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September 2007, Vol. 90, No. 9

AIR FORCE MAGAZINE

JOURNAL OF THE AIR FORCE ASSOCIATION

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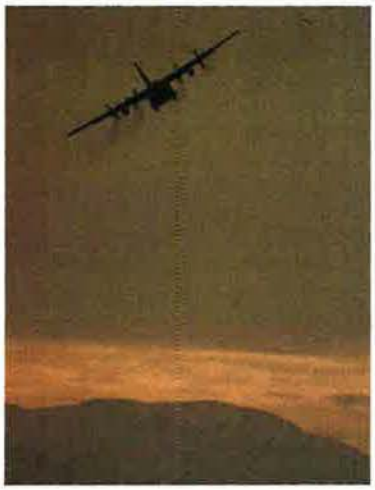

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Editorial

By Robert S. Dudney, Editor in Chief

An Air Force, If You Can Keep It

This is a year with two key airpower anniversaries. The first marked 100 years since the birth of America's air arm on Aug. 1, 1907. The second—this month—marks 60 years since Sept. 18, 1947, the day on which this air arm separated itself from the Army and became the United States Air Force.

The 1907 event may have been optional (see "The First of the Force," August 2007 issue), but the 1947 step was not—not after what the Army Air Forces achieved in World War II. Airpower pounded German industry and forces. Conventional and nuclear bombers devastated Japan. AAF's postwar elevation was all but inevitable.

A serious question, though, is how AAF pulled off such a wartime feat in the first place. There are many answers, but one is that, years before it made itself *separate from* the Army, the air arm made itself *independent of* the Army, and thus free to develop its immense latent power.

Airpower historians have elaborated on that fact for years. It is a point made with great force and clarity by John T. Correll, a former editor of this magazine, in a new article about airpower on the eve of World War II. His piece, which will appear in our October issue, recounts how airmen, in the 1930s, faced and survived near-suffocation from their Army brethren.

Entering the 1930s, the Army had mostly dispensed with the view, rife in the 1920s, that airpower was of *no* military value. However, the Army as a whole had been cut to the bone and was starved for cash. Gen. Douglas MacArthur, Army Chief of Staff, argued in 1932 that spending on aviation was "money thrown away." Still, the pivotal issue was not whether to have airpower. The question was: what kind?

The Army's dominant ground-force faction insisted that the Air Corps was, like artillery, a mere adjunct of the ground force, with no mission but to support ground units. In 1934, Maj. Gen. Hugh A. Drum, the Army's deputy chief, asserted there should be "no [air] operations not contributing to the success of the ground campaign." Aircraft, he said, need not be able to fly more than three days' march ahead of infantry units.

Inevitably, Army views led to wooden-headed decisions that stunted military aviation. In 1935, mostly to divert calls for an independent air arm, the Army consolidated all air combat units under a GHQ Air Force, but did not let the Chief of the Air Corps command it. The Army, in a key 1935 bomber selection, chose the short-range B-18 over the superior four-engine B-17. In 1938, Gen. Malin Craig, Chief of Staff, barred AAC from flying more than 100 miles beyond the United States shoreline. And so forth.

In 1939, AAC was small and wobbly, with a personnel strength of 26,000 and air fleet of 1,200 fighters and bombers, many of them obsolete. AAC counted only 13 modern bombers. Eddie Rickenbacker, the top US ace, said the AAC trailed German aviation by 10 years.

Before it made itself *separate from* the Army, the air arm made itself *independent of* the Army.

However, airpower's fortunes would soon begin to improve. The impetus came from key personnel changes:

- Maj. Gen. Henry H. Arnold became Air Corps Chief, bringing with him a restless impatience and commitment to strategic airpower.
- Maj. Gen. George C. Marshall replaced Craig as Chief of Staff of the Army. Unlike his predecessors, Marshall supported the B-17 bomber and was a staunch supporter of airpower.
- Henry L. Stimson became Secretary of War. He displaced Harry H. Woodring, an isolationist who expended much effort keeping long-range bombers out of the hands of airmen.

The three were united in what was, for that time, an unusual belief—that airpower should not be tied to surface forces, as it then was, but should be managed and operated independently. The effort got timely aid from President Franklin D. Roosevelt.

Alarmed by German airpower, FDR, at a historic Nov. 14, 1938 White House meeting, approved a 10,000-airplane Air Corps. Arnold saw FDR's decree as AAC's "Magna Carta." Historian Richard J. Overy wrote, "Support from the President ... rescued American air strategy from the War Department's view of airpower."

The interaction of Arnold, Marshall, Stimson, Roosevelt, and numerous senior airmen produced major progress in 1939, 1940, and 1941—the three years before Pearl Harbor. Marshall formed the Army Air Forces and made it co-equal with the ground forces. He made an AAC officer, Brig. Gen. Frank Andrews, his operations chief. Arnold himself became a member of the Joint Chiefs of Staff.

The air arm, if not yet fully independent, was autonomous, and airpower began to develop.

By summer of 1941, AAF strength was 152,125 troops and 6,777 aircraft, of which 120 were heavy bombers. Critical aircraft types were in or nearing production. The framework for growth was in place, and, because it was, the nation was able in a few short years to create a 2.4-million-strong force.

Postwar Army leadership generally favored Air Force separation from the Army. After some four years of war, few any longer believed that the air arm was just a supporting force.

The story, however, does not end there. Formation of an independent USAF was supposed to answer basic questions: Who controls air forces? What is their purpose? Yet these questions recur, and today are nearly as pertinent as they were in the 1930s.

Many Army boosters argue that, in Iraq and Afghanistan, the Air Force should devote virtually all missions to direct support of the ground forces. The Army seeks its own fleets of high-flying unmanned air vehicles and tactical transports, tethered to local commanders.

Many soldiers demand that USAF support the Army. Airmen say the Air Force *and* Army should support the Joint Force commander. USAF might be 60, but the struggle for airpower will go on a while longer.

As Benjamin Franklin left the Constitutional Convention on Sept. 18, 1787, someone shouted, "What have we got, a republic or a monarchy?" Franklin replied, "A republic, if you can keep it." He meant that survival of the new order would never be a sure thing but would require constant defense and attention.

That is something airmen might ponder on the Air Force's 60th birthday, and every day. ■

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Letters

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Well-postured?

I greatly enjoyed your article "Comeback in the Pacific" by Executive Editor John Tirpak *[July, p. 24],* as it shows that we are finally making some moves in the Pacific. I was somewhat surprised by Adm. [William J.] Fallon's statement that we are "well-postured" to repel any attack by North Korea or any other nation. *["'Overmatch'" in the Pacific," box, p. 26.]* In fact I would argue quite to the contrary. Having watched the growth of the Sleeping Dragon, communist China, through my tours in Southeast Asia during the Vietnam conflict, flying reconnaissance in the coastal areas of Asia, through the Cold War at a Pacific facility in charge of the intelligence database for the entire Pacific, to the more recent blatant take down of our P-3 Navy aircrew by communist Red Chinese MiGs, and a tour at Air Force Special Operations Command headquarters during the invasion of Afghanistan, I have some other thoughts on the subject.

When you consider the vast military expansion of the Chinese forces, and their economic impact on the entire world, I would politely give an assessment quite the opposite of Admiral Fallon's. This is my viewpoint of the present situation: Our reduced presence in the Pacific, since the end of the Vietnam conflict, has only in the last few years taken a slight turn for the better, after some 30 years of a spiraling downturn of military assets to that of merely a token presence of air and naval forces in some former key Pacific areas [where] we once were considered unbeatable. At the same time, the Chinese have amazingly positioned themselves in the world in every trade center, not just the US, but especially in their new areas of key operations such as the Panama Canal, South America, and Africa. At the same time that this grand Chinese military buildup and trade monopoly was taking place, the US systematically reduced our forces in the Pacific until very recently.

I would venture to believe that the astonishing takedown of our Navy P-3 by the Chinese Air Force in international airspace and the internment of our military personnel and the stripping of our sensitive electronic equipment by Chinese forces was a turning point, at least for some of us. It helped me to realize that the communist empire of the Cold War is still in place regardless of our multinational corporate interests that we so handily have laid out to the communist regime, while disregarding the human rights interest of [our] forefathers.

I can remember in the late 1980s attending the Pacific Basin Forum, where ambassadors to the key countries of the Pacific Rim came to discuss in Honolulu their desperate cry for increased participation of US forces in the Pacific. Australia was a key country that supported to the hilt year after year and conflict after conflict the US position in the world, but only got lip service when it came to improving defense capabilities bilaterally in their part of the world. We reduced our Air Force capability until most recently down to the bare bones, and our great Pacific Fleet of the past has been stripped to a minimum number of ships and routes as compared to the great US Pacific Fleet of the past. I remember in the late 1980s the CINCPAC assessment that our aircraft numbers were down to the lowest since WWII.

Yes, I do like the few key things we are doing in the Pacific, such as moving the Japanese into a better military posture [and] building up military capabilities on Guam and Hawaii to begin to turn this around, but without a strong cohesive political and military desire to come back in the Pacific, and treat it as our greatest area of interest, I fear that the Chinese momentum will, if it has not already, nullify most of the tactical and strategic advantages we fought for during WWI and II, Korea, and Vietnam.

Finally, Admiral Fallon's comment of "well-postured" falls just short of apology for the reduction of our national interest in the Pacific. Let's hope and pray if we are to ensure future peaceful settlement of any scenario in the Pacific, whether it be North Korean, Taiwan, or Spratley Islands dilemmas, it will only be through a heightened awareness of our vulnerability and [continuing] to strengthen and resolve these vulnerabilities. Let us not forget that the North Koreans are the puppet

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state of the [Chinese] communists and remain so today in my estimation. Just as we are finally starting to get tough with the Chinese on their goods that are produced with questionable labor practices and [that] can be tainted with questionable if not downright dangerous substances, I feel we need to prepare for the worst to be able to ensure the best outcome for peaceful resolution in the Pacific.

Lt. Col. Sid Howard,
USAF (Ret.)
Midwest City, Okla.

Drone War

Rebecca Grant's article, "The Drone War" (July 2007, p. 36), brings back memories of the "Missile War" of the 1950s when the Army, Navy, and Air Force were vying for supremacy in the ballistic missiles weapons field. [Vice Adm. William F.] Raborn of the Navy's Special Projects Office, and [Maj. Gen.] John Medaris of the Army's Redstone Arsenal, and [then-Brig. Gen.] Bernard A. Schriever of the Air Forces' Western Development Division all made strong, valid points of why their service should either be the dominant agency or why they should have separate programs of their own. Competition is healthy, but sometimes results in expensive duplications and operational chaos. Nonproductive interservice rivalries begin in the separate military academies.

These interservice rivalries for weapons and/or mission dominance did not begin with the missile programs, but are as old as the military services themselves. What makes the current competition of major importance to the Air Force is that the very future of the service is at stake. Over 50 years ago, the Air Force successfully experimented with a fully automatic aircraft (C-54) that could take off, cruise across an ocean, and land without anyone touching the controls. Within the next 50 years, the skies will be filled with aircraft that are fully automated from takeoff to landing with and without "safety pilots." Today's UAV combat vehicles are the harbinger of things to come. Current commercial and many military aircraft take a minimum of pilot intervention to operate. It is only a short step to where UAVs dominate the skies. The Air Force has reason to be concerned.

Lt. Col. Bill Getz,
USAF (Ret.)
Hillsborough, Calif.

Terry, Steve, and Friends

Thanks for the wonderful article on the aviation comic strips. Of course, I was a big fan of Steve Canyon as well as Terry and Smilin' Jack. Canyon seemed

to be real, like he was actually in the Air Force with us!

Zack Mosley came to Air Training Command HQ at Scott Field (about 1949) when I was assigned there as an airman first class drawing charts to help the generals manage the command. Zack was running "Downwind" (or another of his characters) through the aviation cadet program and came to the HQ for advice and suggestions, or something. I asked to meet him, and took a small piece of illustration board for his autograph. While signing for me, he commented that he could not draw Smilin' Jack for me because "those young Air Force officers drank me under the table last night at the O Club." He did look a little old and tired, but he did his duty by this fan and was cordial and pleasant about it.

Smilin' Jack had a fat friend who was always popping buttons off his shirt, and there was always a chicken there to catch the button in its beak. All of Zack's female characters had identical buxom bodies, always in the same pose, just different hair color and style. As you wrote, his airplanes were well-drawn and identifiable, though.

I also cherished Bob Stevens' "There I Was . . ." cartoons. I wish we still had those and Steve Canyon (Milton Caniff) to champion the USAF cause for the public today. The American people as a whole love airplanes and want the Air Force and the Navy to have the best (I helped design the "Super" F-18 E/F). I just wish the Army and the politicians were as "understanding."

I always read every word of anything John Correll writes that I see. Please continue.

Garland O. Goodwin
Columbus, N.C.

I was so pleased to read your fine article "A Brush With the Air Force," in the July issue.

Back in the early 1940s Milton Caniff came to Dayton and announced in the newspaper that he was offering a free public cartooning class in the Dayton art museum, so I enrolled for two weeks. Before he left for New York he gave me his autograph on a "Dragon Lady" illustration which now is hanging on my room wall.

During college I did some cartoons and a few theater backgrounds.

Of course, every day I loved to read his famed "Terry and the Pirates" and "Steve Canyon" and others. Milton's illustrations looked as if all were photographed—piece by piece and well-proportioned.

Col. Herbert W. Lester,
USAF (Ret.)
Kerrville, Tex.

Your article on "A Brush With the Air Force" brought back fond memories of

when I was a gunnery instructor at Luke AFB, Ariz. In 1951, the Air Force sent a group of cartoonists to various bases to be sure they depicted the Air Force accurately. I was assigned to be the host of Milt Caniff's partner, a Frank Engli. I told Mr. Engli that Terry (of "Terry and the Pirates") and I got out of flying school about the same time, and we checked out in P-40s about the same time. He thought that was pretty cool and asked if I would like some of Milt Caniff's work. A few weeks later I got a package from Frank Engli that contained—WOW!—an original pen and ink drawing of Terry flying (this was the black and white strip that was sent to the publisher), a color drawing of Steve Canyon, and a color drawing of Miss Lace—all signed to me by Mr. Caniff himself! These wonderful pictures are hanging in my den, and they represent to me all that is the best in Air Force cartooning.

Col. Bill Landis,
USAF (Ret.)
Escondido, Calif.

I just finished reading John Correll's article, "A Brush With the Air Force," in the July 2007 issue. It really opens up a can of "nostalgia" for me, as I'm sure it did for many. I grew up in the 1930s and

1940s and couldn't wait for the "funnies" so I could follow "Smilin' Jack" and "Terry and the Pirates." Their exploits were probably a big factor in my enlisting in the Air Force in 1948.

One of the big things I remember about the strips was the two or three panels Zack Mosley would have at the bottom of the Sunday "Smilin' Jack" episode. In it he had Jack's sidekick, "Fat Stuff" (a large fat man who was popping off his shirt buttons that were then swallowed by a chicken who followed him around), narrating the latest product of innovation involving aviation.

In 1950-51, I was working in the headquarters of the 19th Bomb Group at Kadena, Okinawa. The 19th was "experimenting" with a large 12,000-pound semiguided bomb that was developed from the British "Tallboy." The project was classified "top secret" with its accompanying problems: a canvas wall to be erected whenever an aircraft was being loaded, all weapons under cover at all times, air police guarding access to the area, etc.

One day, I was at my desk, when the lieutenant colonel in charge of "Tarzon" came storming in and went to the bulletin board and posted something, whereupon, he went rushing back out, slamming the door. The group commander, Colonel Jennings, came out of his office to check out the noise, read the article newly posted, uttered an expletive, and went back into his office. When the rest of us read what was posted, we couldn't believe it. There was this cartoon strip from the "Smilin' Jack" strip accurately depicting the Tarzon, its dimensions, guidance abilities, and the outfit that was currently using it in the Korean War. The lieutenant colonel's mother had cut it out of her Sunday paper and sent it to him.

Colonel Jennings was so ticked off, he immediately called and had the canvas fences dismantled, the air police dismissed, and told us all that "Tarzon" was no longer classified.

So much for "top secret."

Richard Oakley
Youngstown, Ohio

Your article titled "A Brush With the Air Force" in the July issue was a very good read and brought back many memories. I used to read "Terry and the Pirates" as a kid growing up in the Air Force and hated to see it discontinued, but that's life I suppose.

My question to Mr. Correll concerns a comic character from the 1940s, who was named Big Stupe. I have never seen anything that refers to such a character, but supposedly my father's World War II B-17 was named after him. Can you tell me if there was such a character and what comics he was in?

Dad's airplane, *Big Stupe V* (tail # 42-37816), was shot down on 13 April 1944 on a mission to Schweinfurt. Fortunately all 10 crew members survived, although my father (tail gunner), Lieutenant Heffley (pilot), and Lieutenant Carini (nav) were wounded in the last moments of flight as pursuing Me-109s finished the crippled bomber off over France.

I am very interested in the source of the name Big Stupe and if it came from comics from that era, I figured you could at least point me in the right direction.

Col. Frank Alfter, USAF (Ret.)
Beavercreek, Ohio

■ *John Correll replies: Big Stoop was a big—really big—Chinese partisan soldier fighting the Chinese in "Terry and the Pirates." Big Stoop never spoke, but his much smaller partner, whose name was Connie, talked enough for both of them.*

I thoroughly enjoyed John T. Correll's article in the July issue. It brought back childhood memories of reading the Sunday funnies, especially George Wunder's version of "Terry and the Pirates." Even at age 11, I could appreciate his unique, heavily detailed style, and I certainly agree that he never received the credit he was due. Even *Mad Magazine* parodied Terry in a wonderfully drawn strip in its early comic book format of the 1950s. Called "Teddy and the Pirates," the story opens with a great picture of two crashed caricatures of Caniff's pudgy P-40s, its pilots, Teddy and Halfshot, staggering off to find adventure.

On the way, they encounter a former CO, who looks like Edmond O'Brien, and the "Dragging Lady," which echoes the early strip. (By the way, talking about detail, look at the example of Caniff's work that opens your article, with Terry talking to an F-15 pilot. Caniff even drew the respirator valves on the inside of his 1944 oxygen mask. Beautiful work!)

Zack Mosley's "Smilin' Jack," on the other hand, offered a rather amateurish style reminiscent of Chet Gould's "Dick Tracy," often with perspectives that hadn't been discovered yet. Even allowing for artistic license, his people were grossly drawn, and, although the aircraft were better, they were usually displayed flying through the final panel for no apparent reason in absolutely garish, often nauseating colors such as magenta fuselages and jade green or banana yellow wings. I wonder if that transgression came from Mosley, himself, or perhaps from the editor who probably didn't know or care about showing the aircraft in correct colors.

The answer to the question of just

what was the aerodynamically grotesque aircraft of the "Blackhawk" strip was, indeed, the Grumman Skyrocket, which, fortunately, didn't go beyond the prototype stage. Today, it looks stodgy and ill-conceived, certainly not the appropriate mount for such a righteous, futuristic organization, which oddly seemed to favor uniforms similar to those worn by Hitler's SS.

Bob Stevens was a wonderful cartoonist, a gifted humorist, and someone who knew his subject from the inside. I can't tell you how often I doubled over in laughter reading his page, which I always turned to first with every new issue.

One of my favorites is the wheel watch junior officer, who fires his flare gun into the cockpit of the offending aircraft. After ejecting from his mortally wounded fighter, the singed pilot rips into the quivering youngster with, "Into the air, clod! Into the air!" Classic stuff! I still miss Bob's work, although I admire its current replacement, "Airpower Classics." Perhaps you could do a feature on Bob and show some of his strips.

One last note: Correll mentions the wartime strip "Male Call," by Milton Caniff. During the war, my father worked on *The Pointer,* the base newspaper for the Armed Guard section of the Navy. He returned with two bound volumes of the newspaper and as a kid, I memorized them. The issues usually contained one "Male Call," featuring Miss Lace, a combination of chorus girl and USO rep, there only to serve the homesick or lonely US soldier, usually, but not always, an enlisted man.

Once again, thanks for a great article.

Cmdr. Peter B. Mersky,
USNR (Ret.)
Alexandria, Va.

Strafing—World War II and Vietnam

As a veteran 30-mission B-24 pilot of World War II, General Lewis' article, "The Art of Strafing," interested me *[July, p. 54].* Although the only example of B-24 strafing I've heard about took place during the first Ploesti raid, and anything as big, slow, and vulnerable as a B-24 at .50 caliber strafing altitude would be hard for the enemy to miss in daylight, I often felt an urge to shoot back (from 25,000 feet, yet!) toward those ground-sparkle AA muzzle flashes. Needless to say, I never gave that order.

Instead, I fantasized [about] strafing them in a P-38 with four .50s and a nose cannon making life short and difficult for AA gun crews and their equipment. But I also wondered about sighting in fixed nose guns stationary on the ground vs. flying nearly 300 mph in thick, turbulent strafing-altitude air trying to bring guns to bear in the few available seconds. It seemed to me centering the needle-ball would be required to keep the gun-strike pattern hitting aim point. Perhaps small trim-tab adjustments might be needed to be sure the longitudinal axis of the airplane's motion coincided with the weapon bores—am I right? Or just an old, frustrated bomber pilot?

N.O. Klaner
Hendersonville, N.C.

Just reread General Lewis' article on strafing in the July issue and am still processing his input. I'm sure you folks will receive thousands of letters from fighter pilots chomping at the bit to "straighten you guys out."

Few subjects stir the average fighter-pilot's blood as does his belief that he was the best gun shooter to ever wedge his way into a USAF fighter cockpit.

During the war in SEA I flew three tours in the venerable old Hun. Arguably, the F-100 was the best jet-powered ground attack fighter in that fracas. (See, there I go.) I've had many, many forward air controllers from that era tell me that the old Hun was the bird they asked for when the chips were down and they faced a tight troops-in-contact (TIC) situation. Just last year I got a call from an old comrade, one of the brave David FACs operating deep in IV Corps, who went further and stated he asked for our squadron, the 90th TFS, Bien Hoa AB, SVN, in particular when it came to TICs.

On my 20th mission we were tasked to bail out an ARVN company pinned down by the VC deep in IV Corps. The bad guys were within 50 meters and the FAC asked if we could "strafe first."

Although the regulations prohibited strafe until the snake and nape were expended, these were our troops down there, so we did. Quite effectively, I might add. We broke the attack with guns, then bombed and naped them as they retreated—initially, inside of 50 meters.

This was in the old F-100, with no aiming aids other than an iron gunsight in the front window, plus the skill and determination of the airplane driver. That will never change.

The A-7 was quite an improvement, when it hit the field.

The idea that "those are our guys down there" will never change. When the FAC describes a tense TIC to you, as a fighter pilot it's the Super Bowl. That won't change when the F-35, or the F-22, are involved.

And, by the way, napalm was another great weapon when the TIC situation became tense. A good Hun driver could put a nape through the front door of a hootch.

Later in SEA I flew with the now-famous Misty group, where we routinely saved our guns for SAR situations since we were usually first on the scene, and accurate 20 mm fire could be the difference between getting the guy out or not.

