Space shuttle programs	
Delta ELV and propulsion*	Delta ELV & propulsion*
Evolved ELV*	EELV*/**
Space station prime and module construction*	Space station prime and module construction*
Commercial Aircraft	
737-series	MD-11
747-400	MD-80/90
757-200/300	MD-95
767-series	MD-500 helicopter
777-200/300	MD-600 helicopter
BB-609 light civil tiltrotor	MD-Explorer helicopter

*Boeing and McDonnell Douglas are teamed on these projects.

**One of two companies participating in program competition.

McDonnell Douglas plans to use a variation of its Delta boosters coupled with Boeing's new Rocketdyne RS-68 for its EELV concept. The Delta IV will use common hardware and software employed on existing Delta II and III boosters. It plans to use an Aerojet engine for its Delta IV small booster and a Pratt & Whitney engine for the second stages of its Delta IV medium and heavy boosters.

USAF Wraps Up Khobar Probe

The Air Force has wrapped up its review of the June 25 bombing of the Khobar Towers housing complex in Dhahran, Saudi Arabia, which left 19 airmen dead. The service review exonerates senior officers, in contrast to the DoD report issued September 16, according to news accounts.

The service had not officially released its conclusions by year's end. However, widespread news reports indicated that the Air Force had decided not to take any action against commanders responsible for protection of the housing complex.

The Pentagon's own review, headed by retired Army Gen. Wayne A. Downing, had faulted the entire command structure and specifically cited Brig. Gen. Terryl J. Schwalier, the senior USAF commander in Dhahran, for failing to take appropriate action against possible attacks.

The news reports prompted several lawmakers to label the Air Force decision a whitewash. Some Congressmen called for immediate hearings on the issue, while others who were still critical of USAF's supposed findings, wanted to wait for the official release.

The Air Force had intended to release its review in December, but officials stated it was still under legal review. According to a DoD spokesman on December 17, the Air Force had not briefed Defense Secretary William J. Perry on the report.

USAF Keeps "Footprint" in Balkans

As the original Clinton Administration deadline for removing US troops from peacekeeping duties in Bosnia-Hercegovina changed from December 1996 to spring 1997, then possibly to 1998, one thing did not change: Air Force support.

The NATO-led implementation force changed to a stabilization force in December, but work for USAF operations in the theater, by such units as the 4100th Air Base Group (Provisional) at Tuzla, has not changed. Gen. Michael E. Ryan, commander of US Air Forces in Europe, told Air Force journalists on November 28, "I think that as the political decision is being made for the United States to participate in the follow-on force, that we will probably keep the footprint that we have here at Tuzla about the same as it is right now."

General Ryan did not see a change in USAF support for Operation Joint Endeavor at least through May 1997. He also dispelled rumors that deployments might go beyond the USAF-preferred limit of 120 days as the operation lengthens.

Fighter Cockpits Open

Faced with a shortage of fighter pilots, the Air Force has decided to open combat aircraft cockpits to some pilots of its other aircraft, including helicopters.

The first board to select candidates met last month and will be followed by five others as the service attempts to fill 150 fighter assignments over the next three years. Each board will select 25 pilots.

Air Force personnel officials said that they don't anticipate a problem filling the vacancies since about 600 pilots meet their criteria for selection. They noted that during the drawdown, fewer

The exhaust nozzle of Pratt & Whitney's F119 engine is undergoing tests at the Air Force's Arnold Engineering Development Center, Arnold AFB, Tenn. The F119 is the powerplant for the F-22, the service's new air-superiority fighter.

fighter assignments were available as pilots completed undergraduate pilot training. The Air Force Personnel Center has already received many inquiries about the crossflow opportunity.

However, some major commands expressed reservations about the effect the transfer to fighters might have on their aircraft. To avoid potential problems, personnel officials stated that the selection boards will include members from the major commands involved.

Generals Seek Nuclear "Abolition"

Only three years ago, Gen. George Lee Butler, USAF (Ret.), headed the nation's nuclear forces as commander in chief of US Strategic Command. He also had served as the final commander in chief of the Air Force's Strategic Air Command. On December 4, at the National Press Club in Washington, D. C., General Butler called for elimination of the world's nuclear arsenals.