Trust me: In Misty we did not track a target for 10 seconds. You would be killed on the first pass. In that heavy AAA environment a fast, tight, curvilinear strafing run was your only hope of survival and of saving the downed airman.

And, just for the record, no one strafed more accurately than the Sandies, the A-1 Spad guys. It took 'em awhile to get there, but they were brave dudes once on scene. (And, please, let's not hear from the A-37 community on this issue—small gun and combat range that amounted to airfield perimeter defense.)

When it comes to strafing, the pilot makes all the difference—and he must be well-trained!

Jack Doub
Valdosta, Ga.

How the West Would Have Won

Congratulations to Christopher Bowie for his insightful analysis, "How the West Would Have Won" in a war against the Warsaw Pact, July 2007, p. 60. While working as a historian at headquarters U.S. Air Forces in Europe (USAFE) from 1978 to 1984, I documented the command's past and ongoing efforts to improve its wartime readiness and survivability (material later used in Dr. Bowie's RAND studies). I think his scenario is as realistic as any such speculation can be if a war had broken out in the late 1980s. By then, however, the emergence of perestroika under Mikhail Gorbachev, the unraveling of the Warsaw Pact, and greatly improved American and NATO capabilities made such an event less likely than ever.

But what if the Soviets had launched an offensive in the late 1970s or early 1980s, when their military capabilities were peaking and Cold War tensions were at a more dangerous level? The endgame might have been more in doubt. NATO forces (including USAFE) were still in the process of upgrading weapon systems, improving training and interoperability, and strengthening vulnerable infrastructure. In 1982, the USAFE commander, Gen. Charles Gabriel, publicly expressed his concern about "the rapid pace of [Soviet] modernization," which he considered "phenomenal when compared with the US rate of improvements."

Perhaps the pact's greatest advantage over NATO would have been its vastly superior ability to wage chemical warfare


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(barely mentioned in Bowie's article). This could have seriously degraded allied forces, which were just starting to implement defensive measures and had only limited means to retaliate in kind. (And I shudder to think about the effects of lethal chemicals on nearby civilians, including American military dependents.)

There are many other questions that, fortunately, need never be answered. For example, what would have been the impact of communist sabotage and espionage, such as the Stasi's penetration of the West German government, or the betrayal of secure US military communication techniques by the John Walker spy ring? How much warning would NATO have had of a surprise attack? How promptly would the alliance's unwieldy 16-member decision-making process been able to respond? Would the war have been confined to Europe? Could the two sides have agreed on a cease-fire before resorting to nuclear weapons?

Regardless of its outcome, such a war would have been a catastrophe on both sides of the Iron Curtain. Despite the concerns listed above, I believe that the single most important military factor deterring Soviet aggression in Europe during the Cold War—with the exception of an attack's possible escalation into an unlimited nuclear war—was United States Air Forces in Europe. As noted in 1980 by another of its commanders, Gen. John Pauly, USAFE embodied "the strongest fighting entity within NATO." (The statement by General Pauly is from notes I took during his farewell address at the USAFE Officers' Call on July 16, 1980.)

Lawrence R. Benson
Albuquerque, N.M.

Red Erwin

John T. Correll is to be commended for his excellent article *["A Brave Man at the Right Time," June, p. 62]* on Henry "Red" Erwin, a hero among heroes. Mr. Correll mentioned that the B-29s on the Koriyama mission took off from Guam's North Field. That former Army Air Force facility was renamed Andersen Air Force Base in October 1949 and is still an important bomber base today.

On April 19, 1997—52 years to the day when Erwin received his Medal of Honor—Andersen's Mission Support Squadron facility was renamed the Henry E. "Red" Erwin Administration Complex. While Erwin could not attend because of health reasons, his son and daughter-in-law flew to Guam and attended the memorial ceremony. It was a fitting tribute to a man whose supererogatory actions exemplified service before self.

John Treiber
36th Wing Historian
Andersen AFB, Guam

Tricare: Paying More for Less?

I was glad to read that Congress once again will not be raising the Tricare Prime costs for retirees and family members *["Action in Congress: Higher Tricare Fees Backed," July, p. 23]*. I do not think that Tricare prime is worth an increase in the proposed fees. If the fees are eventually increased, then I would like to see retirees and family members be given a choice as to where he/she receives primary care: military facility or the civilian network. My spouse and I pay our yearly Tricare Prime fee. My spouse and I are mandated to be seen at the military facility in town. My spouse does receive her health care at the military facility, but has rarely seen the same provider twice in a row. She has not seen her primary care provider in over five years. When she calls for an appointment she is told that no appointments are available with her PCP for over a month, but that she can see a member of the team. To me this is not the continuity of care that Tricare has always spouted as being its trademark. I receive my primary care next door to the military facility at the Veterans Affairs clinic. I see the same physician every time. I can get an appointment within seven days at the VA. There may be military treatment facilities out there where the beneficiary sees the same medical provider each time, unless it is an emergency. I can only go by what is available in my area. If fees are increased, then service needs to be upgraded. Choice needs to be given to beneficiaries, especially the retirees and their family members who will be paying more. When I was on active duty I was told to "do more with less." Now it seems that as a retiree I am being told to "pay more for less."

Leo F. Voepel
El Paso, Tex.

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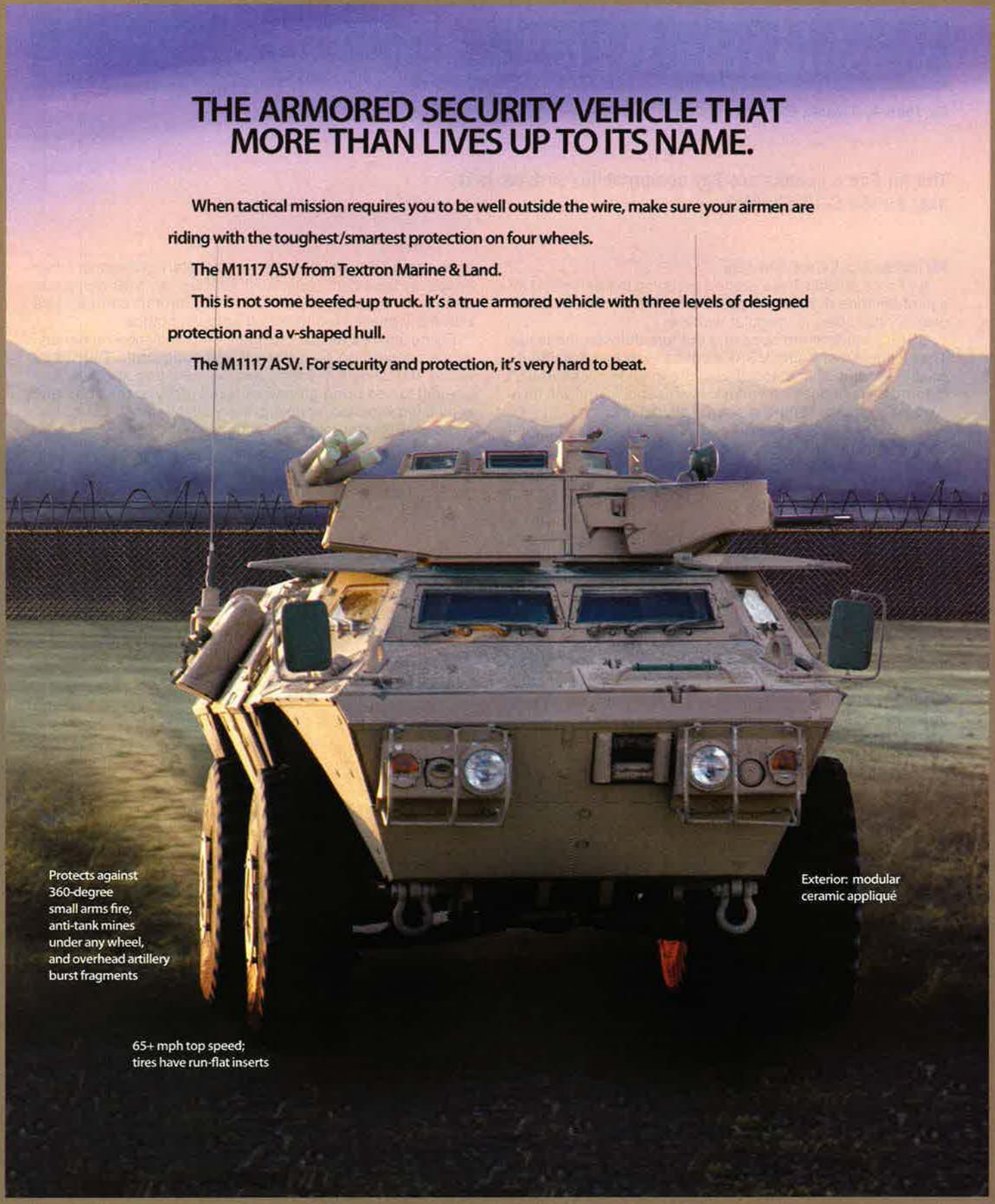

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Washington Watch

By John A. Tirpak, Executive Editor

The Air Force speaks up; Pay comparability arrives; Is it over for the C-17 Shuffle?

Air Force Seeks a COIN Flip

Air Force officials have started prepping the battlefield for a joint doctrine debate, expected in late 2007 or early 2008, over service roles in irregular warfare.

USAF's leaders are speaking out forcefully on the issue. They want to make sure USAF's critical—and largely unpublicized—contribution to today's counterinsurgency effort isn't ignored by joint doctrine writers. Their conclusions will have a major impact on future resource allocations.

Maj. Gen. Allen G. Peck, head of the Air Force Doctrine Center at Maxwell AFB, Ala., in June released "Airpower's Crucial Role in Irregular Warfare." In it, Peck claimed, "No one should dismiss IW as falling strictly within the purview of ground or special operations forces."

Airpower, Peck went on, is an "invaluable enabler" for all forces undertaking any fight short of all-out war.

The paper was an apparent riposte to an Army-Marine Corps counterinsurgency (or COIN) paper released this year. The paper minimized USAF's role in the COIN fight, portraying it as being little more than a taxi service for ground troops.

Peck pointed out that "the dominance of America's airpower in traditional wars has not been lost on those who threaten our national interests" and that, as a result, enemies will "turn increasingly to irregular warfare" to achieve their ends. The Air Force has to be ready to deal with that fact, he said.

Earlier this year, Air Force Special Operations Command announced it would move to set up an "irregular warfare" wing, and specified a force of 44 transports, 20 helicopters, and 20 attack aircraft dedicated to COIN operations.

Gen. T. Michael Moseley, USAF Chief of Staff, recently said he might consider assigning a squadron of A-10 attack aircraft as those dedicated COIN fighters.

USAF does indeed have a central role to play in irregular wars, counterinsurgencies, and urban warfare, but needs a better-explained doctrine for doing so, said the service's Scientific Advisory Board in an earlier study. The SAB urged a new curriculum in IW down to the most basic levels of training.

In his paper, Peck acknowledged that irregular warfare dilutes traditional Air Force power to threaten enemy centers of gravity. Decentralized foes don't offer lucrative targets such as command centers, industries, and massed forces.

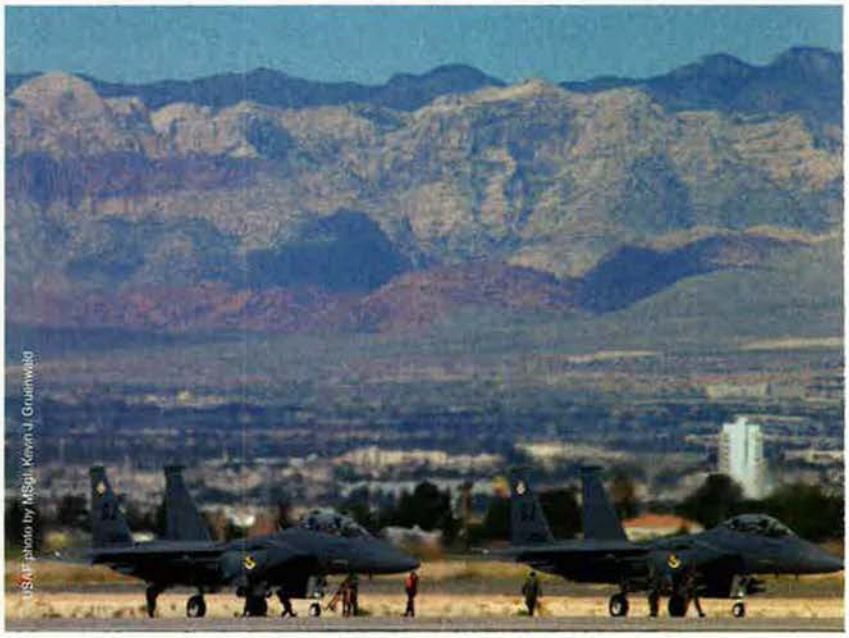
Nevertheless, he said, experience over the last six years of combat in Southwest Asia has shown that airpower can easily adapt to the fight.

He noted that "Cold War-era bombers" can loiter over the battlefield and give close support to ground troops. Fighters can double as reconnaissance platforms, piping street-by-street imagery to ground troops. They also can strike the enemy with great accuracy, even in very close proximity to ground troops.

Unmanned aircraft, Peck said, not only provide long-endurance watch on suspected enemy hideouts, but they can either attack on their own with small missiles or laser-designate targets for heavier aircraft. Jamming aircraft can interfere with the signals used to set off ambush bombs.

Flying above it all are intelligence-surveillance-reconnaissance sensors on both aircraft and spacecraft. They keep watch, detecting the enemy and coordinating attacks.

Airlift forces bring ground troops directly to the fight, and keep them supplied, and keep them off the dangerous roads, while SOF aircraft get special units in and out of the battle and support them with firepower.



USAF photo by MSgt. Kevin J. Gruenwald

F-15s at Nellis participate in an irregular warfare training exercise.

Rising in importance in the IW battle will be cyber operations, Peck noted. Cyber capabilities in network attack can be applied "almost without regard for geography or artificial surface boundaries."

Aside from ISR contributions, USAF space assets support the IW battle by providing precision navigation, communication, and weather data.

Peck sought to blunt Army and Marine Corps claims that bombing is too blunt an instrument to use effectively in an IW environment, noting that precision strike, abetted by highly accurate guidance and "cockpit-selectable fuzes," already permit airmen "to eliminate insurgents in close proximity to civilians or friendly ground forces, thus giving coalition forces a significant firepower advantage." USAF, he added, can deliver "intended effects precisely while limiting unintended effects."

The watchfulness of ISR, as well as the "mere visible or audible presence of airpower," can demonstrate the US commitment to the population and limit insurgents' freedom of movement, Peck said.

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The Air Force is already moving to ensure that its airmen can handle any fight, even if it happens to be on the surface, he added. "Just as airmen can survive and kill the enemy at great distances from the air, so must they have the training and motivation to survive and kill at close range on the ground," he said.

Troops Now at Pay Comparability?

A years-long march to make military pay comparable to that of civilians has overshot the mark, and military compensation now actually "compares favorably" with that received by civilians, claims the Congressional Budget Office.

CBO said that, while it is difficult to make apples-to-apples comparisons of military and civilian pay, today's military personnel are by most yardsticks doing well in comparison to civilian counterparts.

The CBO report, released in June, said it now costs about $138,000 a year to field one enlisted person, on average, versus $90,000 just three years ago. The growth has occurred because Congress, in each of the past six years, has raised military pay one-half of a percentage point above inflation.

Then came the caveats. CBO noted, appropriately, that military jobs are "more hazardous" than most civilian jobs, require "frequent moves, and are less flexible than civilian jobs in the same field." Uniformed personnel are subject to military justice and are "unable to resign, change jobs at will, or negotiate pay."

Still, the pay situation has so sharply turned around that the Office of Management and Budget (OMB) asked Congress not to add the extra half-percentage point increase in Fiscal 2008, as it would impose an unplanned $7 billion claim on the Pentagon's budget. The White House said pay is now adequate to maintain recruiting and retention levels, and is competitive with civilian employers. Furthermore, the OMB said the money is needed for urgently required equipment.

In its report, CBO claimed that 2006 compensation for enlisted military persons surpasses that earned by 70 percent of civilians with comparable education and work experience. Today's military pay, said CBO, also "compared favorably with the earnings of male federal white-collar employees of comparable ages, education, and experience."

When one adds in "noncash benefits"—retirement after 20 years of service, family health care, subsidized groceries and child care, and so on—"the military package [is] substantially larger than comparable civilian packages," the CBO said.

Military people receive government-paid education and training that they can take with them when they leave, plus family support programs and benefits.

The percentage of overall military compensation paid in cash is about 39 percent, highly consistent with CBO's 2004 estimate of 40 percent.

The CBO did not factor in compensation such as retention bonuses, hazardous duty pay, flight pay, or other career incentive pays, nor family separation allowances, higher housing allowances in expensive areas, or other add-on payments. It noted that enlisted retention bonuses in some in-demand fields can run as high as $150,000.

"A 20-year-old high school graduate with no dependents who had reached the pay grade of E-3 earned about $33,000 in cash compensation last year, as well as $28,000 in noncash and deferred benefits," for a total $61,000 overall, the CBO said.

An E-6 with 12 years of service and no family received "about $96,000 in pay and benefits, and a 40-year-old E-8 earned total compensation of about $127,000."

On average, those enlisted personnel with families received additional compensation worth between $16,000 and $20,000. Enlisted service members also tend to be promoted more quickly than their civilian counterparts, with raises that can increase their earnings by more than 10 percent per year.

Taking into account bonuses, skill pays, and other allowances, special operations forces got the highest enlisted pay. They were followed by medical sergeants in the special operations forces.

Wanted: Straight C-17 Answers

USAF has been trying to keep open an option to acquire additional C-17 airlifters even as it awaits the outcomes of some mobility studies and technical evaluations of a C-5 upgrade. The stalling tactic may now be at an end, though.

Three Senators are demanding a straight answer to a straight question: Does the Air Force want more C-17s, or not?

In a July letter to Defense Secretary Robert M. Gates, the three—Sen. Edward M. Kennedy (D-Mass.), Sen. John McCain (R-Ariz.), and Sen. Thomas R. Carper (D-Del.)—demanded to know just what the Air Force has in mind regarding the C-17.

Their interest was piqued by Boeing's recent decision to keep the C-17 line open—with its own funds—despite the absence of any further orders or Air Force requirements.

In a related move, Senate backers of both the C-17 and the C-5 upgrade amended the 2008 DOD authorization bill to require an outside analysis of the nation's strategic airlift situation.

The report would be due by February 2009 and take into account current and future missions, expanded ground forces, and the special requirements attending the deployment of the Army's Future Combat System.

The amendment was added by Sen. Claire C. McCaskill (D-Mo.).

Kennedy, McCain, and Carper, however, asked Gates whether USAF somehow "induced" Boeing to take this action. They said it would be "inappropriate, especially if it exposes taxpayers to liability in the event that Congress declines to purchase additional C-17 aircraft."

"The question we want answered," Carper said in a statement, "is whether the Air Force is planning to expand its C-17 program beyond what's been proposed ... or authorized by Congress." If the service wants more C-17s, he said, "then why hasn't it requested this additional funding from

USAF photo by Abner Guzman

C-17s: Boeing is betting that USAF will need more of them.

The Warthog: Modernized...and Operational!

From the outside, the revered "Warthog" appears unchanged. But to the warfighters operating the new A-10C, the changes are transformational. Major development and integration of new systems enable pilots to plug into the battlefield "net" for vastly improved situational awareness, deliver smart weapons and fight more efficiently. As the A-10C achieves operational status, the A-10 Prime Team congratulates the U.S. Air Force, Air Force Reserves and Air National Guard for reaching this important milestone. We wish the A-10C pilots and crews fair skies for their critical mission.

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Congress?" If it plans to buy no more, "then why is Boeing instructing its suppliers to resume work on parts for 10 new C-17s?"

Boeing, in announcing its decision to keep the C-17 line open, said it was basing its action on "increasing signs that the US Air Force has a requirement for 30 additional C-17s." The company also cited "increased bipartisan support" for the idea.

In response, the three Senators said, "As far as we know, [Boeing's] statements, as reported by the press, are inaccurate."

Air Force leaders have indeed wondered out loud whether to cut back on its C-5 re-engining and structural upgrade and divert those funds to 30 new C-17s. Back-of-the-envelope calculations also indicate that USAF may need as many as 35 more strategic airlifters to haul an expanded Army and Marine Corps and their gear.

Secretary of the Air Force Michael W. Wynne praised Boeing's move as "a very good gesture." He had previously expressed irritation that Boeing was openly discussing a line shutdown—and thus forcing the C-17 issue—at a time when USAF couldn't afford to buy any more of the aircraft.

The Senators demanded that Gates give them a definitive, official yes-or-no answer on whether the Air Force requires more C-17s. If there are "increasing signs" of such a need, as Boeing has said, they want an explanation.

Moreover, the Senators said the Air Force has brought to Capitol Hill briefings on the option to purchase 10 to 30 more C-17s. They want to know whether Gates thinks such briefings are appropriate, given the lack of stated requirement.

Finally, the lawmakers want to know what the Air Force would cut out of its own budget to pay for any new airlifters.

The F-22 Learning Curve

The chances that the F-22 Raptor will stay in production beyond the 183rd aircraft increased in July, as Defense Secretary Robert Gates approved a multiyear contract for the last 60 aircraft now on order.

The move continues production of the F-22 into the next Presidential Administration, which Air Force leaders hope will be inclined to expand the program.

Gates' decision was based on a RAND Corp. analysis verifying Air Force and Lockheed Martin claims that a multiyear contract would yield substantial savings on the aircraft. RAND determined that the multiyear deal would save between $274 million and $643 million. That was enough to convince Gates to proceed.

Congress approved the plan—in which several annual lots of production are guaranteed in advance—last year, but on condition that claimed savings be vetted independently. RAND completed its analysis in June.

Congress usually does not like to enter such arrangements because it obligates future appropriations and crimps lawmakers' ability to tinker with programs.

The multiyear deal will keep the F-22 line in operation through 2009. The program was repeatedly challenged by then-Secretary of Defense Donald H. Rumsfeld and his aides. They cut the planned buy of Raptors from 339 to 183 aircraft, even though the Air Force's minimum requirement is 381 fighters.

Rumsfeld never even took a briefing on the program, despite its status for years as the Pentagon's top procurement priority.

The Air Force is hoping a new Administration will reconsider the service's long-standing requirement for 381 Raptors. The figure has survived intense Pentagon scrutiny. Pentagon leaders openly admit that capping the program at 183 aircraft was based on finances, not validated requirements.

In the multiyear deal, roughly 70 percent of the savings will result from reduced labor costs, bulk part buying, and the elimination of several years' worth of supplier uncertainty, RAND's National Defense Research Institute said in its report.

"Achieving subcontractor and vendor quantity discounts is a key factor in obtaining savings on multiyear procurement programs," it noted.

RAND based its numbers on three separate scenarios.

First, it extrapolated future savings from learning curve cost reductions on all of the first six lots of production, which yielded the $274 million savings figure.

Second, it projected savings based only on the cost-cutting performance in lots five and six, which yielded the most likely amount of $411 million.