He is working with retired Army Gen. Andrew J. Goodpaster, the former Supreme Allied Commander Europe, and 57 retired flag officers around the world to press for more reductions and ultimately abolition of nuclear weapons.

In a joint statement, the two US generals said that, because the process could take decades, "the time for action is now, for the alternative of inaction could well carry a high price."

Responding to questions about General Butler's remarks, various Administration officials—including Secretary of Defense Perry—noted that complete elimination was unrealistic and maintained that nuclear weapons continued to provide an effective deterrent.

General Butler stated that, in recent years, he has made an "arduous intellectual journey from staunch advocate of nuclear deterrence to public proponent of nuclear abolition." However, he said that while he never imagined the end of the Cold War in his lifetime, he saw it as an opportunity to restore "a world free of the apocalyptic threat of nuclear weapons."

Another outspoken critic of nuclear weapons, retired USAF Gen. Charles A. Horner, said such weapons can be reduced, but he added, "We must always be prepared to live in a world where there are a limited number of nuclear weapons." General Horner, the Operation Desert Storm air component commander, gave his views on the Public Broadcasting System's "NewsHour With Jim Lehrer."

General Horner said he learned during the Persian Gulf War that nuclear weapons had diminishing utility and that the US must deter nations that have nuclear weapons by using "very strong conventional forces, such as B-2s and laser-guided bombs."

General Butler also stated that the Clinton Administration's 1993 Nuclear Posture Review was a "far from sufficient step" and "purposefully avoided the larger policy issues." He called for a "sweeping review" of US nuclear policies and strategies.

Everything on the Table?

DoD's Quadrennial Defense Review (QDR) started with the premise that "everything is on the table" as the Pentagon sought to shape itself for the twenty-first century. Deputy Defense Secretary John P. White told reporters on December 12 that nothing would be sacrosanct and the emphasis would be on innovation and jointness.

The deputy secretary also stated that he had delivered the same message privately to senior leaders for each service when he told them to "be realistic and be collegial in terms of making and adjusting to the changes that we have to make."

However, the Washington *Times* reported the next day that decisions essentially already had been made to put some Army and Air Force elements on the chopping block. The *Times* stated that defense leaders—encouraged by Clinton Administration officials—were considering the elimination of two active-component Army divisions and three of USAF's 20 remaining fighter wings. The Navy would keep its 350 ships but could lose one or two air wings.

According to Secretary White, the QDR will "reexamine our assumptions" about DoD's approach to determining military requirements. He added that it's time "to do a longer-term assessment" keeping within the President's budget guidance—about $250 billion over the next five years.

Since 1993, the Pentagon has operated under the hotly debated two-major-regional-conflict strategy introduced by then–Defense Secretary Les Aspin's Bottom-Up Review. One major criticism has been that the military budget simply cannot sustain the two-MRC as well as peacetime-contingency operations.

Civilian Review Panel Eyed

In addition to its own review, DoD faces two independent assessments—one by the Chairman of the Joint Chiefs of Staff (JCS) and one by a National Defense Panel, made up of nine pri-

McDonnell Douglas delivered the first operational test Standoff Land-Attack Missile–Expanded Response (SLAM ER) to the Navy on December 17. Low-rate initial production for the upgraded SLAM begins next month.

vate citizens knowledgeable about defense—mandated by Congress in the Fiscal 1997 defense budget conference report.

Pentagon officials expected to disclose the names of panel members following Congressional approval by the first of the year.

The NDP's initial report is due by the middle of next month. The Pentagon must complete the QDR and report to Congress by May 15. The review by JCS Chairman Army Gen. John M. Shalikashvili is also due to Congress on May 15.

Secretary White and USAF Gen. Joseph W. Ralston, JCS vice chairman, head the QDR steering group. The review structure also includes a strategy panel, force-structure panel, and human resources panel. An integration group will coordinate the information from the various panels.

As well as reviewing the Pentagon's efforts, the nine defense experts are also supposed to develop an alternative force structure. Congress wants that report by December 1, 1997.

Reserve Crash Claims 10

An Air Force Reserve HC-130P with 11 Reservists on board crashed November 22 into the Pacific Ocean about 60 miles off the coast of northern California.

The Coast Guard rescued TSgt. Robert T. Vogel, an airborne communications specialist from Albany, Ore., but the other nine crew members and one passenger, all members of the 304th Rescue Squadron at Portland IAP, Ore., were killed in the accident.

The crew reported to Oakland Center at about 7:30 p.m. that they had shut down one engine and had electrical problems. Air traffic controllers at Oakland, Calif., and Seattle, Wash., lost radar and radio contact soon after that report.

Those killed were Capt. Robert P. Schott, aircraft commander, West Linn, Ore.; Capt. Brant Ferrarini, aircraft commander, Tigard, Ore.; Lt. Col. John W. Keyes, chief of Standardization and Evaluation, Troutdale, Ore.; Capt. Kirk A. Wellnitz, navigator, Portland, Ore.; SMSgt. Robert J. Roberts, flight engineer superintendent, Milwaukie, Ore.; TSgt. David W. McAuley, loadmaster, Gresham, Ore.; SSgt. James R. Johnson, loadmaster trainee, Brush Prairie, Wash.; SSgt. Marvin H. Forrest, aircraft mechanic, Vancouver, Wash.; SSgt. Ronald E. Garner, Jr., aircraft mechanic, Silverton, Ore.; and SSgt. Jonathan Leonard, intelligence operations specialist, Tigard, Ore.

At about 9:00 p.m., a Coast Guard helicopter crew pulled Sergeant Vogel, who had been clinging to an aircraft seat cushion, from the frigid waters.

Crash Investigations Complete

The Air Force recently announced the results of three aircraft accident investigations into separate incidents involving a T-3A, C-130, and F-16.

The T-3A crashed September 30 near Calhan, Colo., killing both a US Air Force Academy instructor pilot, Capt. Clay D. Smith, and a student, Cadet Dennis P. Rando *[see "News Notes," December 1996 "Aerospace World," p. 16].* The report stated that the accident "was caused by a stalled condition from which the instructor pilot was unable to recover." It also said that "the engine quit for an unknown reason prior to the stall entry."

Inspections of the engine and maintenance records did not show why the engine stopped, according to a USAF release. The T-3A had been delivered to the 557th Flying Training Squadron, an Air Education and Training Command unit at the Academy in Colorado Springs, Colo., on March 27, 1996. Its last scheduled 50-hour maintenance inspection took place on September 18.

Lockheed Martin photo by John Rossino

Lockheed Martin completed assembly of the last H model C-130, ending a 32-year production run for this version of the Hercules. (For details on the C-130J, see "Snapshots of Force Modernization," p. 20.)

Investigation into the August 17 crash of a C-130 near Jackson Hole, Wyo. *[see "C-130 Crash Claims Nine," October 1996 "Aerospace World," p. 11.],* concluded that crew error caused the crash. According to the report, the crew failed to monitor the aircraft's position and flight path in relation to the high terrain surrounding Jackson Hole Airport.

According to the third report, a piece of concrete or very rough rock damaged an engine fan blade, causing the July 11 crash of an F-16 into a residential area near Pensacola, Fla. *[see "News Notes," September 1996 "Aerospace World," p. 23].* The pilot, Maj. Frederik G. Hartwig, ejected without serious injury, but the aircraft killed a four-year-old boy and injured his mother.

Although the foreign object caused "catastrophic failure" of a fan blade, followed by engine flameout, the report also cited insufficient actual straight-in simulated flameout approach training as a contributing factor. Noting that the pilot's simulated flameout knowledge "is excellent," the investigating officer stated that the mishap circumstances "didn't necessarily lend themselves to a textbook solution."

The pilot was flying the fighter from Shaw AFB, S.C., to Eglin AFB, Fla., to avoid Hurricane Bertha, when an engine failed and he tried to make an emergency landing at Pensacola Regional Airport, Fla. The report noted that the pilot could not see how densely populated the residential areas north of the airfield were until he was actually committed. He stayed with the aircraft, trying to aim for the most open area until the aircraft was at 209 feet and no longer responding to controls.

DoD Posts Safe Year

The Pentagon announced December 9 that Fiscal 1996 had been "its safest year ever." It cited a steady six-year decline in the major accident rate for aircraft, despite a rise in aviation-related fatalities—from 85 the previous year to 108.

Included in the 108 were 35 fatalities from the CT-43 crash that killed Commerce Secretary Ronald H. Brown and 34 others last April. Overall, the on-duty fatality rate for military members, federal civilian employees, and bystanders dropped from 206 to 171.