Third, it assumed future savings based on cost decreases

USAF photo by SSgt. Samuel Rogers

There is still hope for a full complement of Raptors.

achieved in Lot 6 alone, which would be $643 million on the last 60 airplanes, or more than $10 million each. The savings were stated in then-year, or actual, dollars spent.

"As a percentage of the total contract, savings under each of the three assumptions are 3.1 percent, 4.5 percent, and 6.9 percent, respectively," RAND noted.

Congress also wanted to know if F-22 savings would be in the same ballpark as those of other aircraft programs that were bought in multiyear contracts, and specifically when compared with previous fighter-attack aircraft.

The RAND savings estimates "are high by historical standards for fighter and attack aircraft, but well within the historical range for all aircraft with multiyear contracts since 1982," the think tank said in its report.

"This can be partially explained by the higher unit cost of the F-22A compared with other fighters," RAND's report added.

RAND concluded that the savings claimed by the Air Force and Lockheed Martin on the F-22 multiyear contract "appear to be reasonable."

Gen. Ronald E. Keys, head of Air Combat Command, has said that the current limit of 183 aircraft means the Air Force will stop buying F-22s just at the moment when the production line starts producing "the cheapest ones," which benefit both from learning curve savings and amortization of development and facility costs. ■


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Aerospace World

By Marc V. Schanz, Associate Editor

Airman Killed in Afghanistan

The Pentagon announced July 11 that Air Force MSgt. Randy J. Gillespie, 44, of Coaldale, Colo., died in action in Operation Enduring Freedom.

Gillespie, of the 56th Logistics Readiness Squadron at Luke AFB, Ariz., was killed July 9 by small-arms fire outside of Camp Stone—near Herat, Afghanistan.

Gillespie, a 24-year USAF veteran, was on his second tour to Afghanistan. Family members said that Gillespie had gone to Ft. Riley, Kan., earlier this year to learn how to train Afghan National Army soldiers and had been in Afghanistan since April.

OIF Airman Dies in Germany

TSgt. Joey D. Link, 29, of Portland, Tenn., died of unknown but noncombat-related causes at Landstuhl Regional Medical Center, Germany, on Aug. 5. Link was assigned to the 39th Airlift Squadron at Dyess AFB, Tex., where he was a C-130 flight engineer.

Link was deployed for Operation Iraqi Freedom at the time of his death.

Link joined the Air Force in 1996, first serving as a B-52 flying crew chief, a B-1B crew chief at Dyess' 7th Aircraft Maintenance Squadron, and an Air Force recruiter before retraining as a flight engineer.

Photo by Andrey Zhirnov/FoxbatFiles.com

A USAF C-17 from McChord AFB, Wash., is shown shortly after landing at Ramenskoye airfield near Zhukovskiy, Russia, in August. The C-17 is one of several USAF aircraft that took part in the 2007 MAKS air show, which ran from Aug. 21 to Aug. 26. The aircraft in the foreground is a Russian Mikoyan MiG-29K.

Mishap Claims ANG Pilot

The Coast Guard recovered the body of Maj. Gregory D. Young, 34, of St. Helens, Ore., on June 27. Young was an F-15 pilot with the Air National Guard's 142nd Fighter Wing in Portland.

Young and his F-15 were lost the previous day, while in a practice engagement with other F-15s and Marine Corps Reserve F/A-18s from Fort Worth, Tex.

The Air Force has convened a safety board to investigate the incident.

UAV Struggle Intensifies

The Pentagon's Joint Requirements Oversight Council recommended in July that the Air Force become the lead for medium- to high-altitude unmanned aerial vehicles, but the issue apparently still isn't settled.

Although the JROC did indeed approve executive agency, a senior Air Force official said, there were lingering problems that could scotch the decision. When the issue came before the service Chiefs in a subsequent Pentagon "tank" session, "it blew up," the official added.

In late July, the services were awaiting personal attention to the issue from Defense Secretary Robert M. Gates and his deputy, Gordon England.

The Air Force has been campaigning to become executive agent for high-flying UAVs, arguing that putting the service in charge of acquisition and

Russia Gives Delayed "Nyet" to CFE Treaty

Russia suspended its participation in the Conventional Forces in Europe treaty in July, as a consequence of tensions over US efforts to deploy missile defenses in Eastern Europe. The treaty governs numbers of aircraft, armored vehicles, and troops that NATO and Russia can deploy.

President Vladimir V. Putin announced that Russia would withdraw from the treaty in December if its concerns about the missile system and NATO expansion are not addressed.

The Kremlin issued a statement arguing that NATO expansion into Eastern Europe has enhanced the alliance's military strength, which violates the terms of the 1990 treaty. Russia also argued that NATO states Latvia, Lithuania, and Estonia did not sign the treaty and still have NATO weaponry deployed within their boundaries.

Russia also claimed that NATO had committed to refrain from establishing bases in new member states, and noted that the US is building facilities in Romania and Bulgaria. NATO says these are training areas.

According to a statement released by its Foreign Ministry, Russia will halt inspections allowed under the agreement and reserves the right to deploy heavy weapons along its western and southern borders, but only in response to a potential NATO redeployment.

USAF photo by SrA. Miranda Moorer

The 9th Reconnaissance Wing's RQ-4 program completed its first operational Global Hawk deployment on July 19 from Beale AFB, Calif., to Andersen AFB, Guam (shown here).

operational allocation of the drones will save money, make UAV sensor data more widely available, and make airspace management easier and safer.

However, the Army has stridently opposed the Air Force's efforts, arguing that its ground commanders need their own, on-demand UAV assets without having to request them through a centralized, joint-service system. The Navy, too, has resisted EA status for the Air Force, arguing that its unique sensor and network needs might be ignored in setting UAV requirements.

USAF Reduces Force Cut

The Air Force plans to cut a smaller number of personnel from its roster in FY 2008 than it originally planned, Air Staff officials told reporters at a July Pentagon briefing.

The Fiscal 2008 reduction is expected to be about 2,200 airmen, versus the 2007 cut, which targeted about 8,000 officers and 3,000 enlisted airmen.

Noting that the big cuts came in 2007, USAF may be able to avoid convening a selective early retirement board for 2008, but are keeping their options open to reach service manpower goals.

USAF personnel chief Lt. Gen. Roger A. Brady told reporters that the Air Force is still developing its 2008 force cut plans, but so far has no intention of diverting from its goal of getting down to 316,000 airmen by the end of Fiscal 2009. He acknowledged that the expansion of the Army and Marine Corps may require USAF to retain more people.

Chilton Tapped for STRATCOM ...

President Bush has nominated Air Force Space Command's Gen. Kevin P. Chilton to succeed Marine Corps Gen. James E. Cartwright as head of US Strategic Command. Cartwright has been nominated to be vice chairman of the Joint Chiefs of Staff.

Chilton has been head of USAF Space Command since June of 2006, after a tour as head of 8th Air Force, which controls USAF's nuclear bombers. He has also commanded the 9th Reconnaissance Wing at Beale AFB, Calif. He was an Air Force test pilot and a NASA astronaut, having flown three space shuttle missions.

... Kehler for AF Space Command

Lt. Gen. C. Robert Kehler, a career missile and space officer, was confirmed in August to four-star rank and slated to succeed Gen. Kevin P. Chilton at Air Force Space Command. Kehler

SAIC Data Breach Exposes Military Data

Private medical information on an estimated 860,000 persons in 580,000 servicemember households may have been exposed to identity theft after a May security breach, the SAIC company said in July. The company was processing the data under nine separate Tricare contracts. SAIC provides technical services for a variety of government agencies.

SAIC is offering all affected persons a free year-long membership in an identity theft restoration service. Those affected are being contacted by mail.

The company said its own investigations have not discovered any illegal exploitation of the information, but in such cases, it is usually more than a year before identity data is illegally used, according to a June report from the Government Accountability Office.

Tricare assessed the risk of exploitation of the data as "low."

The security lapse occurred when company employees in Shalimar, Fla., processed data on an unsecured server. The data included names, addresses, Social Security numbers, birth dates, and some health information. The data processors also may have transmitted some of the information in an unencrypted form over the Internet, which the company said was a violation of its policy. The unnamed employees have been placed on administrative leave pending an investigation.

The breach was picked up during a routine sweep for suspect network traffic led by the Joint Task Force Global Network Operations Center. It alerted the Air Force Surgeon General's office that medical data was being transmitted through an unprotected network, the *Washington Post* reported.

Tricare officials worked with SAIC to match information to individuals for notification letters.

serves as the deputy commander at STRATCOM, which is headquartered at Offutt AFB, Neb.

Hooligans Start Flying UAVs

The North Dakota Air National Guard's 119th Wing flew its first MQ-1 Predator unmanned aerial vehicle mission from a facility in Fargo, N.D., on July 2—marking a significant transition for the "Happy Hooligans," who previously flew F-16s.

The North Dakota wing has flown fighters for 60 years. Since the transition was announced as a result of the Base Realignment and Closure process, wing personnel have been training for their new jobs working with the Predator mission.

In January, the wing converted from the F-16 to two new missions: Predator and the C-21A Lear Jet, an interim aircraft that will go away with the arrival of the Joint Cargo Aircraft in 2011.

CSAR-X Bid Rejected

The Air Force rejected a revised Lockheed Martin bid for the $15 billion CSAR-X program in July, saying the proposal included too much new information. USAF only accepted revisions of certain sections of the original bids, which will be re-evaluated by the Government Accountability Office.

The combat search and rescue helicopter contract originally was awarded to Boeing, but both Sikorsky and Lockheed Martin have protested.

The GAO upheld one aspect of the protests, finding that the Air Force didn't properly evaluate the competitors' support costs. All three companies have since submitted new proposals with new data on support costs.

Lockheed Martin said it presented an entirely new proposal for the program that included new performance and production data on its US101 helicopter, but USAF returned the package. Company officials said the new proposal showed how it could meet the originally planned in-service date of September 2012, despite the delays of multiple protests.

Because it can't spend all the money planned for the program in Fiscal 2007, the Air Force has asked to spend $123 million in CSAR-X money on other priorities, according to an omnibus reprogramming request sent to Capitol Hill in late June.

Warthog Gets New Wings

Boeing received a June contract worth up to $2 billion to build 242 sets of new wings for the Air Force's fleet of A-10 attack aircraft. The contract is to be completed by 2018.

Cracks were discovered in a large number of A-10 wings almost two years ago; the Air Force determined they could not be economically repaired.

In conjunction with a "precision engagement" package of cockpit and weapons changes already being made on the A-10, the type will be able to remain in service through 2028. The first A-10s rolled off the assembly line at the now-defunct Fairchild Republic company in 1975.

USAF Programs Lose Priority

About a dozen DOD programs were dropped from the Pentagon's list of highest-priority programs in June, under an order signed by Kenneth J. Krieg, at the time the Pentagon's chief of acquisition, technology, and logistics.

The Pentagon's so-called "DX" list identifies those programs that get first dibs on specialty metals and other raw materials that may be in short supply. Krieg said he shortened the list to en-

USAF photo by William Belcher

In July, the Air Force ISR Agency renamed a building at Lackland AFB, Tex., for retired Maj. Gen. Doyle Larson. He was the first commander (1979-83) of Electronic Security Command, a predecessor organization. He was also AFA's Board Chairman, 1998-2000. Larson's family, including several members shown here, represented him at the ceremony. In the back row at right is agency commander Maj. Gen. Craig Koziol.

Air Force Toughens ILO Task Screening

The Air Force is scrutinizing the "in lieu of" requests for airmen made by ground forces, to ensure that the people being asked for are truly needed, according to Lt. Gen. Roger A. Brady.

Brady, who is head of USAF's manpower and personnel shop, said his staff is working to ensure that those airmen who go overseas to perform ground-assignment tasks in lieu of soldiers or Marine Corps personnel are performing meaningful functions. He said that in some cases, the true need has dried up, but that bureaucratic inertia keeps the requirement on the books.

He also said he wants to ensure that the airmen are given training appropriate "to the task they're being asked to perform," adding that "we don't want them doing things that put them or the mission at risk."

However, Brady noted that sometimes the training received is overkill. He noted that some airmen who are tapped to perform an ILO task for a second or third time go through Army-sponsored training for each deployment—sometimes less than a year from the original deployment. The training time keeps them away from their regular duties longer.

There's no deadline attached to the ILO evaluation, but Brady said he's under pressure to deal with the situation. The number of airmen tasked for ILO duties has risen each year for several years, and is now over 6,000 at any given time.

sure that only programs of "the highest national defense urgency" were on it.

The new Mine Resistant Ambush Protected ground vehicle, which is more survivable against roadside bombs and mines than Humvees, tops the new list.

The Air Force had more programs dropped from the DX list than any other single service. The B-1B and B-2 bombers, ICBMs, nuclear cruise missiles, and the C-17 transport were all deleted. Of those dropped from priority, only the C-17 is still in production.

Also dropped, but counted as "Joint Service" programs were the Airborne Laser and the Milstar communications satellite system.

The Air Force's Space Based Infrared System, an early warning satellite, stayed on the DX list.

ROVER Goes Miniature

One of the biggest hardware successes of the Iraq war has been the Remote Operations Video Enhanced Receiver, or ROVER, a laptop-like device on which ground troops can watch surveillance video piped down from aircraft overhead. The gadget has been a boon in helping USAF pilots provide accurate close air support.

Now the Air Force is working with industry to shrink the system to a handheld device.

In a July Pentagon briefing, USAF officials said they want a new, lightweight version of ROVER in the field by the end of next year. It would be far lighter than the current unit, which weighs 13 pounds. The Air Force is in a constant struggle to reduce the weight of the gear its battlefield airmen must carry, which today can exceed 100 pounds.

The new unit will be self-contained, eliminating the peripheral antennas, receiver and other gear required by the current device. It will have a video display and a small keyboard, but can hook up to a larger display if needed.

As of July, more than 1,800 ROVER units had been delivered to US forces and coalition partners, with more than 560 on order.

Air Guard Recruiting Falls

Air National Guard recruiting tumbled in June, reaching only 75 percent of its goal. Just 779 of the required 1,036 Guardsmen were brought into the component.

June marked the fifth month in a row that the Air Guard has failed to meet its recruiting goals. However, the Guard continued to chalk up good retention, hanging on to 98 percent of its 8,430 people in June.

By contrast, the Army has reversed its two-month slip in National Guard recruiting, and overmatched its goal of 5,338 new Guardsmen.

GI Bill Repayments Change

Some members of the Air Force Reserve who can't continue to serve because their base or mission was eliminated under the Base Realignment and Closure process, or due to Pentagon budget decisions, won't have to repay all their Montgomery GI Bill benefits, the Air Force said in June.

The decision affects those in their initial six-year enlistment who can't find a position in another Reserve or Air National Guard unit to finish their obligation. The loans will be waived if the affected member, through no fault of his own, doesn't live within 100 miles of a "valid offer" assignment.

The affected members will finish their obligation in the Individual Ready Reserve.

In similar situations in the past, personnel who transitioned to the IRR as a result of base closings and DOD actions were covered under a program called the Reserve Transition Assistance Program. However, it was not

NATO Readies Largest-Ever AWACS Upgrade

NATO's E-3 AWACS fleet is about to become the most advanced in the world, as the first aircraft modified under the 10-year, $1.6 billion NATO Midterm (NMT) upgrade go operational, probably this month.

The upgrade includes a comprehensive renewal of sensors, navigation, and communication equipment, and is the largest in the program's history.

By July, NATO had received seven aircraft in the new configuration. They are so different from the legacy version that two separate training regimes and two sets of crews are required for the two versions of the aircraft. By the end of next year, all NATO AWACS aircrews will have converted to the new standard.

The E-3A fleet at NATO Air Base Geilenkirchen comprises 17 aircraft, crewed by personnel from 15 member countries. The new type will be declared operational once five aircraft and nine crews are certified ready for combat, reported USAF Brig. Gen. Stephen D. Schmidt, NATO E-3A component commander.

Having the new E-3As ready for this month is important, as the NATO Response Force requires the support of five AWACS aircraft, and a good chunk of the fleet is down for the modifications.

Delivery didn't pose undue headaches, however. Officials at Geilenkirchen said the new aircraft were actually arriving faster than crews could be trained to operate them.

Two major events were scheduled to verify and demonstrate the aircraft's new capabilities. One was an August demonstration in Norway, where NATO maintains an AWACS forward operating location. The other is this month's Bold Quest exercise at Nellis AFB, Nev., which will allow the new system to flex its muscles in a realistic scenario.

As the NMT is fielded, a separate $200 million upgrade will begin this fall to add equipment that will protect the aircraft from heat-seeking, man-portable anti-aircraft missiles. The large aircraft infrared countermeasures, or LAIRCM, system is deemed necessary because the aircraft are vulnerable to man-portable missiles during takeoff and landing.

Longer term, a "glass cockpit" upgrade and new engines, possibly like those on Britain's AWACS variant, the E-3D, are being considered. Without replacement, the TF33 engines that power the NATO fleet are expected to be useful until about 2035.

NATO's E-3 concept of operations requires "unrestricted access" to worldwide airspace, governed by civil authorities. If old equipment such as engines, avionics, or safety systems make the E-3s noncompliant with airspace access rules, replacement of those systems might go to the front of the line for replacement.

No mere alliance showpiece, NATO AWACS aircraft and crews have deployed repeatedly for real-world action. They supported Operation Allied Force in the Balkans in 1999. They deployed to manage Operation Eagle Assist airspace defense of the US after the 9/11 terror attacks, and to Turkey in 2003 to guard against possible attack in the early stages of the Iraq war. Air defense over high profile events—such as diplomatic summit meetings—is a common mission.

—by Adam J. Hebert in Germany

authorized in time for the current round of BRAC actions.

Air Force Secretary Michael W. Wynne issued a memo in April allowing USAF to waive repayment of GI Bill benefits for affected members.

Army's Ward To Head AFRICOM

President Bush nominated Army Gen. William E. Ward in July to be the first head of the newly created US Africa Command. Ward has been serving as the deputy chief of US European Command.

The new command, which will initially be a subordinate organization to EUCOM, is to be a separate, unified command by Sept. 30, 2008. It will encompass nations previously under the purview of three other regional commands. US Pacific Command has responsibility for Madagascar, the Seychelles, and other parts of Africa bordering the Indian Ocean. US Central Command has overseas dealings with areas in the Horn of Africa, west to Egypt, and south to Kenya, while EUCOM has responsibility for the rest of the nations in Africa. With the exception of Egypt, which will remain with CENTCOM, the new command consolidates US military relations with African nations under a single organization.

The new command is a recognition of Africa's rising importance economically and strategically. In addition to its growing role as an oil supplier, Africa is seeing greater inroads made by terrorists seeking new bases of operations.

Ward has previously served in several staff positions, as commander of the Stabilization Force in Operation Joint

USAF photo by SrA. Christina D. Ponte

SrA. Brendan Patterson shoots a rocket-propelled grenade during a simulated attack on a convoy during a mass casualty exercise in Playas, N.M., July 18 as part of Exercise Angel Thunder.

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Forge, and as commander of the 25th Infantry Division. He once served as the director of US military assistance to Egypt.

Ramstein Fraud Claims Probed

Air Force and German law enforcement are investigating allegations of fraud and corruption involving several construction projects at Ramstein Air Base.

According to *Stars and Stripes*, the Air Force Office of Special Investigations has confiscated computers and documents from US Air Forces in Europe's installations and mission support office. An OSI spokesperson said that a joint investigation into the projects has been ongoing since February. Once completed, results will be handed over to the proper authorities for further action.

A team of German investigators is scrutinizing top officials in the construction and engineering firms that worked on the base's $200 million mall and hotel project. Other projects being probed include work on the runway and passenger terminal. Much of the work completed was done poorly or using materials of a lesser grade than was paid for.

The German investigation has been in progress since 2005, when police confiscated documents and investigated 20 suspects, including two US civilian engineers.

Hill Reservists Lose F-16s

The last F-16s from Hill AFB, Utah's, 419th Fighter Wing left the base June 28, ending the unit's flying mission. The Reserve wing's entire fleet is now assigned to other Reserve and Air National Guard units as part of Base Realignment and Closure decisions.

The wing's pilots and maintainers will now team up with the active duty 388th FW to perform a joint mission—flying Block 40 F-16s. The 388th FW will get additional Block 40 aircraft from Cannon AFB, N.M., increasing its fleet to 85 aircraft.

TSAT Bidding Begins

Industry is considering the Air Force's final request for proposals for the Transformational Satellite Communications System space segment. The Space and Missile Systems Center launched the bidding process for the $15 billion TSAT program in June.

The TSAT is to provide the next generation of secure strategic communications for a range of government users.

The winner of the contract will design, develop, and field up to five space vehicles and spares, plus ground-based command and control vehicles. The separate TSAT mission operations system contract was awarded in January 2006.

USAF photo by SrA. Olulemi A. Owolabi

Two F-16s from the Oklahoma ANG's 138th Fighter Wing are armed before embarking on a combat mission July 22 from Balad AB, Iraq. F-16s from the 332nd Air Expeditionary Wing destroyed an al Qaeda training camp southwest of Baghdad on July 21.

The first TSAT is scheduled for launch in the first quarter of Fiscal 2016.

C-130 Gear To Cut Costs

Modified landing gear will extend the life of C-130 Hercules aircraft and cut the costs of ownership, the Air Force said in June.

Engineers and specialists from Air Mobility Command headquarters, along with technicians from the 463rd Airlift Group at Hill AFB, Utah, spent three days in June working on the modifications and experimenting with the braking systems on C-130 aircraft.

The group came up with a new and improved landing gear system, carbon brakes, and anti-skid adjustments that the Air Force claims will save $250 million over the lifetime of the modifications—scheduled to begin in 2010 with the installation on about 600 C-130s.

News Notes

■ SSgt. Robert Payne was named the 2007 Pitsenbarger Award recipient in July. Payne, who is a recruiter, was recognized for saving the life of a civilian in a rural Pennsylvania car accident. While driving to an appointment on Aug. 11, 2006, Payne came upon a two-car crash. One of the vehicles exploded soon after he arrived. Despite intense heat and smoke, Payne rescued an unconscious man from the burning car. He applied first aid and called 911 to request a life-flight helicopter pickup. The Pitsenbarger Award is presented annually by the Air Force Sergeants Association and recognizes enlisted Air Force members who perform heroic acts—on or off duty—that result in saving a life or preventing serious injury.

■ The Pentagon has announced a competition for a new "wearable" electric power system as a way to cut the weight of batteries that troops must carry to power their equipment. Prizes of $1 million for first place, $500,000 for second, and $250,000 for third place are being offered. The competition will take place in the fall of 2008. It will gather and test the best ideas toward developing a system that can provide 96 hours of power at less than half the current battery weight toted by those in the field. All components—including generator, electrical storage, control electronics, connectors and fuel must weigh 8.8 pounds or less. Details are posted on the Defense Research and Engineering Wearable Power Prize Web site, www.dod.mil/ddre/prize.

■ New Air Force evaluation forms have been approved. The new, shorter form is meant to reduce evaluator workload, ensure fairness, and present an accurate portrayal of officer and enlisted performance. New sections have been added for physical fitness documentation, and long "narrative" sections have been scaled back sharply. Implementation dates for the new forms began in August and will wrap up in April 2008.