The number of aircraft totally destroyed hit "an all-time low of 67, down from 69 in the previous year," according to a DoD statement. The number of aircraft accidents per 100,000 flying hours dropped from 1.53 to 1.50.

Additionally, the department reported that the number of off-duty accidental deaths of military members dropped from 376 to 293, another all-time low.

USAF Posts Gains, Losses

Fiscal 1996 proved to be a record year for the Air Force in flying safety with four "best ever" marks and the second-lowest Class A mishap rate ever, according to Brig. Gen. Orin L. Godsey, USAF's chief of Safety. Class A mishaps are those involving either a fatality, more than $1 million in damage, or a destroyed aircraft.

He said that the bad news showed up in ground safety, where on-duty fatalities rose from six in Fiscal 1995 to 11 this past year. At the same time, off-duty fatalities dropped 25 percent from 92 to 69. Flight-related fatalities dropped from 53 to 51.

General Godsey said that the "best ever" results were based on a total of only 27 overall aircraft mishaps, only 20 aircraft destroyed, only 16 fighter/attack aircraft mishaps, and a fighter/attack Class A mishap rate per 100,000 flying hours of 2.20. He called the continued improvement in fighter/attack mishaps—down from 3.36 in 1995—particularly noteworthy.

The overall Class A mishap rate per 100,000 flying hours for Fiscal 1996 was 1.26, down from 1.44 in Fiscal 1995. The Air Force posted its best year in 1991 with a rate of 1.11.

USAF's top safety official also emphasized that the service had reduced Class A weapon mishaps by half, from six to three. The "weapon" category includes space, missile, and explosives safety.

Cheaper, Extended-Life C-5s?

According to a Lockheed Martin study commissioned by USAF's San Antonio Air Logistics Center, Kelly AFB, Tex., the Air Force could continue flying its fleet of C-5s through 2030 at greatly reduced operating costs and for much less than buying replacement aircraft.

The Air Force is considering various alternatives to help meet its strategic airlift requirements for the twenty-first century. The service has 126 C-5s, and many of the older versions have already reached the halfway point in projected service life.

Lockheed Martin said in December that it could reduce cost per ton-mile by 45 percent and extend the life of

Photo by Robert F. Dorr

On December 19, USS* Enterprise *deck crews prepared for the last carrier launch of a US Navy A-6E Intruder, ending the attack aircraft's 31-year operational career, which included service in the Vietnam War and the Persian Gulf War.

the giant airlifters for $35 million or less per aircraft. The one-time, comprehensive modernization effort would involve installing four new commercial engines, state-of-the-art avionics, and other system improvements.

The new engines would increase thrust by 22 percent, stated company officials. They also predicted that the upgrades would improve the mission capable rate by 22 to 29 percent.

Lockheed Martin officials also plan to bid for the C-5 depot maintenance work that the San Antonio ALC expects to privatize with a contract award in June.

F-16s Mark Five Million Hours

The F-16 Fighting Falcon entered the history books December 4 when the aircraft officially logged its five millionth flying hour during an aerial demonstration at Hill AFB, Utah. Capt. Kurt Gallegos from Hill's 388th Fighter Wing was the pilot.

The flying-hour total includes time recorded since the first full-scale development F-16 began flying in 1976. It covers training sorties, continued developmental testing, and combat flying in the Middle East and the Balkans.

Hill AFB received the first production aircraft in January 1979 and continues to host one of the largest populations of F-16s. It is also home to the Ogden ALC, USAF's primary F-16 maintenance depot, and the first Air Force Reserve unit to receive F-16s, the 419th FW.

The 419th's Maj. Mike Brill received an award at the December 4 ceremony for having logged more F-16 hours than any other pilot in the world, according to a USAF press release. At that time, Major Brill had flown more than 3,700 hours in F-16s. The 1979 Air Force Academy graduate flew F-16s on active duty for 10 years before joining the Reserve, where he now flies about 200 hours per year.

News Notes

■ Capt. William R. Grace, an instructor pilot with Training Squadron Four at NAS Pensacola, Fla., and 2d Lt. Massimiliano Belvisi, an Italian Air Force student pilot, were killed when their US Navy T-34C crashed near Maxwell AFB, Ala., on December 2. They were practicing various landing approaches when they requested permission for an emergency landing but did not specify a reason.