■ A combat search and rescue exercise was conducted at Davis-Monthan AFB, Ariz., in July. Exercise Angel Thunder tested a variety of CSAR mission planning and execution activities. Helicopters and C-130s participated in the event. A simulated deployed location, called "Desert Lightning City," was the control center, but flight operations and training scenarios with pararescuemen, helicopter and transport crews, and other battlefield airmen took place at sites from the Barry M. Goldwater Range to Playas, N.M. The 563rd Rescue Group, 943rd Rescue Group, 355th Operations Group, and 55th Electronic Combat Group participated.

■ People in a remote section of Senegal received medical treatment from USAF Reserve and other service medics in a US European Command humanitarian mission. Exercise Shared Accord ran from June 16 to 28 and was geared to improve relations with Senegal. Fourteen Air Force Reserve medics participated. In addition to first aid and preventive care, the team offered general medicine, optometry, and dentistry services. The medical airmen helped provide care to more than 4,400 Senegalese.

■ An F-16 fighter crashed at Balad AB, Iraq, on July 15, but the pilot escaped without injury. The aircraft, which was assigned to the 332nd Air Expeditionary Wing, crashed during takeoff. The pilot ejected safely and was transported to the Air Force Theater Hospital for further evaluation. The cause of the accident is under investigation.

■ A device that will help engineers design defenses against man-portable missiles was tested successfully at Arnold Engineering Development Center, Tenn., in June. The device, called a Towed Airborne Plume Simulator, is to be dragged behind a test aircraft and will simulate the visual and infrared signature of a pursuing missile. The device will help engineers test sensors and countermeasures that need to be able to spot, track, and foil incoming missiles with a high degree of realism.

■ The Nebraska Air National Guard has established two additional units at Offutt AFB, Neb. The Headquarters 170th Group and 238th Combat Training Squadron were activated in July to support the active duty 55th Wing at the base. The 55th flies RC-135 aircraft and conducts intelligence-surveillance-reconnaissance missions. The new units join Offutt's 170th Operations Support Squadron (ANG), which was created in 2005.

■ Feedback from deployed airmen is being used to improve the new Airman Battle Uniform and physical training outfits, according to Lt. Gen. Roger A. Brady, the Air Force's head of manpower and personnel. On a tour of forward areas, Brady gathered comments from those wearing the new uniforms. A common request was for more pocket space on the PT uniforms, he said. The

The C-130's old brakes can handle about 200 landings, but the upgrades will allow about 2,000 safe landings, a program official reported. Wheels will have longer life, and there will be fewer brake fires. Gear won't have to be changed as often as in the past.

Space Pioneers Inducted

Former USAF Chief of Staff retired Gen. Lew Allen Jr. and X-15 pilot retired Maj. Gen. Joe H. Engle have been inducted into the Air Force Space and Missile Pioneers Hall of Fame for 2007, Air Force Space Command announced.

Allen, a West Point graduate, worked on a number of classified space projects in the 1960s, including the Corona reconnaissance satellite program. He later became director of the National Security Agency and was the 10th USAF Chief of Staff. Allen laid the groundwork for

Stealthy JASSM Goes on Life Support

The Air Force won't decide until next spring whether to pull the plug on the troubled Joint Air-to-Surface Standoff Missile, and has begun an aggressive get-well plan along with maker Lockheed Martin.

Test failures had caused JASSM to breach Nunn-McCurdy law requirements, which demand that if a program breaks certain cost limits, the Pentagon must either certify the system is critical to national defense or cancel it.

In July, Kenneth J. Krieg—at the time the Pentagon acquisition, technology, and logistics chief—approved a get-well plan for the system, but withheld certification pending the results.

Air Force officials said the service will roughly split the cost of correcting problems with Lockheed Martin. That's because even with four recent test failures, the company is still meeting minimum test reliability criteria under the contract.

The decision to cooperate on the program fix represents a shift for USAF. Service acquisition executive Sue C. Payton had previously threatened to cancel the JASSM and consider buying an alternative weapon.

The stealthy JASSM, of which the Air Force plans to buy about 5,000 units, has suffered test problems, and service officials said they suspect quality of parts and assembly, rather than design, is at fault.

reverse was true of the ABU. Wearers reported that its abundance of extra, interior pockets make the garment heavy, thick, and uncomfortable when worn in 115 degree heat.

■ New construction is under way at Hickam AFB, Hawaii, as the base's C-17s arrive—including a new corrosion control hangar that will be used to paint and wash aircraft and a new maintenance building. The Air Force Center for Engineering and the Environment will complete a 63,945-square-foot corrosion control hangar by this December and install a 271-foot tow lane to provide access from the hangar to the airfield. The new facilities are part of a "C-17 campus" at Hickam that will eventually include flight simulators, a squadron operations building, and a consolidated maintenance complex.

■ The 30th anniversary of the E-3 Sentry, commonly known as AWACS, was marked at Tinker AFB, Okla., in late June and early July. The 552nd Air Control Wing hosted senior Air Force leaders, as well as past and present commanders of the unit. The wing hosted tours and open houses and offered briefings about future upgrades planned for the E-3 fleet. There was also a memorial ceremony for airmen lost in the only crash of an American E-3 in the type's three decades of service. The first E-3 arrived at Tinker on March 23, 1977.

■ As a consequence of budget cuts and a reduction in force, 96 civilian employees at Wright-Patterson AFB, Ohio, got pink slips in June. Of those, 33 received separation notices while the rest received reassignments or changes to a lower grade. The changes all take effect Oct. 1. Air Force Materiel Command officials said the command is committed to reducing the impact of the RIF actions to the extent possible. It noted that of the 279 positions identified to be eliminated, only 33 notices of separation were sent out.

■ The Airborne Laser took a step forward in June by making a test shot of its systems with a low-power laser. The entire sequence of events needed to make a powered laser shot was exercised for the first time. A low-power laser stood in for the ABL's main weapon, a Chemical-Oxygen-Iodine Laser, or COIL, but otherwise the system functioned just as it would in a real-world anti-missile shot. In subsequent tests in July, the ABL was to conduct a series of engagements using its tracking illuminator laser, its atmospheric compensator laser, and the simulated high-energy laser.

■ Typhoon Man-Yi hit Kadena AB, Japan, in July, lashing the base for more than a day with winds of up to 105 miles an hour. Large aircraft such as the KC-135, RC-135, MC-130, P-3, and E-3 were evacuated to Guam for the duration of the storm. The base entered high typhoon condition on July 12. The typhoon hit shortly after midnight on July 13, creating many power and water outages and scattering trees and branches. About 40 percent of the base lost power at some point during the storm. Base civil engineers reported some damage to buildings, but no major repairs were needed.

■ Airmen gathered at Kunsan AB, South Korea, to practice assembling bombs in the annual Combat Ammunition Production Exercise, from July 10 through 13. The 24-hour-operations scenario helps determine if munitions planning is adequate to support combat plans. More than 200 airmen from a variety of bases came to Kunsan to practice and implement the basics of munitions support to air combat operations, which include munitions breakout, production, and delivery.

■ A combined air operations center exercise called Blue Flag 07-02 ran at Davis-Monthan AFB, Ariz., in June. More than 900 US and coalition personnel participated in the exercise, designed to train a CAOC staff to run a war. Participants developed air tasking orders to protect coalition bases and expel enemy forces from the fictitious nation of "Califon." Representatives from each branch of the armed forces, along with coalition participants and support staff, deployed to Davis-Monthan to augment the Air Forces Southern CAOC staff. Coalition participants included Great Britain, Canada, and Australia.

■ More than 1,800 homes will be built or renovated at Holloman AFB, N.M., and Davis-Monthan AFB, Ariz. The company overseeing the construction—Actus Lend Lease—said the project will take about seven years to complete. Holloman is slated to have at least 380 new houses built and 420 renovated, while at Davis-Monthan at least 500 new homes will be built and about 159 will be renovated. The company expects that airmen will be able to occupy the new houses beginning in October 2008. ■

The War on Terrorism

Operation Iraqi Freedom—Iraq

Casualties

By Aug. 8, a total of 3,672 Americans had died in Operation Iraqi Freedom. The total includes 3,526 troops and seven Department of Defense civilians. Of these deaths, 3,024 were killed in action with the enemy while 648 died in noncombat incidents.

There have been 27,279 troops wounded in action during OIF. This number includes 15,012 who returned to duty within 72 hours and 12,267 who were unable to return to duty quickly.

Airmen Lead Civilian Evacuation to Turkey

Airmen from the 506th Air Expeditionary Group at Kirkuk AB, Iraq, helped lead a multinational effort to aid and airlift 21 injured Iraqi civilians for treatment in Turkey July 8.

The civilians, ethnic Iraqi Turkmen, were victims of a July 7 market bombing in Tuz Khurmato, Iraq, which reportedly killed about 150 people.

The injured arrived on base via Iraqi ambulance and were transferred to Air Force ambulances for transport to the flight line. Airmen from the group aided medics and members of the Turkish flight in moving the patients onto waiting airplanes.

A pair of Turkish Casa-235 medical aircraft took the injured, which included three children and some family members, to a hospital in Ankara for further treatment. It took just one hour from the time the first patient was cleared through security until the aircraft were airborne.

B-1B Carries Out Strike in Northeast Baghdad

Helicopters and an Air Force B-1B Lancer performed an airstrike on an insurgent safe house in northeastern Baghdad on July 21, killing six militants and destroying munitions inside.

The strikes in the area known as Husseiniyah began after ground troops came under small-arms fire from a nearby building at night. Helicopters arrived and fired several missiles at the structure, prompting three gunmen to flee into an adjoining building.

The B-1B then dropped multiple GBU-38 JDAMs on the safe house, setting off at least seven secondary explosions that were believed to be explosives and ammunition stored inside, according to Multinational Force-Iraq officials. Iraqi police inspected the site later and reported six militants killed and five wounded in the strike.

Balad F-16s Attack Training Camp

Air Force F-16s with the 332nd Air Expeditionary Wing at Balad AB, Iraq, destroyed an al Qaeda training camp southwest of Baghdad on July 21, dropping GBU-38s and GBU-12s on a complex in the Karbala area.

Air Force joint terminal attack controllers cleared four F-16s to drop ordnance on a complex of buildings where enemy fighters had established safe houses and training areas.

Operation Enduring Freedom—Afghanistan

Casualties

By Aug. 4, a total of 419 Americans had died in Operation Enduring Freedom. The total includes 418 troops and one Department of Defense civilian. Of these deaths, 238 were killed in action with the enemy while 181 died in noncombat incidents.

There have been 1,472 troops wounded in action during OEF. This number includes 576 who were wounded and returned to duty within 72 hours and 896 who were unable to return to duty quickly.

Predator Buildup Accelerates

In July, the Air Force pledged to equip US Central Command a year ahead of schedule with 21 MQ-1 Predator unmanned aerial vehicle "orbits."

The Air Force had originally planned to have 21 orbits—which is actually three aircraft performing round-the-clock surveillance—by December 2009.

At the request of Air Force Chief of Staff Gen. T. Michael Moseley, officials have coordinated deployment actions with the Joint Staff and CENTCOM to add three additional Predator UAV combat air patrols. The move would sharply enhance full-motion video and rapid strike capabilities in Iraq and Afghanistan. In July, there were 12 Predator CAPs in CENTCOM's area of responsibility.

The Predators are flown by both active duty and Air National Guard personnel at bases in Nevada, California, and North Dakota.

The Air Force has deployed every Predator it can spare and is looking to sustain the combat capability as new aircraft, ground stations, and aircrews become available. To fully man the new levels, the Air Force will maintain 160 Predator crews, up from 120 last year.

the establishment of Space Command, which became Air Force Space Command. After retiring from the Air Force in 1982, Allen became director of the NASA's Jet Propulsion Laboratory in Pasadena, Calif.

Engle was commissioned through the Air Force ROTC program at the University of Kansas. In June 1965, he flew the X-15 experimental aircraft to 280,600 feet, becoming the then-youngest person to earn an astronaut rating and one of only a few to qualify for astronaut wings by flying a traditional winged aircraft into space.

Engle was one of the test pilots on the space shuttle program and commanded the second space shuttle mission. He accumulated 224 hours in space and retired as an astronaut in 1986. He is the only person to have flown two different winged space vehicles—the X-15 and the space shuttle.

CV-22s Pass SEAL Tests

The Air Force CV-22 Osprey's ability to deploy and recover Navy SEAL special operations teams was verified in a series of late June tests in Florala, Ala.

The three-part tests involved dropping a boat out of the back of the aircraft, deploying frogmen from the back of the aircraft, and recovering an injured person and a rescue swimmer using the on-board, high-speed hoist. The tilt-rotor aircraft deployed the boat while flying only 10 feet off the water.

A USAF official said the tests helped alleviate the SEALs' concerns about operating from the CV-22, which has a different configuration from traditional helicopters.

The knowledge gained from the exercise will be used in developing new training for aircrews.

Pakistan Gets F-16s

The United States delivered two F-16s to the Pakistan Air Force in July, as part of an arms agreement reached in 2006. US Ambassador Anne W. Patterson and Lt. Gen. Gary L. North, head of US Central Command Air Forces, participated in the official handover at an air base in Sargodha.

The fighters will join the PAF's current inventory of 34 F-16s. Delivery of 24 more F-16s considered excess to USAF requirements is planned for the future. The additional aircraft augment the 18 F-16s purchased by Pakistan in a September 2006 agreement. The aircraft were made available after US objections regarding technology transfer issues were satisfied.

Minuteman Shutdown Begins

Deactivation of 50 Minuteman III ICBMs officially began on June 29, as the 341st Space Wing at Malmstrom

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USAF photo by SrA. Garrett Hothan

SSgt. Carlos Garcia helps fuel a Spanish C-130 during Red Flag-Alaska, July 23 at Elmendorf AFB, Alaska. Aircraft and personnel from six countries participated in the multinational combat training exercise this year.

AFB, Mont., began dismantling missiles and closing five alert facilities.

Components of the deactivated missiles will be sent to flight-test operations programs. The wing's remaining three missile squadrons—containing 150 Minuteman IIIs—will continue to operate.

Lockheed Wins $1 Billion SOF Deal

Lockheed Martin received a $1.1 billion Air Force contract in July to provide training and rehearsal support for special operations aircrews.

The Aircrew Training and Rehearsal Support II contract extends the company's role as the principal mission rehearsal trainer for Air Force Special Operations Command. The original contract was awarded in 1987.

The ATARS II allows SOF aircrews around the world to train together in a distributed, networked virtual environment.

The program covers training for the C-130-based Combat Talon, Spectre, and Combat Shadow, MH-53 Pave Low, MH-60 Pave Hawk, and the CV-22 Osprey. Training locations include Kirtland AFB, N.M.; Hurlburt Field, Fla.; Harrisburg Arpt., Pa.; and Ft. Rucker, Ala.

"Career" E-mail Unveiled

Air Force people will no longer have to get a new e-mail account every time they move to a new base. USAF personnel were notified in July about new "E-Mail for Life" accounts that will be used for the duration of an airman's service.

Managers for the project said there's no need to manage the account yet; all e-mails are forwarded to an individual's current location-based e-mail address. Until the system is completely operational, bases will continue to manage how names, ranks, and units appear in the Air Force's global address list.

The new e-mail address is the first step in consolidating and cutting costs of the existing 14-plus e-mail and active directory systems into one architecture. Air Mobility Command is the first to be consolidated under the program, to be followed by other Stateside major commands. Overseas commands will be the last to convert.

Taiwan Wants More F-16s

Taiwan has met requirements set out by the US for purchase of additional F-16 fighters, and is now lobbying to get the sale approved.

A top Taiwanese official visited the US in July to press for the sale of 66 F-16C/D fighters to the island nation, noting that its legislature has funded the aircraft in two successive budgets, a precondition set by the US in 2006.

The *China Times* reported that Huo Shou-yeh, the chief of the general staff, led a small delegation to the US to lobby for the transfer, toward boosting Taiwan's air defense capabilities.

Arms sales to Taiwan present a thorny issue for the Bush Administration. China considers Taiwan a breakaway province and has made threats of dark consequences if the US moves to arm the island. However, the US has pledged to defend Taiwan if needed.

If the US approves the deal, it will be the largest arms sale to Taiwan since 1992. ■

Senior Staff Changes

RETIREMENTS: Lt. Gen. Jeffrey B. **Kohler,** Maj. Gen. Thomas P. **Kane,** Maj. Gen. Teresa M. **Peterson,** Maj. Gen. Robin E. **Scott,** Brig. Gen. Thomas J. **Verbeck.**

CHANGES: Brig. Gen. C.D. **Alston,** from Dir., Air, Space, & Info. Ops., AFSPC, Peterson AFB, Colo., to Dir., Space & Nuclear Ops., DCS, Air, Space, & Info. Ops, P&R, USAF, Pentagon ... Brig. Gen. Thomas K. **Andersen,** from Dep. Cmdr., Combined Air Operations Center 6, Allied Air Forces Southern Europe, NATO, Eskisehir, Turkey, to Dir., P&P, ACC, Langley AFB, Va. ... Brig. Gen. (sel.) Michael R. **Boera,** from Cmdr., 613th Air & Space Ops. Center, PACAF, Hickam AFB, Hawaii, to Dep. Dir., Ops., PACOM, Camp H.M. Smith, Hawaii ... Brig. Gen. Joseph D. **Brown IV,** from Exec. Asst. to Cmdr., SHAPE, NATO, to Dep. Cmdr., CAOC 6, Allied Air Forces Southern Europe, NATO, Eskisehir, Turkey ... Lt. Gen. David A. **Deptula,** from DCS, Intel., USAF, Pentagon, to DCS, ISR, USAF, Pentagon ... Lt. Gen. Claude R. **Kehler,** from Dep. Cmdr., STRATCOM, Offutt AFB, Neb., to Cmdr., AFSPC, Peterson AFB, Colo. ... Brig. Gen. Stanley T. **Kresge,** from Dep. Dir., P&P, NORAD, Peterson AFB, Colo., to Dir., Air, Space, & Info. Ops., AFSPC, Peterson AFB, Colo. ... Maj. Gen. Mark T. **Matthews,** from Dir., P&P, ACC, Langley AFB, Va., to Dir., Rqmts., ACC, Langley AFB, Va. ... Brig. Gen. Mark H. **Owen,** from Dep. Dir., Strat. Security, DCS, Air, Space, & Info. Ops., P&R, USAF, Pentagon, to Dir., P&P, STRATCOM, Offutt AFB, Neb. ... Brig. Gen. (sel.) Bradley R. **Pray,** from Spec. Asst. to the Cmdr., EUCOM, Mons, Belgium, to Dir., Standing Jt. Force Hq.-North, NORTHCOM, Peterson AFB, Colo. ... Brig. Gen. David E. **Price,** from Dir., Financial Mgmt., AFMC, Wright-Patterson AFB, Ohio, to Dir., Budget Ops. & Personnel, Office of the Asst. SECAF for Financial Mgmt. & Comptroller, USAF, Pentagon ... Maj. Gen. (sel.) Larry O. **Spencer,** from Dir., Budget Ops. & Personnel, Office of the Asst. SECAF for Financial Mgmt. & Comptroller, USAF, Pentagon, to Dep. Asst. Secy. for Budget, Office of the Asst. SECAF for Financial Mgmt. & Comptroller, USAF, Pentagon.

SENIOR EXECUTIVE STAFF RETIREMENT: Sharon B. **Seymour.**

SES CHANGES: Timothy A. **Beyland,** to Asst. DCS, Manpower & Personnel, USAF, Pentagon ... Robert L. **Buhrkuhl,** to Dir., Financial Mgmt. & Comptroller, Center for Force Structure, Rqmts., Resources, & Strat. Assessments, SOCOM, MacDill AFB, Fla. ... Donald L. **Damstetter,** to Dir. of Resources, Office of the ASD for Ops. Low Intensity Conflict, Office of the USD for Policy, Pentagon ... Mark E. **Doboga,** to Dir., Plans & Integration, DCS, Manpower & Personnel, USAF, Pentagon ... Craig W. **Duehring,** to Acting Asst. Secy. for AF Manpower & Reserve Affairs, Pentagon ... Kathleen I. **Ferguson,** to Dep. Asst. SECAF for Instl., Office of the Asst. SECAF for Instl., Environment, & Log., USAF, Pentagon ... Clarence E. **Maxwell,** to Dir., BRAC, San Antonio Integration Office, AETC, Randolph AFB, Tex. ... Paul A. **Parker,** to Dep. AF Civil Engineer, DCS, Log., Instl., & Mission Spt., USAF, Pentagon ... Brenda L. **Romine,** to Dir., 542nd Combat Sustainment Wg., Warner Robins ALC, AFMC, Robins AFB, Ga. ... Ronald A. **Winter,** to Dep. Asst. Secy. for Force Mgmt. Integration, Office of the Asst. SECAF for Manpower & Reserve Affairs, Pentagon. ■

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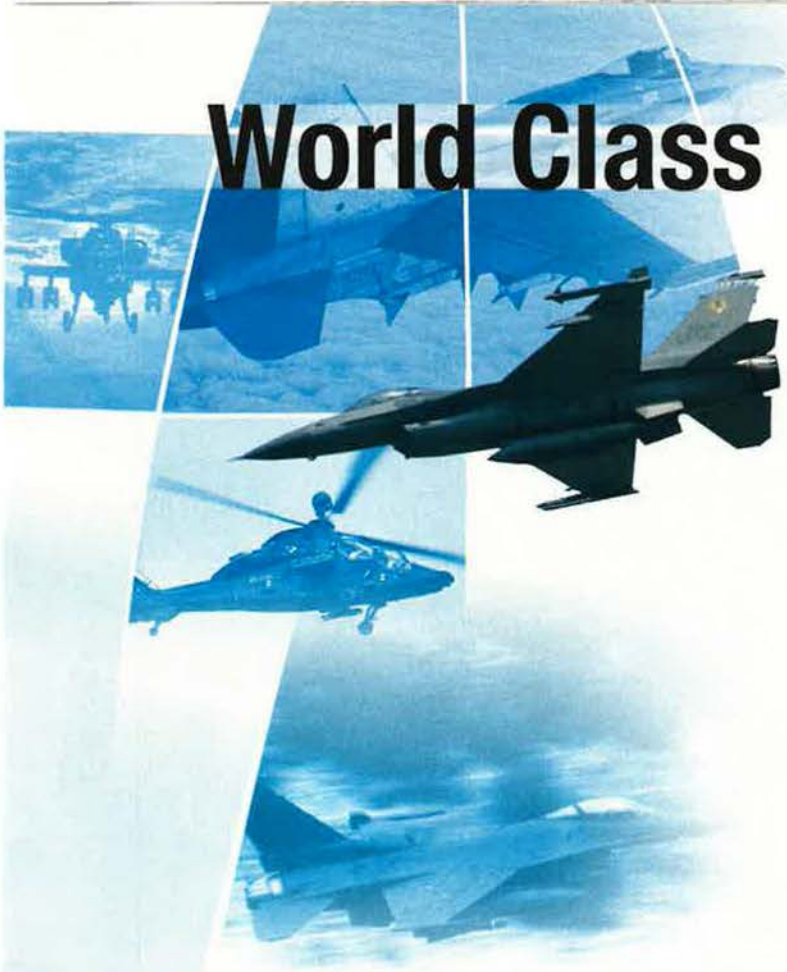

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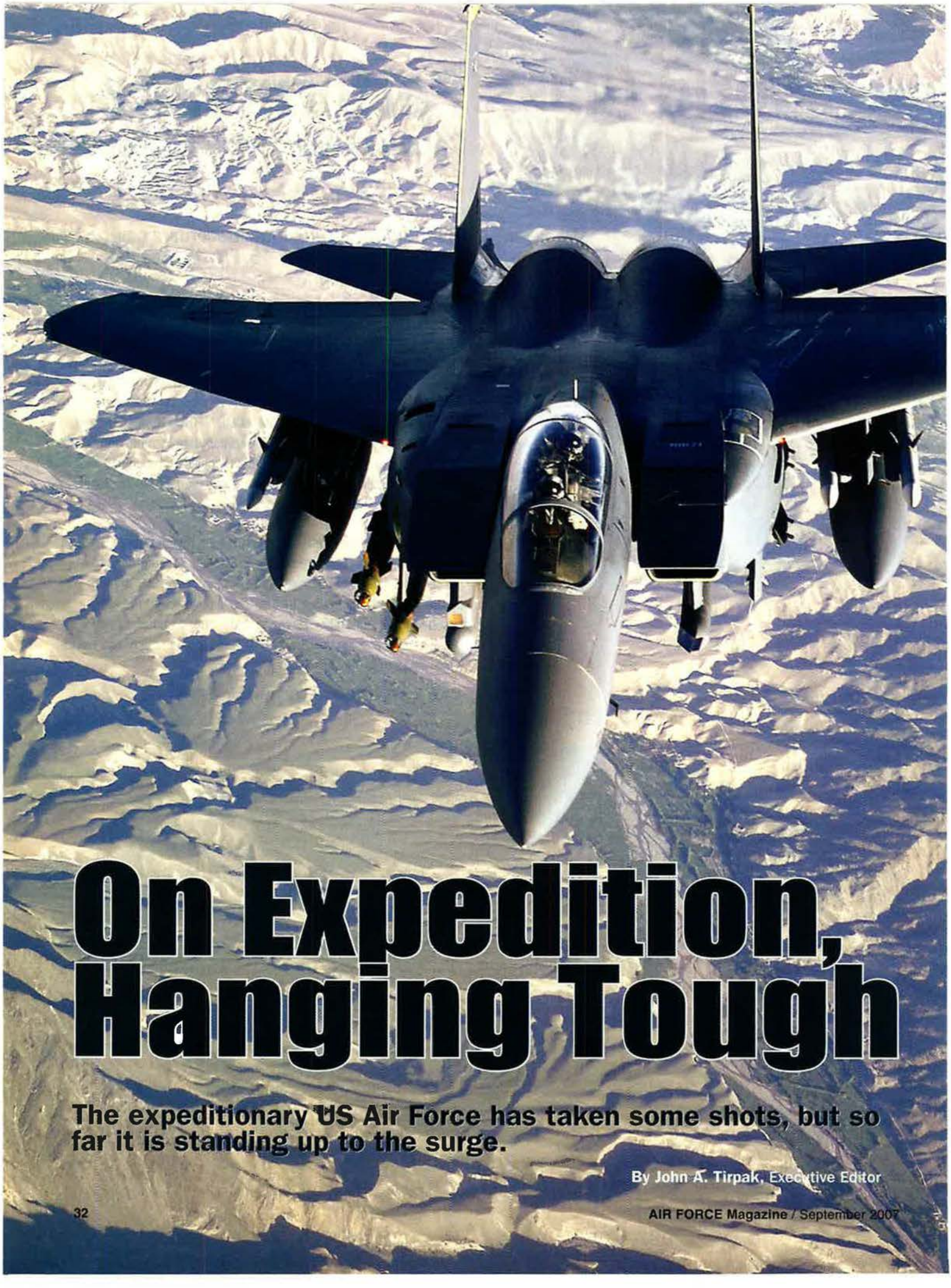

On Expedition, Hanging Tough

The expeditionary US Air Force has taken some shots, but so far it is standing up to the surge.

By John A. Tirpak, Executive Editor

An F-15E armed with laser guided bombs orbits over the mountains of Afghanistan.

USAF photo by MSgt. Lance Cheung

The recent US military "surge" in Iraq has given a hard push to the Air and Space Expeditionary Force.

Record numbers of airmen are overstaying the standard 120-day deployment. Over just the past year, the rate at which airmen are breaking the 120-day AEF deployment goal has nearly doubled, rising from 26 percent to just over 50 percent. Moreover, as the Air Force shrinks, there will be fewer airmen and aircraft to go around, a situation that will put even greater pressure on a heavily tasked force.

However, service leaders insist that the AEF concept is working as intended and will survive at least the next few years without a major redesign. "We can stay at this level as long as we have to," said Gen. T. Michael Moseley, Chief of Staff.

Speaking with reporters at the Pentagon in June, Moseley noted that the AEF was meant to manage both the peacetime and wartime demand for Air Force capabilities by regional commanders, and can hold up under current requirements, which he characterized as "slightly above surge" levels.

The phrase "Air and Space Expeditionary Force," or AEF, has two distinct meanings—one broad and one narrow.

The broad meaning refers to all the Air Force airmen, civilians, aircraft, and support units that either are already deployed overseas or are available for such a foreign deployment in a regular or emergency rotation. It comprises at least 98 percent of the entire Air Force, say USAF officials.

The narrow meaning refers to an individual "bucket of capability"—composed of combat and support forces that have been earmarked to train, deploy, and, if necessary, fight together through a given period of time.

The Air Force maintains a total of 10 of these "little" AEFs, each with roughly comparable numbers of personnel, aircraft, and capabilities. They normally deploy in pairs. They go to real-world operations for four months to a year. Afterward, they start a buildup to the next deployment. They recuperate, train, take professional military education courses, and then enter an intensive period of exercises, intelligence briefings, and drills before heading out again. Whole or partial units and individuals may be called for specific AEF functions.

According to the Air Force Personnel Center at Randolph AFB, Tex., each pair of AEFs will deploy with between 25,000 and 27,000 airmen, up a bit from the average of just under 25,000 last year. Commander requisitions have compelled the Air Force to "reach forward" into future AEFs to find the necessary people, resulting in a foreshortened period of rest, retraining, and reset for about half the Air Force's deployable personnel.

However, this stress and strain has yet to manifest itself as a drop in retention rates. They remain high. In fact, Air Force active duty retention rates met or exceeded goals in the second quarter of 2007. Recruiting also has remained strong, except in the Air National Guard, which has fallen as much as 25 percent short of its goal in recent months.

Moseley noted that the impact of the Air Force's high operations tempo has been softened somewhat by the fact that the pool of deployable people has been expanded considerably in the last couple of years.

"When I became Chief, we had only 40-something percent [of] folks in ... deployable buckets," he noted. "Now we're up to 98 or 99 percent."

Even though virtually all serving airmen are in the AEF "library"—meaning their unique experience, background and skills have been catalogued and filed in a database that makes finding and assigning them easier—"that doesn't mean they will deploy," Moseley pointed out. Missile launch officers, for example, don't go abroad on AEF assignments, but they may have special language skills that may be required in an emergency. All airmen could be called for AEF duty even if their usual job tends to keep them Stateside.

"We should live in an expeditionary mind-set," Moseley said. The recent nonstop pace of deployments, he said, "truly is ... what the world's going to look like for us over the next 10 or 15 years."

The Air Force has become practiced at expeditionary operations, too. For 16 years, Moseley noted, the Air Force has learned to be efficient at setting up expeditionary airfields, "mobilizing and deploying our people," using its war reserve materiel kits, "setting up the billeting, ... the office space, ... the command centers, ... the mess facilities, the clinics," and then taking them down and moving on.

Lessons learned in this process have

USAF photo by TSgt. Angela Shepherd

More than 50 percent of USAF personnel are deploying for longer than the standard 120-day assignment. Stressed career fields are on a "one-for-one dwell"—six months deployed, six months at home station.

been constantly assessed and applied to make the successive deployments go more smoothly. The other services study the techniques employed by the Air Force's RED HORSE base setup specialists.

From 90 to 120

The AEF was once based on a 90-day deployment, but that was increased to 120 days to reduce the number of transits from home base to theater, and to lessen the strain on equipment.

"The sweet spot for us is between 90 and 120 days on our [tactical] aviation deployments," Moseley said. The four-month spell is deemed not too arduous for the airmen who rotate in and out of overseas deployments, and is the right duration for equipment as well. Longer deployments require taking along more spare parts and support gear, and are less efficient.

However, deployments now come in three lengths, not just one. Most fighter unit deployments are 120 days, but bomber units have been extended to 179 days, mainly because it costs less and puts less wear and tear on the airframes to swap them out less frequently.

Stressed career fields, such as security forces, special operations, logistics, civil engineers, and certain intelligence-surveillance-reconnaissance systems, are also on a 179-day deployment rhythm. They remain the low-density, high-demand mission areas.

For forward base commanders and certain other specialties, the deployment period is for a full year. Such jobs tend to be those where the learning curve is high, where accumulated knowledge or continuity is mission essential, or where practical considerations demand a longer term.

Maj. Gen. Anthony F. Przybyslawski, commander of the Air Force Personnel Center, noted that contracting officers, for example, are needed for 179-day deployments, "if not a year," because "this is a cultural thing. In Iraq and Afghanistan, the type of work contracting officers do requires a relationship being built" with local businesses. Short-dwell buyers are not trusted.

Until recently, the AEFs were managed by the AEF Center, located at Langley AFB, Va. The AEF Center now reports to the personnel center.

Przybyslawski, a former AEF Center commander, said nothing was "broken" that required the shift. It was done simply to be more efficient—and logical.

"When you look at it, ... the execution of the AEF is a personnel operation," he explained. What was missing, he said, was the recognition that the personnel system of the Air Force is ultimately about supporting the needs of combatant commanders. There was no clearly established direct link between the personnel system and regional commanders requiring USAF capabilities.

The new structure connects "the entire chain of custody of our people, from the time they're assessed, trained, assigned, developed, promoted," Przybyslawski said, "and now we also do support to the warfighter: making sure that the airman who goes downrange is a full-up round, has had the opportunity for the training, is experienced."

By October 2008, the AEF Center's personnel activities will all have migrated to Randolph Air Force Base, he said. It will be like an air operations center, except that it will focus

USAF photo by SSgt. Stacy L. Pearsall

USAF is able to fill about 85 percent of its "in lieu of" taskings—taking the place of ground troops needed for infantry duty—with volunteers.

Managing AEFs With Fewer Aircraft

As the Air Force shrinks to 316,000 uniformed personnel, the number of aircraft the service flies will also be reduced. The number of F-16s in the force, for example, will shrink by about 100 airframes a year during the next decade. How will the Air Force maintain the capabilities of the Air and Space Expeditionary Forces with a shrinking force structure?

One way will be through munitions. The advent of precision weapons such as the Joint Direct Attack Munition has reduced the number of aircraft required to be assured of destroying a target. The new Small Diameter Bomb, which weighs in at only 250 pounds, practically doubles the number of targets each individual aircraft can destroy.

Unmanned aerial vehicles will also fill some of the gap. Both the MQ-1 Predator, and its big brother, the MQ-9 Reaper, are classed as "strike" aircraft by the Air Force, despite their capabilities as intelligence-surveillance-reconnaissance platforms. Armed, they can serve as junior versions of fighters equipped with targeting pods possessing real-time video capability.

The B-1B bomber is proving to be a highly effective substitute for fighter aircraft, offering high-speed response to requests for close air support, long dwell time, and a considerable weapons load, now with mixed munitions. The Air Force is looking at putting targeting pods on B-1Bs as well, to give them the advantages of self-lasing capability and yet another "eye in the sky" with full-motion, real-time video.

As the F-22 and F-35 enter the inventory, they can do double or even triple duty, able to serve as penetrating strike aircraft, air superiority aircraft, and ISR sensor platforms, all at once. However, they cannot be in more than one place at a time.

"With fewer fighter squadrons available, there will be fewer squadrons assigned to any given AEF pair," Air Combat Command said in response to a query.

"However, actual aircraft deployment numbers depend on the capabilities requested by the combatant commanders. In some cases, we will be able to accomplish the mission with fewer aircraft, but that will not always be the case."

ACC went on to say that its "first commitment" is to support combat operations, and it will do "everything in our power, with the resources given to us, to support our combat commanders as they achieve their objectives." However, "only time will tell how our aging fleet will endure future deployments."

on the routing of people, not aircraft. The hardware aspects of the AEF will remain at Langley.

"I call this 'operationalizing' personnel," Przybyslawski said.

The constant creep of the numbers of people exceeding the 120-day goal will not ultimately break the AEF concept, Przybyslawski asserted.

It's true that "reaching forward" into future AEFs to get the required numbers of people does tend to "erode somewhat the 120-day construct," Przybyslawski acknowledged, because "you've eaten into that next rotation."

However, the AEF is simply the way that the Air Force presents forces to the regional commands, and it will dutifully provide whatever is needed.

"We'll never say to the COCOM that, 'I'm sorry, we can't support this because we only go for 120 days,' " he said. "This is war, Americans are getting killed, and airmen are in the fight."

Some capabilities are not needed and don't deploy. Right now, there's no need for F-15Cs in either Iraq or Afghanistan because neither theater poses an air superiority threat. Although assigned to AEFs, F-15C units stay home, flying Operation Noble Eagle missions or doing other tasks, but the expense of moving them is averted. However, individual pilots are still called to serve staff functions, such as in the theater combined air operations center.

The Eleventh

Forces in certain areas also don't deploy, since they are, in effect, already forward deployed. Przybyslawski noted that forces in South Korea are sometimes called the "11th AEF," because they are forward based, and most of those assigned there are on one-year unaccompanied tours.

"They are in the AEF, but they're not deployable," he said.

USAF photo by SrA. Clark Staehle

C-17s wait on a flight line. The Air Force has been able to limit reserve components' mobilizations through volunteers and by splitting some assignments among several people.

USAF photo by A1C Nathan Doza

USAF Chief of Staff Gen. T. Michael Moseley (l) visits Balad AB, Iraq, with Col. Dave Ellis of the 332nd Expeditionary Wing.

Likewise, some ISR people who perform their mission from home base—intelligence interpretation specialists at Beale AFB, Calif., for example—are considered "deployed in place," Przybyslawski said.

The Air Force will reduce its ranks to just 316,000 people by Fiscal 2009. How will that affect the AEF structure, which is already short of people to meet all requirements?

Przybyslawski said the first step is a broad process of "housecleaning" to make it clear what kinds of capabilities the Air Force really possesses.

Throughout the Air Force, he said, there are unit type codes, or specialties, that are grouped together in only partially manned organizations. The force has been drawn down, but the units are still in place, with vacancies. The fact that all these organizations are on the books implies a capability that really don't exist, he said. The service is working to "determine which authorizations are no longer there."

He said the Air Force will take two units of a particular UTC that are only half-manned and make "one good one" out of it.

When that's done, the true capabilities of the Air Force will be known, and it will be less likely that the service will be asked to provide people in excess of what it can really give.

"Starting with Cycle 7," which begins next year, "you've gotten rid of all the chaff of vacant UTCs that have occurred as a result of force shaping and PBD 720," the Pentagon document that approved the Air Force's cut of 40,000 full-time-equivalent positions.

The result will be "a clearly defined capability of the AEF," Przybyslawski continued, and at that point, Moseley "will be able to truly articulate what his Air Force truly looks like, in capability."

Smaller, for Sure

COCOM requests are "brokered" by the Joint Staff, and it will know what the Air Force has on hand to meet a requested capability—and what it doesn't.

It will be "a smaller Air Force," Przybyslawski acknowledged. The service will not refuse requests for

USAF photo by MSgt. Ken Stephens

As fighter inventories shrink, the AEF will depend increasingly on bombers—such as these forward deployed B-1Bs—unmanned aerial vehicles, and advanced munitions.

USAF photo by SSgt. Lee Waters

A C-5 Galaxy departs Manas AB, Kyrgyzstan. Fewer people and aircraft in USAF are putting greater pressure on those that remain, but retention remains high.

forces, but after the shakeout of empty units, "what we have to be able to do is articulate to the COCOM when we just don't have any more people to do it," he asserted.

The Air Force has been tasked to provide an ever-increasing number of airmen to relieve Army and Marine Corps forces needed for ground combat duty. These "in lieu of" assignments range from guarding prisoners at detention centers to driving vehicles and defusing unexploded bombs.

In 2004, when the ILOs were first called, less than 2,000 were requested. In Fiscal Year 2007, the number of ILOs is going to be around 5,073. Next year, it is expected to be 6,000.

The ILOs are not part of the AEF. Those assignments are filled separately, and Przybyslawski said that about 85 percent of the ILO slots are filled by volunteers.

"We announce the requirement," he said, just as any other kind of assignment is published. The announcement lists the job to be done and the skills needed, and "we get the volunteers." In fact, he said, the personnel center routinely gets calls from airmen saying, "I want to deploy. Find me something."

The ILO assignments are one-year tours, and they are managed by the personnel center, not the AEF Center, but the two coordinate the assignments.

Besides patriotism, Przybyslawski said a big motivator for the volunteers is the opportunity to "be in the fight" and directly support the war effort near or at the front lines. It helps propel careers by broadening experiences and offering an opportunity for recognition and medals, and is more interesting than "sitting at a base" in the States.

Some ILO jobs are considered so plum that the AFPC actually must convene competitive assignment boards to award them. The job of "provincial reconstruction team leader," for example, provides the opportunity to have responsibility similar to "being a squadron commander somewhere," Przybyslawski said.

"They're out there living in the villages, working with the regional governor, and they're trying to help rebuild the country. ... We don't have a school for that, but by gosh, we're doing it, and the people love it." Such ILOs typically go for an abbreviated Army or Marine Corps course before deployment.

"It's My Turn ..."

Przybyslawski noted that one of the 12 Outstanding Airmen of 2007, SMSgt. Tammy L. Brangard-Hern, who works at the AFPC, was already scheduled for a deployment overseas when she was selected for the honor. Numerous volunteers offered to take her place, he said, "so she could be part of that program. But she's gone to deploy. Because ... she said, 'It's my turn to go, and I want to go.' "

Volunteers don't meet all the ILO requirements, however, and in those cases, the personnel center will go first to people in a given career field who "haven't been overseas for a long time." Even then, if the chosen airman is being given less than 60 days' notice of a one-year deployment, "we would make it a 179-day tour" through the AEF and that person's replacement would fill a one-year hitch as the ILO.

The policy arose because some people were getting just a few days' notice of a year-long tour, and "that was unacceptable," Przybyslawski said.

About 20 percent of the Air Force's AEF requirements are filled through the Guard and Reserve. That portion, too, is accomplished through volunteers.

"We don't like mobilizations," Przybyslawski said.

The way it works is that, about two months before an AEF is set up, the "Reserve and Guard will come in, look at our requirements, and they will take them off our plates." The reserve components take the slots "for those tasks they know they can get volunteers for."

The reserve components, however, get some flexibility from the Air Force. It permits four Guardsmen, for example, to share a single 120-day tour, with each serving a 30-day stint. Such accommodations—which are necessary because some civilian-airmen simply can't serve for more than a month at a time—are only possible in slots where long-term dwell or continuity is not a requirement for the job.

"That's dependent on the COCOM allowing them to do that," Przybyslawski said, but it seems to work, "and I think we do better than any of the other services through that concept, of getting our Guard and Reserve to help us out through the volunteerism."

The AEF system is perhaps "the most flexible tool" available to the Pentagon in filling overseas manpower requirements, Przybyslawski asserted.

"If you ask the Navy for a finance officer, they can provide you that, but the [USS] *Kennedy* has to come with [him], because he's tied to the *Kennedy*."

He observed that the AEF, pressed as it is, has proved able to "ramp up, ramp down, sustain, respond to the wildest requirements," and not crack the morale of the rank and file in the process.

"I am confident" that with the AEF, "we can flex the force to rapidly build up; it gives us a tool to bring it down. ... It's a nifty idea. The people who invented it should be proud." ■

NATO, Version 2.0

When the western alliance moved to the east, things changed—radically.

By Adam J. Hebert, Executive Editor

A Romanian MiG-21 passes behind a line of RAF Lakenheath-based Air Force F-15s at Mihail Kogalniceanu AB, Romania.

The knee-high weeds and wild dogs that one sees today at Romania's "MK" air base probably also were there during the Cold War, but the presence of American transports and French fighters would have been unthinkable.

These days, the sight of foreign NATO aircraft is becoming something like the norm on the airfields of former Warsaw Pact nations.

The Atlantic alliance has embraced 10 new members which were, in one form or another, part of the communist East. Through expansion, integration, and joint training and exercises, they have become full NATO members.

It was in 2004, during the last round of expansion, that Romania joined the alliance. So it was that, this June, American and French aircraft arrived at Mihail Kogalniceanu Air Base, near Constanta. They and their crews coexisted peacefully with nearby Romanian MiG-21s, holdovers from the nation's Warsaw Pact days, along with Romanian transport aircraft and Puma helicopters. Then, to make matters even stranger, USAF's Thunderbirds showed up.

The alliance today bears no resemblance to the NATO that existed only a few years ago, and not just because its membership list has grown. NATO is actively engaged in a critical out-of-area mission in Afghanistan. It is finally making some true progress toward closing long-standing gaps in capability. And it has vastly simplified its command structure.

The new allies are fully integrated into NATO planning, training exercises,

AP photo by Vadim Ghirda

and combat operations. They are working to throw off Soviet-style military practices and modernize their methods and equipment.

The 10 new members formerly constituted the heartland of communist Eastern Europe. Bulgaria, Hungary, Poland, and Romania were theoretically independent members of the Warsaw Pact. The Czech Republic and Slovakia, united as Czechoslovakia, also were within the pact. Estonia, Latvia, and Lithuania were Soviet republics. Slovenia was part of Yugoslavia.

Romania has stepped up to its obligation as few have done. Every NATO exercise at MK offers an opportunity for Romanian Air Force personnel to master alliance tactics, techniques, and procedures, noted Lt. Commander Adrian Vasile, the Mihail Kogalniceanu installation commander. NATO integration allows for "better training of personnel at every level, in every position, no matter how minor," he said. Everything from force protection to the planning of air combat training is regularly done in conjunction with NATO forces.

"This is only the beginning," predicted Vasile, who foresaw that the Romanian Air Force would continue to increase its hosting of multinational exercises.

The relationship is mutually beneficial, as the alliance is making return investments. In Romania, recent infrastructure improvements at MK include a NATO-funded parking ramp for a dozen fighters, and taxiway and runway improvements.

The communist legacy persists, but the eastern allies are everywhere trying to throw off the rigid military establishments of the past. Bulgaria, for example, has cut the size of its armed forces from 110,000 to 39,000 troops in the past 15 years, said Bulgarian Army Col. Evgeniy Peshev. The force, which this year is finally ending conscription, will probably go down to 25,000 troops and will be completely professionalized, Peshev said.

Geographic No More

This transition has been difficult for the former pact nations. The reductions have eliminated hundreds of thousands of military jobs across Europe. This kind of transformation, however, must go forward if the countries are to upgrade their forces.