■ A T-37 from the 47th Flying Training Wing, Laughlin AFB, Tex., crashed on landing at the base on December 12. Both people on board were taken to a local hospital.

■ An Air National Guard F-16 from the 178th Fighter Wing, Springfield-Beckley Municipal Airport, Ohio, crashed in a state forest near Piketon, Ohio, on November 27. Both crew members ejected safely.

■ Maj. Matthew Copp, a 53d Fighter Squadron pilot at Spangdahlem AB, Germany, recently became the fifth USAF pilot to reach 3,000 flying hours in the F-15C Eagle, the base reported in December.

■ The 429th Electronic Combat Squadron, Cannon AFB, N.M., recognized Capt. Michael Hake in November as the first electronic warfare officer to surpass 2,000 hours in the EF-111A Raven.

■ The Air Force Thunderbirds flew their 1,000th aerial demonstration in the F-16 on their last performance in 1996, November 10 at Pope AFB, N.C. A USAF release stated that more than 4.2 million spectators in 11 countries and 26 states saw a Thunderbird performance during 1996. The team's lifetime

Senior Staff Changes

RETIREMENTS: M/G Hiram H. **Burr,** Jr., L/G John S. **Fairfield.**

PROMOTIONS: To be **Major General:** Maxwell C. **Bailey,** William J. **Dendinger,** Dennis G. **Haines,** Charles R. **Henderson,** Charles R. **Holland,** Silas R. **Johnson,** Jr., Thomas J. **Keck,** Rodney P. **Kelly,** Ronald E. **Keys,** David R. **Love,** Earl W. **Mabry** II, Richard C. **Marr,** William F. **Moore,** Thomas H. **Neary,** Susan L. **Pamerleau,** Andrew J. **Pelak,** Jr., Gerald F. **Perryman,** Jr., Roger R. **Radcliff,** Richard H. **Roellig,** Lansford E. **Trapp,** Jr., Thomas C. **Waskow,** Charles J. **Wax,** John L. **Woodward,** Jr., Michael K. **Wyrick.**

CHANGES: B/G Patrick O. Adams, from Dir. of Services, Hq. USAF, Washington, D.C., to Dir., Manpower and Personnel, J-1, Jt. Staff, Washington, D.C. . . . **Col. (B/G selectee) Charles E. Croom, Jr.,** from Dir., Mission Systems, DCS/Communications and Information, Hq. USAF, Washington, D.C., to Dir., C^3 Systems, Hq. USEUCOM, Stuttgart-Vaihingen, Germany, replacing retiring B/G Buford R. Witt.

SENIOR ENLISTED ADVISOR (SEA) RETIREMENT: CMSgt. Richard G. **Griffis.**

SEA CHANGE: CMSgt. Robert M. Clougherty, to SEA, Hq. AFSPC, Peterson AFB, Colo., replacing retired CMSgt. Richard G. Griffis. ▪

crowd count is more than 287 million.

■ Col. Jim Macon, 509th Bomb Wing vice commander, and Maj. Len Litton flew the 1,000th mission for the B-2 stealth bomber after less than three years of operation at Whiteman AFB, Mo., on November 21.

■ The National Guard celebrated its 360th anniversary on December 13 by presenting a new award, now its highest honor, to the person for whom it is named, Maj. Gen. G.V. "Sonny" Montgomery. The retired Mississippi National Guardsman served 30 years in the House of Representatives and, among many accomplishments, developed the modern-day Montgomery GI Bill.

■ Military and DoD civilian homeowners near Cannon AFB, N.M., who have been unable to sell their homes after the base's realignment, may be eligible for the Homeowners Assistance Program in which the government will pay 75 percent of the March 1995 (date of the announcement of base realignment action) fair market value or pay off the current mortgage balance. Those who sold their homes at a loss may be able to recover some money as well. The base plans to process applications through December 31, 1998.

■ USAF named the eleventh operational B-2 bomber *Spirit of Oklahoma* and the twelfth, *Spirit of Florida.* The thirteenth operational B-2 arrived at Whiteman AFB, Mo., in September and was dedicated as *Spirit of Kitty Hawk* in December. The unit will receive eight more B-2s by early 1998 to complete the 21-aircraft fleet.