Bulgaria has an ambitious list of modernization goals, which includes a need for a fleet of new multirole fighter aircraft. "NATO guarantees Bulgaria's security," Peshev noted, allowing the nation to focus on transformation efforts.

Fighters are a hot commodity for the new NATO nations. Romania's air force, for example, is looking for a new multirole fighter to replace its ancient (but recently upgraded) MiG-21s. The nation is looking to purchase something along the lines of 48 F-16s, Swedish Gripens, or EADS Eurofighters.

Romania needs to modernize its entire military, but it doesn't have the money to do so. Even these fourth generation fighters will be hard to finance. They also will pose a technical challenge for an air force experienced only with obsolete MiG-21s.

Poland's air force has embarked on a major purchase of 48 advanced F-16s. The Czech Republic and Hungary both selected the Gripen for their fighter modernization programs.

The more advanced NATO militaries are preparing to equip their air forces with the US-built F-35. Besides the US, eight NATO members are buying the Lightning II. The Eurofighter also

USAF photo by SrA. Eydie Sakura

US Army photo by Gary L. Kieffer

Above, SrA. Richard Bates (l) and SSgt. Mark Pastian work on an F-16 missile during last year's Viper Lance exercise in Romania. At right, a simulated improvised explosive device detonates near a Humvee in a convoy of multinational NATO soldiers during a training exercise in Bulgaria.

has several committed backers among NATO nations.

Air defense has increased in importance. NATO's common defense philosophy requires other states to provide air defense for smaller states such as the three Baltic nations. Air Force Gen. William T. Hobbins, commander of US Air Forces in Europe, maintains that NATO still suffers from a "dog's breakfast" of command and control. Even so, said Hobbins, the alliance has proved that it can effectively perform this air policing mission in an area where overflight can take place in as little as 20 minutes.

Romania assumes there is "no threat of large scale invasion," said ROAF Col. Constantin Raileanu, national liaison to NATO's transformation command. The country is in a "good neighborhood," he said, allowing it to focus on modernization, meeting NATO standards, and asymmetric threats such as terrorism. Romania ended conscription this January.

Within the alliance, there exists constant tension between ambitions and finances. NATO members have an agreed-upon goal that each nation will devote two percent of annual gross domestic product to defense, but only seven of the 26 nations actually meet the target. They are the United States, Britain, Bulgaria, France, Greece, Romania, and Turkey. Six others spend less than 1.3 percent of GDP.

The budget squeeze has consequences. In 1999, when NATO launched Operation Allied Force in Serbia, not all the nations had secure voice communications. "We found ourselves operating at night, having to talk on clear radios, which means the enemy can listen to you if he chooses to do it," said Smith.

The groundwork for the 21st century NATO was laid at the 2002 Prague summit in the Czech Republic. There, allied leaders finally took decisive action to address long-standing problems of deployability, strategic mobility, air-to-ground surveillance, and more. Plans for the NATO Response Force became official.

In 2003, NATO dropped its often-confusing Cold War command arrangements. All operations are now overseen at Mons, Belgium, by Allied Command Operations, which is headed by US Army Gen. Bantz J. Craddock, Supreme Allied Commander Europe. Craddock also serves as the commander of US European Command.

NATO also has one functional command—Allied Command Transformation, at Norfolk, Va., led by USAF Gen. Lance L. Smith. NATO now runs training and combat coordination through headquarters in Brunssum, Netherlands, and Naples, Italy. A smaller headquarters can be found in Lisbon, Portugal.

Reporting to these headquarters are land-, sea-, and air-component headquarters, with the air centers located at Ramstein, Germany, and Izmir, Turkey. The centers no longer artificially divide missions up by geographic area. The command structure may seem elaborate, but is simple compared to the Cold War model. NATO once had 65 distinct headquarters. It now has 11.

When NATO commanders ask for troops or equipment, the newest members "are there, ready to help in any way that they can," said Smith. "They are setting an example for many of us."

Now Operational

These plans are now beginning to bear fruit and have given NATO new purpose. The NATO Response Force, for example, has deployed twice since reaching initial operational capability in 2004. In September 2005, NRF units deployed to the United States to assist in the aftermath of Hurricane Katrina. The following month, NRF assets went to Pakistan to provide aid after a devastating earthquake.

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The NRF became fully operational last year. It now has 25,000 combat troops ready to deploy within five days and able to operate in a sustained fashion for 30 days without resupply. The system is reminiscent of USAF's air and space expeditionary forces, as NRFs operate on a rotating schedule with designated training periods and deployment windows.

Forces include a brigade-sized land force capable of forced entry, maritime units with a carrier battle group, and combat air forces able to fly a full range of missions with up to 200 combat sorties per day.

NRF forces have not, however, yet seen combat. Though NATO forces are heavily engaged in Afghanistan, the International Security Assistance Force (ISAF) mission is separate. ISAF is a "coalition of the willing," handled by individual Allies and not by the NATO-wide response force, or even the 15-nation NATO AWACS unit. By June, ISAF had 37 nations (including non-NATO members) with 35,500 troops in-country. Some put forth token forces, but 26 nations have committed more than 100 troops to the mission.

"The alliance has changed its level of ambition," said Smith.

Indeed, NATO's most recent official handbook states that the alliance "should not be constrained by predetermined geographical limits; it must have the capacity to act as and where required." It goes on to say that, in 2002, NATO "crossed the Rubicon by stating that it was prepared to engage in operations beyond its traditional area of responsibility." Just a few years earlier, even the decision to go to war in the Balkans—next door to Greece and Italy—had been controversial.

Photo from www.mapn.ro

Romanian MiG-21s (foreground) and visiting French Mirage 2000s line the flight line at MK Air Base, where NATO exercises are becoming more common.

Retired Gen. Joseph W. Ralston, a former SACEUR, said in 2003 that one of 9/11's legacies was that it "put to bed that argument that a threat to a NATO country has to originate in the country immediately adjacent to its border." NATO's Afghanistan mission is helping, "albeit indirectly," to put an end to terrorist activity, the handbook states.

NATO took over responsibility for the UN-mandated International Security Assistance Force in 2003, and the mission is now the alliance's No. 1 priority. Over the past three years, NATO has systematically spread its forces throughout Afghanistan, moving into the most dangerous regions last year.

"We've seen in the southern and the eastern regions a much fiercer resistance than we had expected," said Canadian Air Force Gen. Ray Henault, chief of NATO's military committee.

The mission is "very difficult," said a US Army colonel at NATO's operational command in Brunssum, which runs the operation. An RAF general there described the responsibilities as 20 percent military and 80 percent other, such as providing the ability for judges to govern under the rule of law, and for reconstruction projects to take place unhindered.

In 2006, "it became clear that the Taliban had prepared a defensive position" along the main highway west of Kandahar, in southern Afghanistan, British Gen. David Richards, former ISAF commander, wrote in *NATO Review*. "Their intent was to take Kandahar, which would have damaged President Karzai's government irreparably." NATO attacked with a brigade-sized operation, and "the Taliban suffered a comprehensive tactical defeat, despite reinforcing their position."

ISAF moved into the rest of the country shortly thereafter, and the Taliban was forced to change its tactics. "They have not held ground defensively since," Richards said, and

USAF photo

Bulgarian soldiers hone urban warfare tactics in an exercise at the Novo Selo training area in Bulgaria.

ISAF photo

A leased An-124 transport loads a Dutch Apache attack helicopter. NATO has several Russian and Ukrainian An-124s under contract.

instead have turned to an Iraq-style insurgency.

This poses its own problems. NATO is now dealing with an enemy sowing disorder and disruption, actively seeking civilian casualties for propaganda value. "We don't want to lose the faith and confidence of the Afghan people," Craddock said.

The crucible of Afghanistan has served to jump-start NATO transformation efforts. ISAF participants "see the requirement," said Smith, and "they're making an investment in the war, so certainly they're further along because of Afghanistan than they would have been without it."

The need for interoperability, always a concern in NATO, has been driven home by ISAF. The alliance can generate plenty of combat power, said British Army Lt. Col. Stephen Turpin of the ACT staff. The problem is in building an interoperable force that can fight together effectively and efficiently.

Exponential Difficulty

ACT commander Smith, who also heads US Joint Forces Command, said the problem is a big one. "It is difficult enough to get four services interoperable," he noted. "In NATO, take that and multiply by 26 nations."

Getting everyone to use the same systems is out of the question, whether it is radios, command and control systems, or fighters. Nations make independent investment decisions and favor domestically produced systems. Standards are important—one partial solution is simply to get allies to build to NATO specs and standards.

Another way to provide common capability is through teaming arrangements. One of the priorities coming out of Prague in 2002 was for "greater emphasis on multinational commitments and pooling of funds," says a report by the Congressional Research Service. This is seen in a variety of lift and surveillance initiatives.

Now on the books is a multinational arrangement for a new Alliance Ground Surveillance system. AGS will provide a NATO-owned-and-operated, Joint STARS-like ground surveillance capability to match its air control AWACS force. The program of record calls for the alliance to purchase a mixed fleet of four Airbus A321 aircraft and four unmanned "Euro Hawk" reconnaissance drones. The fleet would become operational in 2013.

All signs are that the manned portion of the program may fall off, however, turning AGS into a Global Hawk-only platform. In the meantime, USAF E-8s are providing ground surveillance capability to the NATO Response Force.

NATO's Joint Airpower Competence Center studied the long-standing shortage of strategic airlift capacity in the alliance and determined that neither the C-130 nor the C-160 can carry the majority of the equipment necessary for a full NRF deployment.

The JAPCC, overseen by Hobbins, is NATO's in-house airpower think tank. According to the center's analysis, nearly 60 percent of an NRF's total equipment could not fit into a C-130 or C-160 and would therefore require the use of a C-17, C-5, or the lease of an An-124 to get to a combat theater.

As a stopgap solution, a consortium of 16 nations is chartering six Russian and Ukrainian An-124 transports. Two of the Antonovs already are on full-time charter, and the consortium members will fly the aircraft a minimum of 2,000 hours per year. The aircraft have already delivered NATO supplies as far as Afghanistan.

For the midterm, 15 alliance members plus Finland and Sweden will purchase and operate at least three and possibly

USAF photo

Portable lights illuminate an E-3A aircraft on the flight line at NATO Air Base Geilenkirchen, Germany.

Photo by John Dunnell

A Royal Air Force C-17 takes to the air. The alliance will soon purchase at least three C-17s for NATO missions.

four C-17 transports. They will be operated and maintained at a NATO base in Europe, by multinational crews, under an international command structure.

Ramstein shapes up to be the most likely base for this transport fleet. However, Hobbins said, other locations are still under consideration. The first of the C-17s will be in service next year.

The US and Britain already operate C-17s, and Canada is purchasing four, but the prop-driven Airbus A400M is expected to be NATO's primary long-term airlift solution. Seven allies will buy 180 A400Ms, beginning in 2009. JAPCC noted that the A400M can move outsize (too large for a C-130) equipment, but it will be about 10 years before the aircraft is available "in good numbers." Marshall S. Billingslea, chief of defense investment for NATO, said strategic airlift represents "a gap that I would suspect is going to be impossible to ever fully close."

NATO's Airborne Early Warning and Control Force is a model for many of the multinational arrangements the alliance is establishing.

At NATO Air Base Geilenkirchen, Germany, a fleet of 17 E-3A aircraft are collectively owned and operated by the 15 members of the alliance. The AWACS mission arose when it became clear that ground-based radars could not defend NATO against low-flying Warsaw Pact jet aircraft. To date, the E-3A force is NATO's only flying unit. The aircraft are registered by Luxembourg, which has no air force of its own.

The US, Britain, and France also fly E-3s, with the British component based in England but functioning as part of the NATO command structure. The AWACS fly regularly—and increasingly—from forward operating locations in Greece, Italy, Norway, and Turkey.

The E-3A fleet became operational in 1982 and soon will complete a "NATO Midterm" conversion with improved mission systems and avionics.

"Ideally, every NATO member should be part of this," said USAF Brig. Gen. Stephen D. Schmidt, commander of the E-3A Component. Although there are cultural and training difficulties in running a multinational force, greater participation strengthens the alliance, Schmidt said, adding that Poland and Hungary recently joined the E-3A team, and Romania and the Czech Republic are "very interested."

Time for Training

Of the 15 nations at Geilenkirchen, however, only the US flies its own E-3s, noted Lt. Col. Jim Casey, commander of Squadron 1 at the base. Maj. Chris Hansen, an E-3A pilot, added that no more than 40 percent of the crew on any given flight is American, and Germany actually has the largest personnel component at the base.

Several officials expressed the desire to have personnel assigned to Geilenkirchen for periods longer than the typical 3.5-year tour. It takes significant time to train for the mission and master the nuances of working on an international flight crew. A three-year assignment is "not sufficient time" for airmen who haven't already served on a 707-based platform, said Canadian Air Force Col. Manfred Arndt, commander of the E-3A Operations Wing.

Overall, however, having the nations working together on the AWACS is "a strength" said Schmidt. It creates a cohesive team that can include officers from Greece and Turkey working side by side on real-world missions.

The fleet provides warning and control on a regular basis. Aircraft helped defend the United States after 9/11, provided coverage over Turkey in the early days of Operation Iraqi Freedom, and defended the skies over the 2006 NATO summit in Riga, Latvia.

Missions are becoming more tactical. Portions of the E-3A Component are permanently assigned to the NRF, and the aircraft can even detect surface-to-air missile sites.

Mastering close air support and time critical targeting missions has increased in importance in recent years. Arndt is pushing for a change to four-year assignments for non-707 nations, to better meet the increasing demands.

The JAPCC think tank is now looking to build a C4ISR roadmap so NATO can make full use of its upgraded E-3s, planned AGS systems, and related capabilities. The center is also finalizing an unmanned aerial vehicle flight plan to overcome the same problems the US military is having in rationalizing haphazard unmanned aircraft planning and operations.

Even though NATO has been working the issue since 1999, the alliance still lacks a formal UAV concept of operations or proper doctrine, said USAF Col. R.D. Clampitt, JAPCC staff director. Direction is needed because there has been an "explosion" in the number of systems in use, Clampitt said, and demand is only expected to grow. Fifteen of NATO's 26 militaries have unmanned aircraft—meaning 11 do not.

This highlights another problem the alliance has long striven to overcome: the technological gap between NATO's haves and have-nots. George Robertson, formerly secretary general of the alliance, once railed against trends toward NATO having a "precision class" of wealthy, well-armed nations and a "bleeding class" comprising all of the others.

Like every other problem the alliance takes on, however, this is not easy to fix. The capabilities gap is real and may never go away completely. The United States, Britain, and a few other nations are forging ahead, Smith noted, and they are not going to slow down just so other NATO members can catch up. ■

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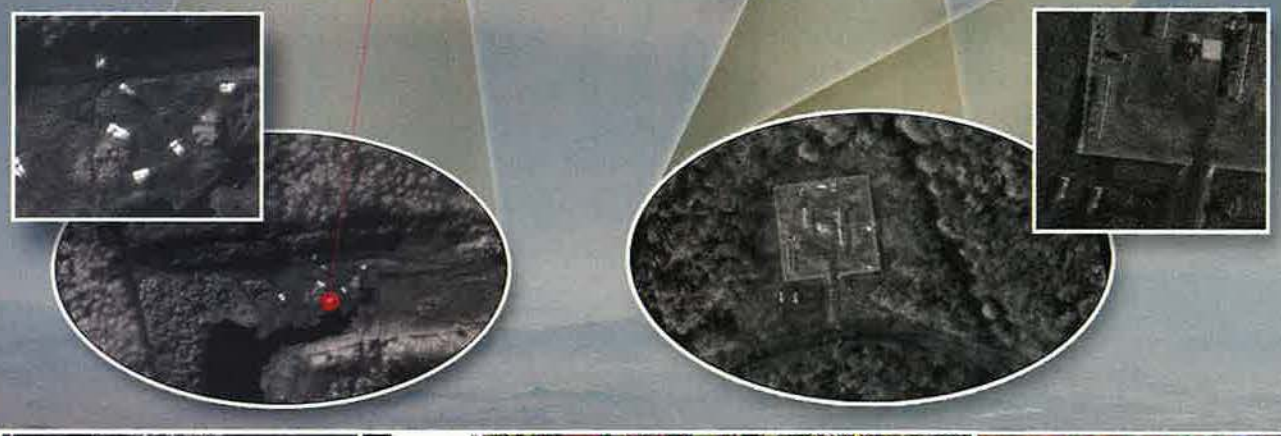

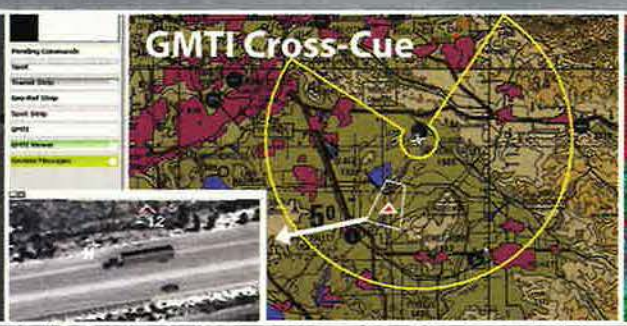

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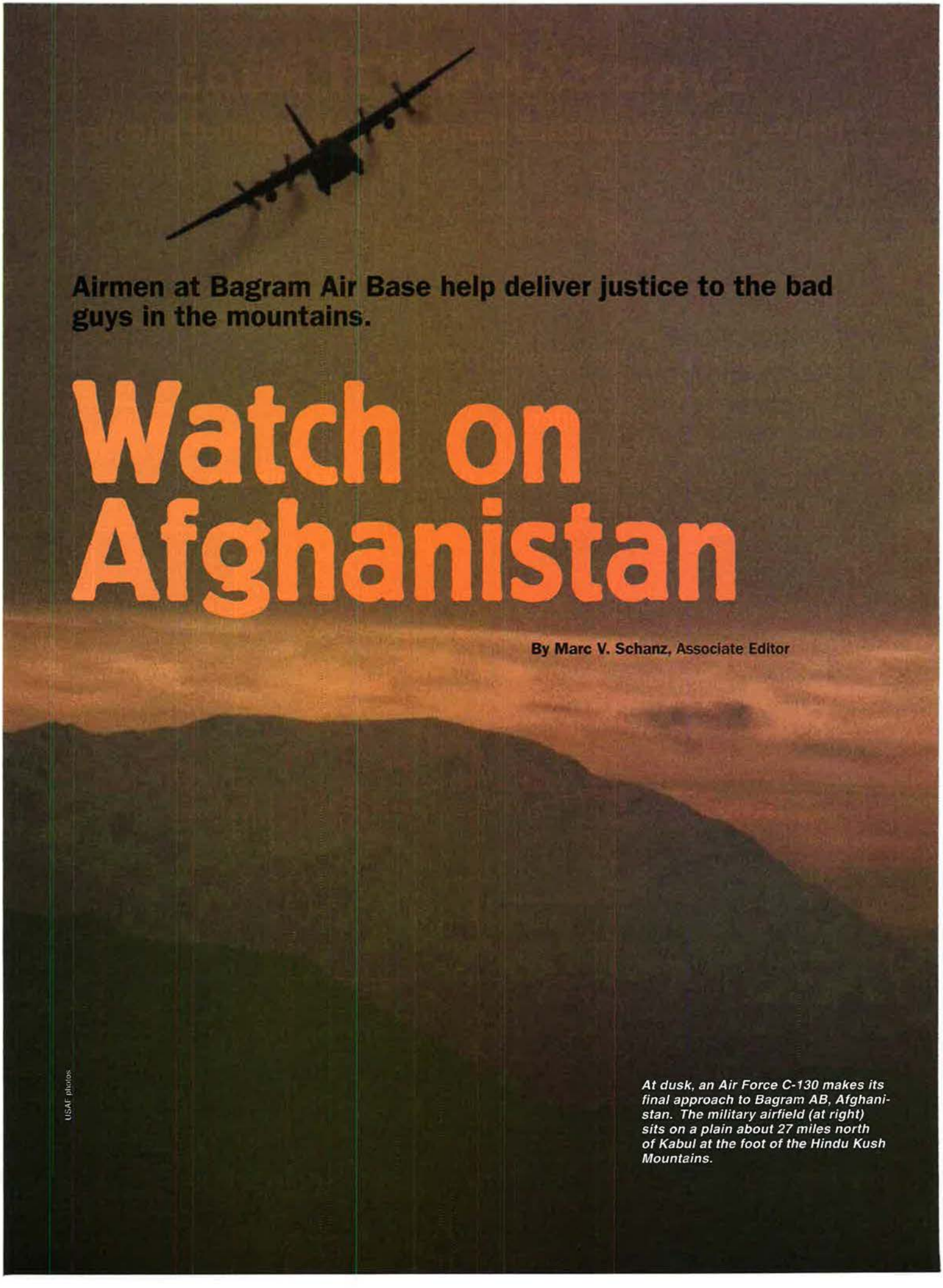


Airmen at Bagram Air Base help deliver justice to the bad guys in the mountains.

Watch on Afghanistan

By Marc V. Schanz, Associate Editor

USAF photos

At dusk, an Air Force C-130 makes its final approach to Bagram AB, Afghanistan. The military airfield (at right) sits on a plain about 27 miles north of Kabul at the foot of the Hindu Kush Mountains.

It's been hours since the C-130 of the Minnesota Air National Guard took off from Manas Air Base in Kyrgyzstan and began droning southward into the night. Now, the crew flips off the standard illumination of the cargo hold and activates soft green "slime lights"—the signal that night vision systems are engaged.

The American airlifter bobs and weaves slightly. Then it makes an abrupt dive, hurtling downward. So begins the final approach to Bagram Airfield in the heart of Afghanistan.

This is a standard evasive maneuver for Bagram-bound aircraft such as this Hercules, which is packed with US Army 10th Mountain Division soldiers headed to the war zone. The landing, always a tense moment, comes and goes without event.

The relief on board is palpable.

At Bagram, one sees firsthand how far the Air Force's expeditionary mission has come since the early days of Operation Enduring Freedom. When US forces seized the airfield from the Taliban in 2001, Bagram was described by a visiting aviator as "the scariest place on the planet." It was littered with mines, unexploded ordnance, hangars filled with abandoned weapons, and roving bands of bearded special operations forces.

Bagram had played a key role in the decade-long Soviet battle with mujahedeen fighters in Afghanistan. Aircraft based at Bagram provided close air support and mobility. The disastrous endgame of that Soviet effort was aptly symbolized by the physical wreckage of the place for years afterward.

That's in the past. The field and facilities have been upgraded for long-term combat operations. The buildings there now feature plumbing and electricity. The troops have running water and receive hot meals. US workers have poured acres of concrete to upgrade and strengthen runways and ramps.

USAF commanders have built up an impressive portfolio of capabilities. "The beauty of airpower is that we are flexible and adaptable. ... We can shape or change how we fight," says Lt. Gen. Gary L. North, Central Command Air Forces commander.

Shortly after midnight, a bus transports the troops and other passengers to a small aluminum-sided building just off the airfield's main ramp. A placard welcoming visitors to Bagram sits over the door. It bears the logo of the Combined Joint Task Force-82.