■ Three Civil Air Patrol cadets—Amy Abrahms, Brooke Elliot, and Lauren Wagner—are three of the first four young women recently accepted by the formerly all-male Virginia Military Institute.

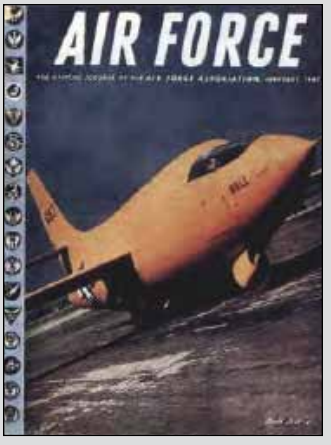
■ SSgt. Jennifer D. Noble, of the 305th Medical Group at McGuire AFB, N.J., received the Lakewood City (Calif.) Mayor's Award of Valor on November 14 for her heroism while assigned to March AFB, Calif., when she helped save several people injured in a two-car crash in December 1995.

■ The Air Education and Training Command team from Vance AFB, Okla., won the 1996 USAF Top Dollar competition held at Camp Bullis, Tex., November 18–22. The 11th Wing, from Bolling AFB, D.C., placed second.

■ The 1996 Chief of Staff Team Excellence Awards were won by the Fuel Systems Repair Section Process Action Team, 22d Maintenance Squadron, McConnell AFB, Kan.; the Oxygen Shop Lean Logistics Team, Oklahoma City Air Logistics Center, Tinker AFB, Okla.; the Isochronal/Refurbishment Quality Improvement Process Workgroup, 4th Air Force, McClellan AFB, Calif.; the F-15 Egress Natural Working Group, 18th MS, Kadena AB, Japan; and the Weapons Storage Area Security Enhancement Team, 321st Security Police Squadron, Grand Forks AFB, N.D.

■ The New York Air National Guard's 109th Airlift Wing began flights to Ant-

50 Years Ago in *Air Force* Magazine



February 1947

On the cover: The Bell XS-1 rocket plane. Launched from the undercarriage of a B-29, it had achieved the speed of 550 mph in shakedown testing.

■ In "Flight Plan: 1947," Gen. Carl A. Spaatz, commanding general of the Army Air Forces, says the new Air Reserve Training Program will train 120,000 enlisted members and 50,000 officers in 1947 and that the combination of the Reserve, the Air National Guard, and the regular AAF will provide a force of 1.5 million.

■ According to an ad, the price for a Beechcraft Bonanza was $7,345, but "production for early 1947 is already sold."

■ The Veterans Administration announces that it will cover up to $500 of the tuition and costs for the airline transport pilot course when taken under the GI Bill.

■ AAF organization chart for December 1946, reprinted in the centerfold, shows headquarters and the eight major air commands as follows: Air Defense Command, Mitchel Field, N.Y.; Strategic Air Command, Bolling Field, D.C.; Tactical Air Command, Langley Field, Va.; Air Transport Command, Washington, D.C.; Air Training Command, Barksdale Field, La.; Air Proving Ground Command, Orlando, Fla.; Air Materiel Command, Wright Field, Ohio; and Air University, Maxwell Field, Fla.

■ **AFA news:** The Baltimore (Md.) Squadron (as chapters were called then), largest in the Association, draws a turnout of 300 to meet Brig. Gen. H.G. Thatcher, chief of staff of 11th Air Force.

Special thanks to Robert M. Hosan of Wilmington, Del., who lent his mint-condition copies of the February and June 1947 Air Force *Magazine for reproduction of the covers in this series.*

USAF Celebrates 50

Valiant Air Command, Titusville, Fla., will dedicate its annual airshow on March 14–16, featuring vintage aircraft, to the Air Force.

The Community College of the Air Force, Maxwell AFB, Ala., will celebrate its twenty-fifth anniversary and USAF's fiftieth with a reenactment of airmail delivery to Montgomery, Ala., when a de Havilland DH-4 symbolically delivers letters from the Secretary of the Air Force and the Chief of Staff on April 15.

Louisville, Ky., will salute the Air Force on April 19–20, during its Thunder Over Louisville airshow.

USAF will host the Global Air Chiefs Conference on April 22–24 at Las Vegas, Nev., during the Air Force Association's fiftieth-anniversary symposium.