The security difference between Manas and Bagram becomes immediately—and glaringly—apparent. Everyone has a weapon, from the sergeant checking customs forms to the fresh arrivals.

Just inside the terminal entrance, one side of a hallway is adorned with an oil painting of silhouetted service members atop a mountain—a tribute to those who have died in Operation Enduring Freedom. On the opposite wall, a tall poster displays rows of full-scale photos of anti-personnel and anti-tank mines for all to see. It's precautionary; Afghanistan is one of the most heavily mined places on Earth.

As visitors and troops walk out of the terminal building, the relative quiet

USAF photo by TSgt. Cecilio M. Ricardo Jr.

An F-15E of the 391st Expeditionary Fighter Squadron takes off from Bagram for a March close air support mission.

of the night gives way to the faint flutter of helicopter rotors. The choppers are inbound. The war is just a short ride away, notes one of the nearby soldiers.

Across from the entrance to Camp Cunningham—the Air Force compound on base, named after Air Force Cross recipient SrA. Jason D. Cunningham—stands a large Soviet-era artillery piece.

Getting to the other side of Bagram requires a 10-minute truck ride over a bumpy washboard road, alongside of which are the rusting hulks of abandoned Soviet tanks and aircraft. There, one finds the airfield's newest facilities—revetments and trailers for the F-15E fighters of the Air Force's 391st Expeditionary Fighter Squadron.

Enter the F-15s

The airfield's ramp reveals a mix of aircraft from across the services. Navy EA-6B Prowler aircraft sit on the ramp next to Air Force C-130s. The airfield lies at the bottom of a sweeping plain that is completely surrounded by mountain peaks—some rising to more than 12,000 feet. The base, about 27 miles north of Kabul, has been here since the 1950s.

Airmen at Bagram are in what seems to be constant motion. CMSgt. Joseph Livingston has been at Bagram since January, arriving with the 14 F-15Es from Mountain Home AFB, Idaho. He steps away from a fighter, instructing an airman to inspect the right engine intake. A foreign object in the intake could spell big trouble for one of those fighters, and a sandstorm whipped across the plain not too long ago.

Crews are making adjustments to some of the weapons on a pair of F-15Es. A quartet of Small Diameter Bombs and GBU-38 Joint Direct Attack Munitions are almost ready for action.

These were the first F-15Es to deploy to Bagram in support of OEF. Livingston makes sure that they are ready to fight at a moment's notice, 24 hours a day. Ever since it arrived, the squadron has been flying surge operations with up to 10 sorties a day. When called on an alert, crew members boast, they have gotten these huge fighters into the air in less than 20 minutes.

Moments later, and as if scripted, two F-15Es lift off the runway in full afterburner, turn westward at the front of the Hindu Kush range, and zoom from sight. "That's one big advantage we bring to the battlefield," says Capt. Chris Troyer, a pilot with the 391st EFS. "Lots of speed."

For Troyer and the other operators, the squadron's first deployment to Afghanistan is a chance to prove the versatility of the fighter. Theater air planners wanted to cut down on the time it took to reach targets. The workhorse A-10s that have been a mainstay in Afghanistan are capable of loitering in an area for a long time, but it would sometimes take them 45 minutes to reach target areas.

Since the arrival of F-15Es in theater, Troyer notes, enemy forces ambushing patrols and friendly forces have learned the hard way that they can no longer count on having a long "grace period" to attack before air support shows up.

The deployment, as of late April, has been successful. The squadron in its first few months attacked 142 targets, routinely performed reconnaissance escort for patrols and convoys, and staged numerous "shows of force" over enemy positions.

The fighters are flexible. "We're not a typical bomber in this case," says Capt. Joe Ryther, a weapons systems officer with the squadron. "We're not going to just lay waste to everything." The thundering, low-level "show of force" passes typically keep an enemy's head down long enough for the good guys to get out of a bad situation.

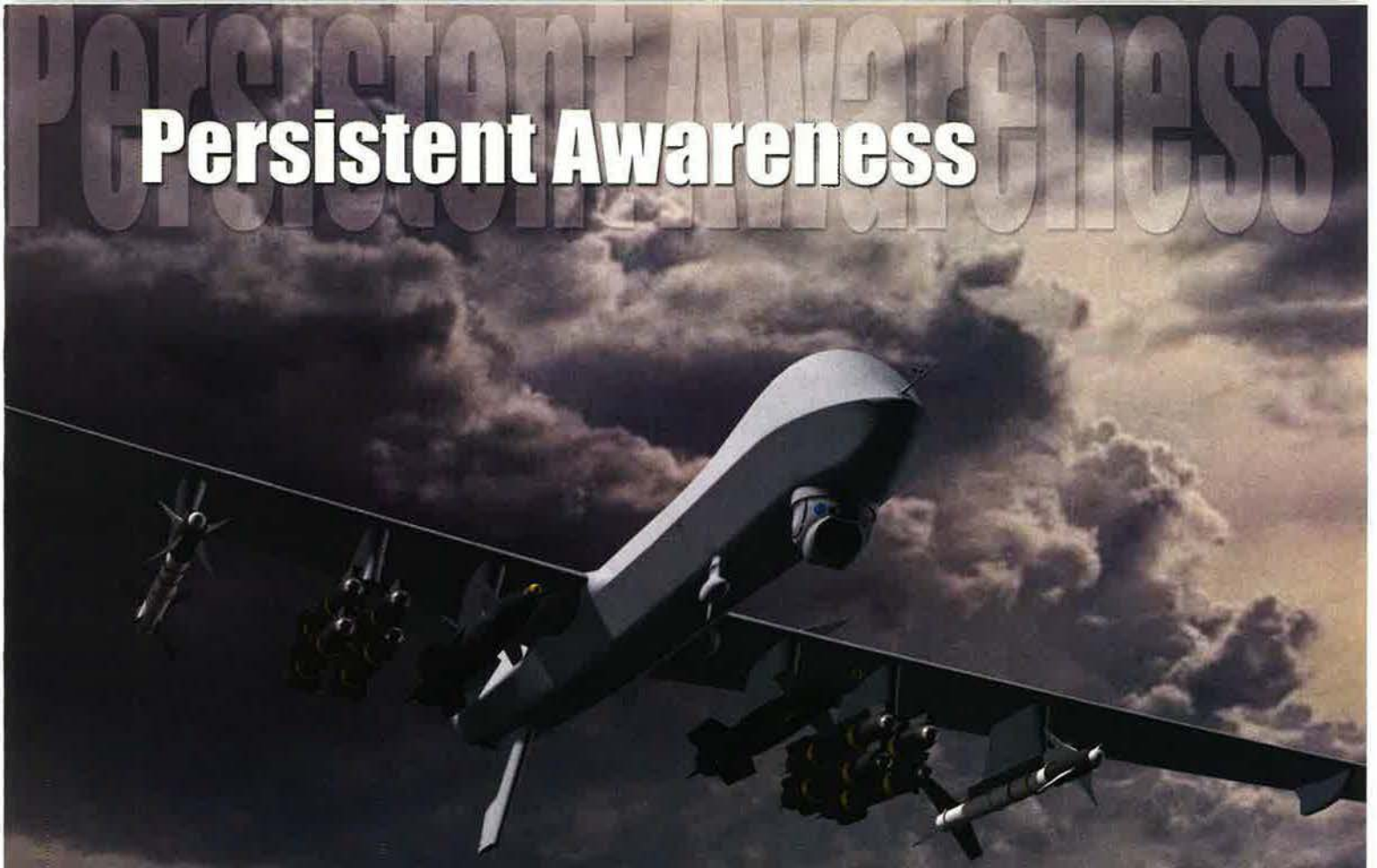
"Five hundred feet at 500 knots makes a lot of noise," Troyer said. "We shake brains around a bit."

With the ramp up of operations across eastern Afghanistan in the late spring came the return of A-10s to Bagram.

USAF photo

MiG-21 Fishbed fighters are tangled in a scrap pile at the end of one of Bagram's runways. Soviet-era wreckage, junked fighters, tanks, artillery pieces, and land mines are still a common sight around the edges of the base.

Persistent Awareness



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USAF photo by MSgt. Lance Cheung

An A-10 Warthog from the 355th Fighter Squadron snap rolls to dive thousands of feet into a low-level mission.

Warthogs of the 354th Fighter Squadron at Davis-Monthan AFB, Ariz., arrived in the country, setting up on the side of the runway opposite the group of F-15Es. The combination of the heavy-hitting Warthog and the quick and responsive (and also hard-hitting) F-15E will give commanders an even wider spectrum of air-to-ground capabilities from which to choose.

Ryther explains that F-15E crews have an air-to-ground mission, and the squadron has trained extensively for missions specific to the Afghan deployment. It also honed little-used tactics, such as strafing with the fighter's 20 mm cannon. Operators learned to adjust their aiming techniques a few degrees when performing strafing runs.

Tracking the Taliban

Bagram is a colorful hybrid of a frontier town and modern military hub. Local civilians tote shovels and equipment for the seemingly never-ending construction efforts. Rolling by at any time of day is a local "Jinga," the name given to the wildly decorated and ornamented Afghan utility trucks.

Bagram, like other forward facilities across the Southwest Asian Theater, is more than an airfield. It serves as the hub for a wide range of combat operations, medical activities, and logistics work. Bagram also provides confinement for enemy detainees.

Under the command of Army Maj. Gen. David M. Rodriguez of the 82nd Airborne Division, CJTF-82 oversees a full complement of combat, support, and reconstruction operations along the country's eastern border with Pakistan—a hive of Taliban and al Qaeda fighters and weapons.

Across the entire country, about 37,000 US and coalition forces are engaged in OEF. A significant portion of those troops and resources operate from or pass through Bagram, which, at the height of a troop rotation, hosts 15,000 uniformed troops.

About 3,000 of those are under the command of the 455th Air Expeditionary Wing, which oversees six Air Force groups at Bagram and Kandahar Airfields. To the south, the 451st Air Expeditionary Group maintains unmanned aerial vehicles, a combat search and rescue squadron, and an air control squadron at Kandahar.

From close air support to evacuation and resupply, a wide range of capabilities is available.

Thanks to airpower, the patterns of the enemy have been closely tracked, North says. Whether Taliban elements are infiltrating from camps in Pakistan or al Qaeda affiliated groups are coming in from Uzbekistan or other Central Asian countries, there is a migratory pattern, and the US and its allies are learning it.

The problem, however, doesn't always result in the release of a weapon.

"If it's the most efficient, we will fight them that way," North says. "If it's more efficient to watch and wait for a bigger fish, we'll do that."

From early in the morning to late at night, a pair of huts not far from the passenger terminal form part of a key mission at Bagram—moving manpower and materiel to the battlefield. SMSgt. Jim Shay works in the Air Terminal Operations Center, the clearinghouse for all information going in or out of Bagram. Shay, the aerial port superintendent for the 455th Expeditionary Logistics Readiness Squadron, works with about 60 airmen to ensure that the ramp never gets bottled up. In an average week, the 455th ELRS sees about 2,500 tons go in and out of Bagram.

A short ride from the ATOC shed, one finds a trio of Illinois ANG C-130Hs on the flight line. There TSgt. Myles Debshaw finishes up some work in the cockpit. Debshaw, a Guardsman from the

USAF photo by SSgt. Kevin Tomko

TSgt. Myles Debshaw, a crew chief with the Illinois ANG's 169th Airlift Squadron, cleans the windshield of a C-130.

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USAF photo by SMSgt. Andy Huneycutt

169th Airlift Squadron, notes that, just the day before, his squadron delivered about 8,000 pounds of supplies to troops at a forward base.

The climate of mountainous Afghanistan keeps maintainers busy, Debshaw explained. In the winter months just past, ice and mud were the big problems for C-130s. In the summer, the heat and dust can be oppressive at times.

A Raw Place

Maj. Pat Ober, a pilot with the 169th, remembers clearly the first time he touched down at Bagram. "You could still see old MiGs and [anti-aircraft artillery] not far from the runway. It was still a raw place." Bagram-based C-130s have carried everything from soccer balls and medical supplies to up-armored Humvees out to troops in the field.

The Hercs at Bagram are the in-theater utility tools of airlift—often getting reconfigured by aircrews within hours to fly aeromedical evacuation missions, low-altitude airdrops, VIP transport, or other tasks.

Afghanistan is a harsh environment, and the rules of warfare take their toll with every mission. In high rugged terrain, when the aircraft comes in, there will be blind spots where GPS signals may not be as strong—fouling the guidance of precision airdrop bundles. With help from air planners, crews decide what kinds of drops can be performed in certain areas throughout the country.

Many bases and camps have been set up on extremely small plateaus, Ober notes, requiring something close to direct hits in an airdrop. If a drop misses, the supplies may tumble down a 12,000-foot-deep ravine, probably to be recovered by the enemy.

Ober's shift was coming up soon, and, depending on what actually pops up on the board, his next mission could well require a tense, brake-jamming landing on the side of a mountain. Indeed, Ober is quick to note, "This is a max performing aircraft; we jam on the brakes every day." Or the mission could require a high-level precision cargo drop.

"Our focus is making sure we are able to support the mission across Afghanistan," said Brig. Gen. Christopher D. Miller, who was commander of the 455th AEW until his reassignment to NORAD in May.

Miller, who had overseen operations at the airfield for the past year, said the Air Force had benefited from several steps to improve its effectiveness—steps such as pouring more concrete in places where only dirt existed before. "I won't say it's more of the same, but it's really more of the same," Miller quips.

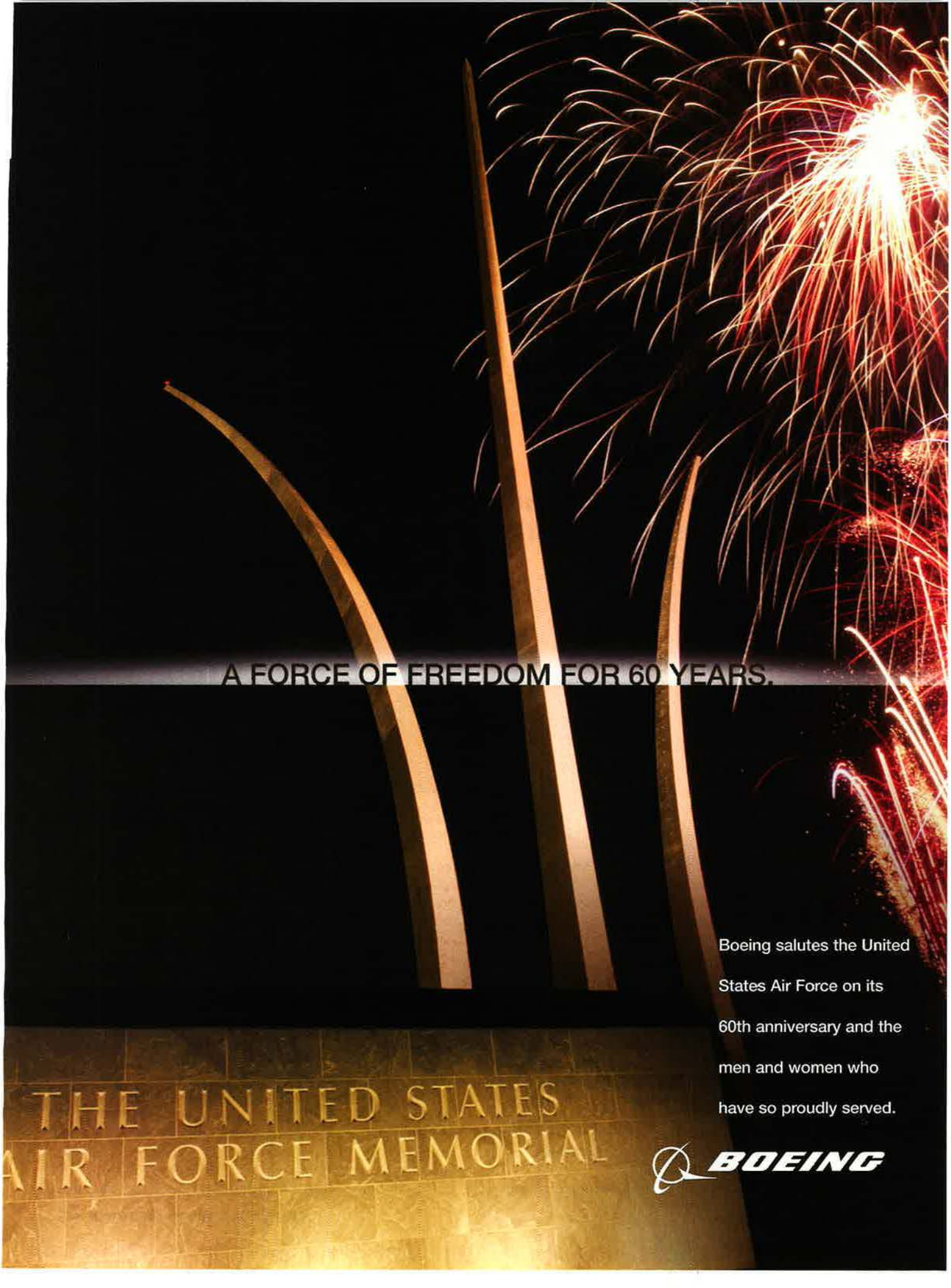
While the Army oversees the joint task force, the Air Force stands forth as the senior airfield authority, responsible for making sure that the required number of aircraft take off and land there every day, without fail.

The facility today is a blend of old and new. The yellowing walls of the airfield's control tower still sport scars from shelling in 2001. Glenn Allison, a civilian contractor who manages daily tower operations, gives a kind of short tour, noting the survival, even today, of Russian instructions painted on various walls. The Soviet-era building features enormous blast doors in its bomb shelter basement, which now is used as a storage shed for parts and supplies.

From the top of the three-story tower, one looks out on a sea of temporary huts, tents, and trailers, with the runway beyond, and, beyond that, the soaring Hindu Kush. Out on "Steel Beach," the cargo staging area, K-loaders pick up heavy pallets and load them on aircraft. An Antonov airlifter idles there, taking on cargo. Beyond it, a C-130 prepares for yet another sortie, because here, the mission does not end. ■

USAF photo by TSgt. Cecilio M. Ricardo Jr.

Top, a loadmaster secures the ramp of a C-130 Hercules after a resupply airdrop to US ground forces in Afghanistan. Above, a C-130 weaves around rocky mountain peaks to land at Bagram.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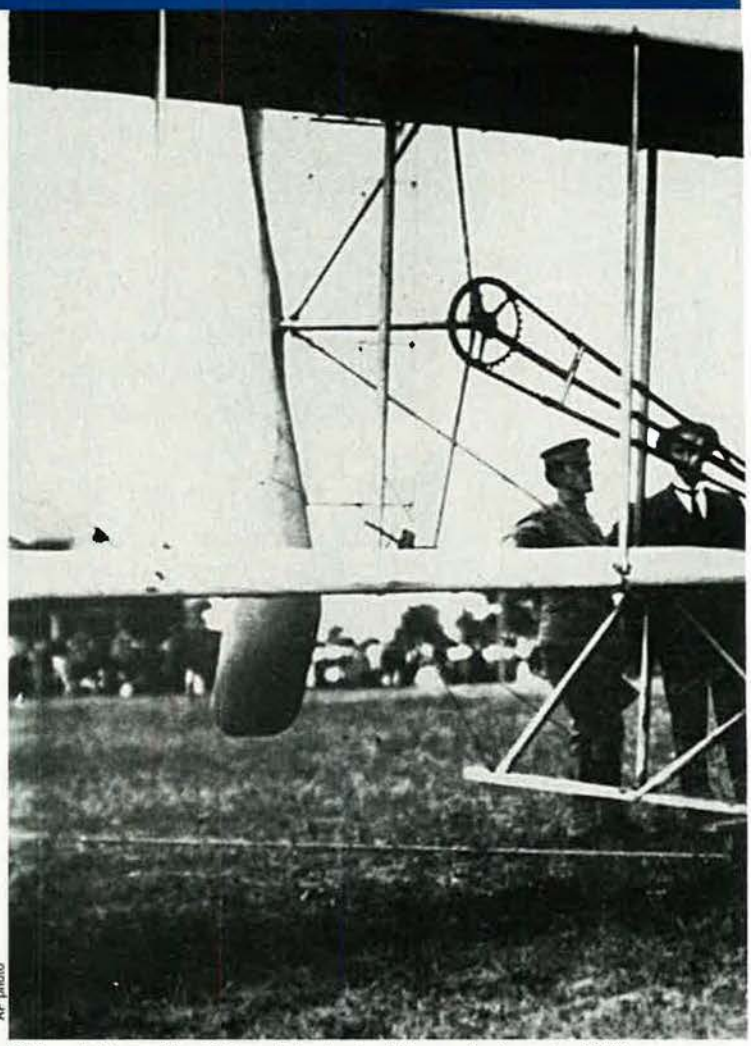
AIR FORCE MEMORIAL
Boeing salutes the United States Air Force on its 60th anniversary and the men and women who have so proudly served.
BOEING

The Air Force 1907-2007

The nation's air arm, which began with three people and no airplanes, has marked its 100th anniversary.

By John T. Correll



AP photo

"Signal Corps No. 1," world's first military airplane, in 1909. Foreground: 1st Lt. Frank Lahm (l) and Orville Wright. Background: 1st Lt. Benjamin Foulois and Wilbur Wright.

The organization that would eventually become the US Air Force started small and progressed slowly. When the Army Signal Corps established the Aeronautical Division in August 1907, it consisted of only three people, soon reduced to two when one of them deserted.

The Aeronautical Division did not get its first airplane until 1909 and did not have its own budget until 1911. In 1913, it had about 20 serviceable airplanes, lagging behind the British, the Germans, and the French. Its first surge in growth came in World War I, when the Army Air Service, as it had been renamed, sent hundreds of airplanes to France and made a creditable showing, shooting down 756 German airplanes and penetrating as deep as 160 miles behind German lines.

After the war, the Air Service was cut back sharply. Unlike the Royal Air Force in Britain, established as a separate service in 1918, US airmen had to settle for being the Air Corps, a combatant arm of the Army.