Nellis AFB, Nev., will host the Golden Air Tattoo airshow, featuring foreign air force demonstration teams, the USAF Thunderbirds, and vintage aircraft on April 25–26.

The US Postal Service will release a commemorative 32-cent postage stamp on September 18, 1997, to recognize the Air Force's fiftieth anniversary. The stamp features an image of the USAF Thunderbirds flying F-16 Fighting Falcons.

Special World Wide Web sites established to honor the golden anniversary include the Pacific Air Forces site (http://www.cidss.af.mil/50th/index.html), selected by *Windows* Magazine as runner-up for the best organizational web site on the Internet.

The Armament Museum at Eglin AFB, Fla., opened a permanent exhibit in October featuring the history of the air commandos from World War II to present-day operations of Air Force Special Operations Command.

The first Swiss-assembled F/A-18 Hornet successfully completed its first flight on October 3. Switzerland will handle final assembly for 31 additional fighters out of the 34 it purchased from McDonnell Douglas.

arctica with a new LC-130H, christened *City of Christchurch,* in December as it replaces the US Navy in providing logistic support to the National Science Foundation's US Antarctic Program. Christchurch, New Zealand, serves as a gateway city in the program.

■ The Advanced Control Technology for Integrated Vehicles (ACTIVE) program F-15 flew four milestone flights at the Dryden Flight Research Center, Edwards AFB, Calif., on October 31 and November 1, in which the highly modified F-15B achieved vectoring, or deflecting, of its engine thrust at a speed of more than Mach 1.95. NASA's Dryden facility, the Air Force Flight Dynamics Laboratory at Wright-Patterson AFB, Ohio, Pratt & Whitney, and McDonnell Douglas are jointly pursuing the ACTIVE program to develop both commercial and military aircraft performance and maneuvering improvements.

■ USAF Maj. Mike Bloomfield will pilot space shuttle *Atlantis* on mission STS-86, set for launch in September, on the seventh of nine planned flights to dock the space shuttle with Russia's Mir space station. It will be his first spaceflight following more than a year of astronaut training.

■ The Air Force has changed its approach to its base inspector general system and began filling newly created, full-time IG positions at each wing last year. Formerly, a wing's vice commander filled the IG role. Now, rather than trying to separate the IG role from one of command, each wing has either a colonel or lieutenant colonel, depending on the wing's size, whose sole job is to act as an ombudsman.

■ World War II veteran Thomas J. Berry received a Silver Star November 26 at Scott AFB, Ill., more than 50 years after he successfully landed his glider behind enemy lines in Holland on September 22, 1944, as a first lieutenant supporting the US Army's 82d Airborne Division during Operation Market Garden. While returning to his unit, he helped an antitank gun crew destroy a German tank, but the crew did not learn his name until Mr. Berry met them again at a World War II reunion.

■ Retired Maj. Gen. Charles D. Metcalf, whose last assignment was commander of the Air Force Accounting and Finance Center in 1991, became the new director of the US Air Force Museum, located at Wright-Patterson AFB, Ohio, on December 2.

Obituaries

One of the most decorated Army Air Forces pilots in World War II, **Col. Frank Kurtz,** USAF (Ret.), died at his home in California October 31, following complications from a fall. He was 85. As an Army Air Forces pilot, he flew B-17s in the Pacific and, using parts from other aircraft, helped resurrect B-17 #40-3097, which was christened *Swoose,* and put it back to work in the Pacific theater. He then went to the European theater to head the "Swoose Group." After the war, Colonel Kurtz worked with the National Air and Space Museum to make the B-17 *Swoose* part of its permanent inventory.

The designer of the first partial pressure suit used by military pilots, **Dr. James P. Henry,** died of cancer on November 20. He was 82. As an assistant professor in Aviation Medicine at the University of Southern California in the 1940s, he designed and patented the pressure suit. During 15 years with the Air Force, including three years on active duty, he worked on cardiovascular problems caused by altitude and acceleration and directed the Physiology of Rocket Flight research project.

Astronomer **Carl Sagan,** who coined the term "nuclear winter," died from pneumonia on December 20 after a two-year battle with bone-marrow disease. The author, who won the Pulitzer Prize in 1978, helped popularize space with his Public Broadcasting System series, "Cosmos." He was 62. ■

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