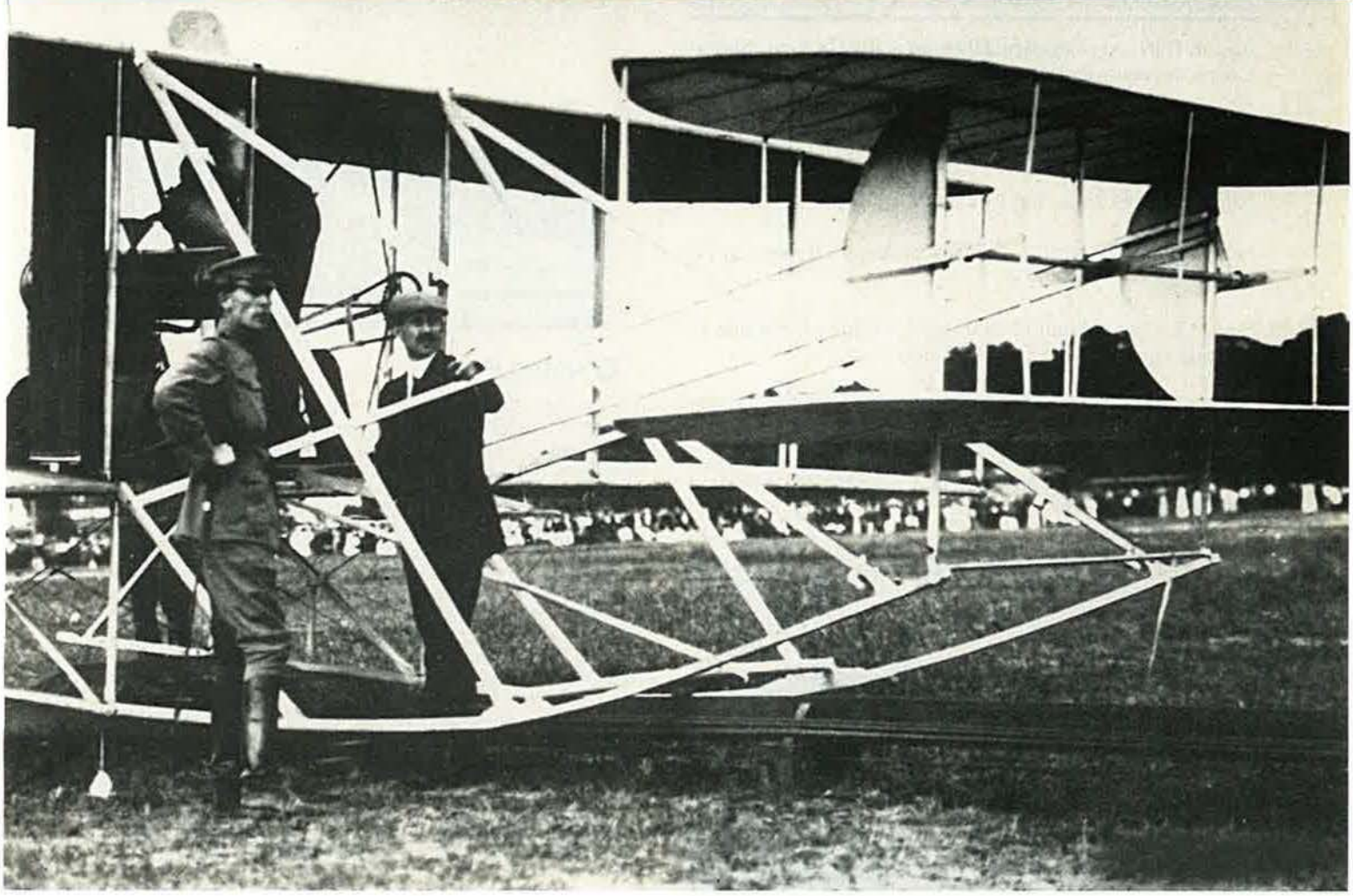
The interwar years were a constant struggle to secure recognition and support for military airpower. Arguments on behalf of airpower sometimes went too far, promising more than could actually be accomplished, but the airmen were not as far wrong as their traditionalist critics, who held that airplanes were a passing fad with limited value in war.

A turning point came in 1935, when the Army established a "General Headquarters Air Force" and put all Air Corps tactical units under a single commander who was an airman. The Air Corps also overcame opposition and embarked on a long-range bombardment development. When World War II came, the Air Corps was still relatively small but was well-prepared to grow, which it did, exponentially.

By 1944, the Army Air Forces had a strength of 2.4 million, which accounted for 31 percent of total Army personnel. Hap Arnold, head of the AAF, was a member of the Joint Chiefs of Staff, and the force was demonstrating its strategic worth both in Europe and in the Pacific. AAF delivery of atomic bombs against Japan brought World War II to a close.

The Air Force became a separate service in 1947, but that

CENTURY



was not all that had changed. The Cold War had begun, and national security was tied to the deterrent power of nuclear weapons carried by Air Force aircraft. The newest service had become the first line of defense, which was difficult for the Army and the Navy, with 175 years of tradition and seniority, to accept. Competition for roles and missions—as well as shares of funding—would last into the next century.

USAF, in 1948, became the first service to integrate. The Air Force increased its range and speed with jet airplanes, aerial refueling, and other developments. ICBMs could put a warhead on target in a matter of minutes. Platforms in air and space provided an unprecedented degree of strategic information. The precision guided weapons the Air Force used in Vietnam pointed ahead to the coming revolution in military affairs.

The Air National Guard and the Air Force Reserve had long been important in the Air Force scheme of things, and their roles increased after the Total Force concept was instituted by the Pentagon in 1970. Women moved into more Air Force career fields, and in 1976, the first women entered pilot training.

In 1990, the Air Force published a white paper describing its role as "Global Reach-Global Power," but the Cold War was over and some thought there would be little for the Air Force to do. That was soon disproved by the Persian Gulf War and the other conflicts of the 1990s, in which airpower carried more of the combat workload than before and demonstrated new levels of weapons accuracy and results. The Air Force reorganized its forces for expeditionary operations, making them more ready than ever to go where they were needed.

When the War on Terror began, the Air Force was called upon to fly patrols above American cities and lead the strike against terrorist concentrations abroad. It has been in action constantly ever since.

As the Air Force observes its 100th anniversary and its 60th year as a separate service, it is difficult to believe that there ever was a serious question about the military value of airpower. ■

Key Dates in Air Force History

First Force: 1907-19

Aug. 1, 1907. Aeronautical Division of the US Army Signal Corps, forerunner of US Air Force, established.

Dec. 23, 1907. Signal Corps issues specification for first military airplane.

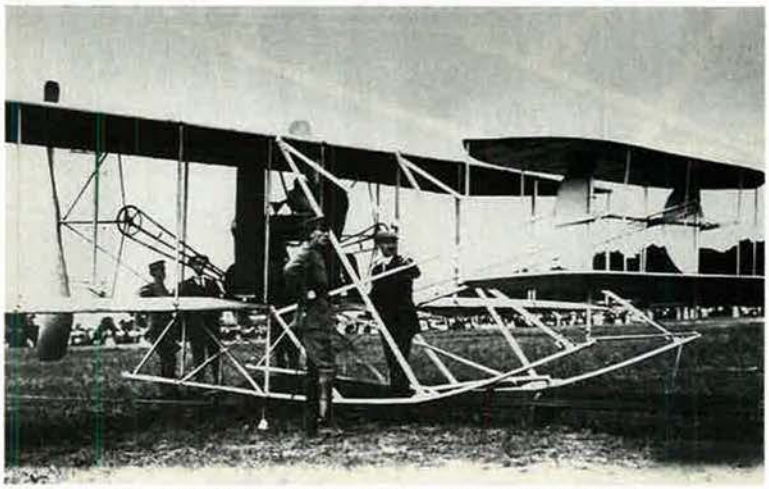
Aug. 28, 1908. Army buys its first dirigible.

Sept. 3, 1908. First test flight of an Army airplane, at Ft. Myer, Va.

Sept. 17, 1908. Wright Flyer crashes, killing Lt. Thomas E. Selfridge and injuring Orville Wright.

June 3, 1909. First demonstration flight of 1909 Wright Military Flyer.

Aug. 2, 1909. Army buys its first airplane from Wright brothers for $30,000.



The 1909 Wright Military Flyer, designated "Signal Corps No. 1," cost the Army $30,000 and was in service until 1911. Today it can be seen at the National Air and Space Museum in Washington.

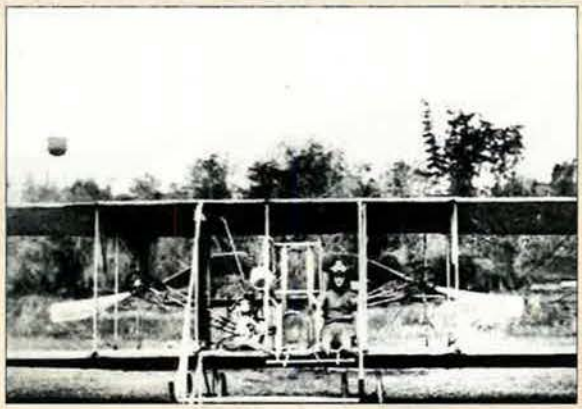
Oct. 26, 1909. Lt. Frederick E. Humphreys becomes first Army pilot to solo.

March 31, 1911. Congress makes first appropriation for Army aeronautics, $125,000 for Fiscal Year 1912.

April 11, 1911. Army establishes flying school at College Park, Md.

Feb. 23, 1912. Army establishes standards for "Military Aviator" rating.

June 14, 1912. Cpl. Vernon Burge becomes Army's first enlisted pilot.



Enlisted Pilots

In 1912, Cpl. Vernon L. Burge became the first enlisted man to receive the military rating of pilot. The Army was not pleased to find out that 1st Lt. Frank P. Lahm had, without authorization, taught Burge to fly. The official view was that all pilots should be officers.

However, the Army changed its mind in 1914 and began training more enlisted pilots. Most of them eventually became officers. Burge, for example, was commissioned in 1917.

However, over the next 30 years, enlisted pilots flew regularly for the Army in all kinds of airplanes. In the 1930s, Sgt. John Williamson and Sgt. William C. McDonald Jr. were the wingmen for Capt. Claire L. Chennault in an aerial demonstration team that was the forerunner of the USAF Thunderbirds.

The great surge in enlisted pilots occurred at the beginning of World War II when the Army could not find enough pilot candidates who could meet the age and education requirements for commissioning. A total of 2,576 sergeant pilots were trained during the war. Most of them flew in transport, ferrying, and training assignments, but 217 of them flew combat missions overseas.

Only a handful of enlisted pilots continued flying after the war. The last of them, MSgt. George Holmes, retired in 1957.

March 2, 1913. Flight pay authorized: 35 percent over base pay.

March 5, 1913. Army's first aviation unit, 1st Aero Squadron, organized.

July 18, 1914. Congress creates Aviation Section of Army Signal Corps.

July 28, 1914. World War I begins.

March 15, 1916. 1st Aero Squadron joins expedition against Pancho Villa in Mexico.

March 21, 1916. France forms Escadrille Americaine (later Lafayette Escadrille) with American volunteer pilots.

April 6, 1917. US enters World War I.

June 5, 1917. 1st Aeronautic Detachment arrives in France.

Benjamin Foulois, as a first lieutenant, was the Army's first operational pilot, and, from 1909 to early 1911, he was the only pilot assigned to the Aeronautical Division of the Signal Corps.

March 19, 1918. 94th Aero Squadron makes first US operational flights across front lines.

May 24, 1918. Army Air Service established.

Sept. 12-16, 1918. Brig. Gen. Billy Mitchell leads 1,500 US and allied aircraft in St. Mihiel offensive in France.

Oct. 2, 1918. First test flight of Kettering "Bug" Aerial Torpedo, world's first guided missile.

Oct. 30, 1918. Capt. Eddie Rickenbacker records 26th aerial victory.

Nov. 11, 1918. World War I ends.

Dec. 4-22, 1918. Army JN-4s make transcontinental flight, California to Florida.

Sept. 1, 1919. Dive bombing demonstrated.

Air Corps: 1920s, 1930s

June 5, 1920. Army Air Service restricted to operating from land bases.

July 13-21, 1921. Martin MB-2 bombers sink three target ships, including former German battleship *Ostfriesland.*

Dec. 18, 1922. First flight of Army Air Service rotorcraft.

April 6-Sept. 28, 1924. Army Air Service Douglas World Cruisers circumnavigate the globe.

Dec. 17, 1925. Court-martial finds Billy Mitchell guilty of "conduct of a nature to bring discredit on the military service." Mitchell resigns rather than accept demotion.

July 2, 1926. Army Air Service becomes Army Air Corps.

USAF photo

Mitchell Was Wrong

In 1924, Air Service Brig. Gen. Billy Mitchell submitted a report predicting that war in the Pacific would start with a Japanese attack on Pearl Harbor that would begin at 7:30 a.m., followed by an attack on Clark Field in the Philippines at 10:40 a.m. He later added that this would happen on a Sunday morning.

Mitchell was wrong, of course. When the Japanese struck Pearl Harbor on Sunday Dec. 7, 1941, it was at 7:55 a.m.—almost half an hour later than Mitchell had predicted—and Clark Field was not attacked until 12:35 p.m.

July 2, 1926. Congress establishes Distinguished Flying Cross (retroactive to April 6, 1917).

May 25, 1927. James H. "Jimmy" Doolittle flies first successful outside loop.

Jan. 1-7, 1929. Air Corps Fokker C-2 *Question Mark* sets endurance record, staying aloft for more than 150 hours.

Sept. 24, 1929. Jimmy Doolittle makes first blind, all-instrument flight in a completely covered cockpit (accompanied by check pilot).

June 20, 1930. Randolph Field, Tex., "West Point of the Air," dedicated.

The Air Corps' Fokker C-2* Question Mark *(lower) takes on fuel during its Jan. 1-7, 1929 record endurance flight.

Ups and Downs and Ups
Army Air Service, Air Corps, AAF Strength

Year	Officers	Enlisted
1919	19,189	178,149
1920	1,168	8,428
1932	1,305	13,400
1938	1,650	16,000
1939	2,300	19,000
1940	6,437	94,790
1944	306,889	2,104,405

The Army Air Service grew rapidly during World War I but was cut back by more than 95 percent when the war ended. The Air Corps was unable to achieve much growth until World War II began in Europe. The wartime surge for the Army Air Forces was enormous.

May 9, 1931. A-2 leather flight jacket approved for production.

March 20, 1932. First flight of P-26 "Peashooter," Army's first monoplane fighter, first all metal fighter, and last Air Corps fighter with an open cockpit.

March 1, 1935. General Headquarters (GHQ) Air Force created.

July 28, 1935. First flight of Boeing Model 299, prototype for B-17 bomber.

Dec. 17, 1935. First flight of Douglas DC-3 (military version, C-47).

The C-47 transport, popularly known as the Gooney Bird, was the military version of the Douglas DC-3 airliner.

April 6, 1938. First flight of Bell XP-39 Airacobra.

Oct. 14, 1938. First flight of Curtiss XP-40.

Oct. 26, 1938. First flight of Douglas Model 7B, prototype for A-20 Havoc.

Nov. 18, 1938. Roosevelt, in so-called "Magna Carta" meeting, tells Air Corps to develop a program for 10,000 airplanes.

Jan. 27, 1939. First flight of Lockheed XP-38.

Feb. 10, 1939. First flight of North American NA-40, prototype of B-25 Mitchell.

April 3, 1939. National Defense Act of 1940 authorizes 6,000 airplanes, 3,203 officers, and 45,000 enlisted personnel for Air Corps.

Sept. 1, 1939. Germans invade Poland, first act of World War II in Europe.

Dec. 29, 1939. First flight of Consolidated XB-24 Liberator.

Air Force: 1940s

May 16, 1940. President Roosevelt calls for 50,000 military airplanes a year.

Aug. 13-Oct. 5, 1940. Battle of Britain.

Oct. 8, 1940. RAF forms Eagle Squadron, consisting of volunteer US pilots.

March 22, 1941. First black flying unit, 99th Pursuit Squadron, activated; becomes one of three squadrons of 332nd Fighter Group—the Tuskegee Airmen.

June 20, 1941. Army Air Forces (AAF) established, with Lt. Gen. H.H. "Hap" Arnold as Chief.

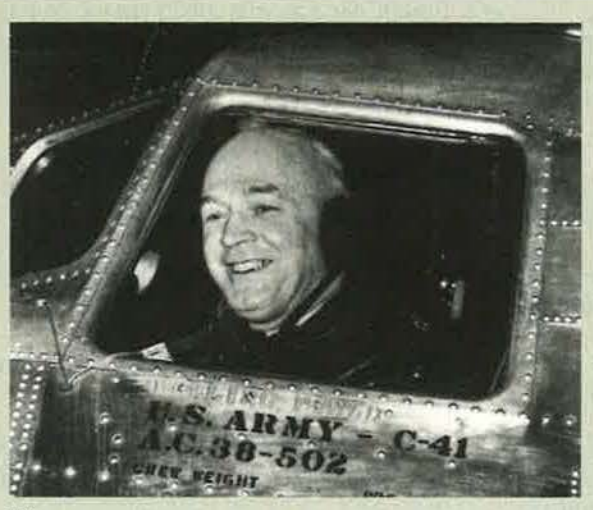
Dec. 1, 1941. Civil Air Patrol established.

Dec. 7, 1941. Japanese attack Pearl Harbor and US bases in Hawaii.

Dec. 20, 1941. American Volunteer Group—the legendary Flying Tigers—begins combat operations in China.

Feb. 22, 1942. US Army Bomber Command establishes headquarters in England.

This USAAF P-40 fighter was destroyed in Japan's Dec. 7, 1941 attack on Pearl Harbor and other US bases in Hawaii.



Hap

H.H. "Hap" Arnold is recognized by all as the father of the US Air Force. He is the only American officer ever promoted to five star rank in two services—in the Army in 1944 and in the Air Force in 1949.

Arnold graduated from West Point in 1907, the year the Aeronautical Division of the Army Signal Corps was established. Disliking the infantry, he volunteered for aviation and was taught to fly by the Wright brothers. He was an excellent pilot, winning the first-ever Mackay Trophy for outstanding flight in 1912. (He won the Mackay Trophy again in 1934.) When First Lieutenant Arnold was assigned to the Philippines in 1913, his next-door neighbor was Lt. George C. Marshall, and they became lifelong friends.

The nickname "Hap"—short for Happy—described Arnold's disposition accurately but he was also tough. Threatened with court-martial for his intense support of Billy Mitchell, Arnold called the Army's bluff and got away with it. In the 1930s, Arnold commanded the 1st Wing of the GHQ Air Force.

He became Chief of the Air Corps in 1938 and Commanding General of the Army Air Forces when the AAF was formed. He built it from its small prewar size into a force of almost 2.4 million people and 80,000 aircraft. He helped shape operations in Europe and in the Pacific, and he selected and developed leaders for the AAF. His driving energy and determination were legendary. He demanded—and often got—results that went beyond what might have been reasonably expected.

Because of the effectiveness of Arnold's AAF during the war and the support Arnold inspired from Army Chief of Staff Gen. George Marshall and others, the Air Force subsequently became a separate military service.

He retired with health problems—he had already had four heart attacks—in 1946 and founded the Air Force Association to inform the public about airpower. He lived long enough to see the formation of the US Air Force in 1947 and to be appointed by Congress as the first and (so far) only five-star General of the Air Force. Arnold died in 1950.

March 9, 1942. US Army reorganized into three autonomous forces: Army Air Forces, Ground Forces, and Services of Supply.

March 26, 1942. First flight of Douglas C-54.

April 8, 1942. Hump Airlift—over the Himalayas from India to China—begins.

April 18, 1942. Doolittle Raiders take off from carrier USS *Hornet* and bomb Tokyo.

May 26, 1942. First flight of Northrop XP-61 Black Widow night fighter.

P-40 with shark mouth markings was the trademark of the legendary Flying Tigers in China.

June 12, 1942. US B-24s fly from Egypt against Ploesti, Romania, oil fields.

July 4, 1942. US crews in British Boston IIIs (RAF version of A-20) fly first AAF bomber mission over western Europe.

July 20, 1942. Joint Chiefs of Staff formed. Members are Army Chief of Staff, Chief of Naval Operations, and Chief of Army Air Forces, with President's military advisor as Chairman.

Aug. 17, 1942. B-17s fly first American heavy bomber mission in western Europe against railyards in France.

Sept. 21, 1942. First flight of Boeing XB-29 Superfortress.

Benjamin Davis Jr. was the wartime leader of the Tuskegee Airmen. In 1954, he became the first black Air Force officer to be promoted to general officer.

The B-17 was developed in the 1930s despite doubts and sometimes outright opposition from War Department and Army leaders. It went on to become the mainstay of strategic bombardment in Europe in World War II.

Jan. 27, 1943. B-17s make first American air raid on Germany.

March 1-4, 1943. In Battle of Bismarck Sea, land-based airplanes sink entire Japanese convoy, foil attempt to resupply and reinforce Japanese garrison on New Guinea.

March 19, 1943. AAF Chief Hap Arnold promoted to four-star rank.

April 8, 1943. Republic P-47 enters combat, escorting B-17s over Europe.

April 18, 1943. P-38 fighters shoot down aircraft carrying Japanese Adm. Isoroku Yamamoto, planner of Pearl Harbor attack.

Aug. 1, 1943. B-24s based in Libya fly large-scale, low-level attack on oil refineries at Ploesti, Romania.

Aug. 5, 1943. Women's Auxiliary Ferrying Squadron merges with Women's Flying Training Detachment to form Women Airforce Service Pilots (WASPs).

B-25 of the Doolittle Raiders takes off from USS* Hornet, *bound for Tokyo.

Aug. 17, 1943. Eighth Air Force bombers attack Messerschmitt works at Regensburg, Germany, and ball-bearing plants at Schweinfurt; German fighters down 60 of the 376 American aircraft.

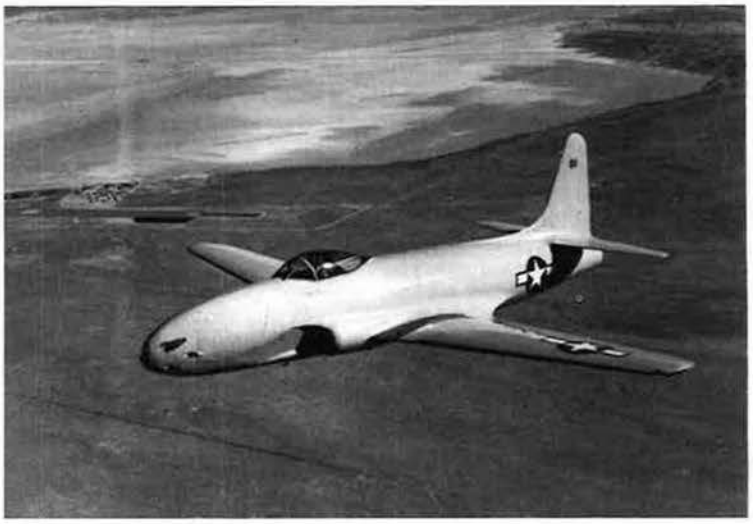
Oct. 14, 1943. Eighth Air Force "Black Thursday" mission against Schweinfurt; 600 airmen lost over enemy territory; 60 B-17s shot down; five crash en route home.

Dec. 5, 1943. P-51 pilots begin escorting bombers to European targets.

Jan. 8, 1944. First flight of Lockheed XP-80 Shooting Star.

Feb. 20-25, 1944. "Big Week" missions by AAF and RAF take heavy toll on German aircraft industry and Luftwaffe aircraft.

March 4, 1944. Eighth Air Force B-17s fly first daylight bombing raid on Berlin.



Lockheed's XP-80, shown here, became the F-80 Shooting Star, the first Air Force jet fighter used in combat.

May 21, 1944. Operation Chattanooga Choo-Choo—systematic Allied air attacks on trains in Germany and France—begins.

June 2, 1944. First shuttle bombing mission, using Russia as eastern terminus.

June 6, 1944. Allied pilots fly approximately 15,000 sorties on D-Day.

June 13, 1944. First German V-1 flying bombs launched against England.

June 15, 1944. B-29s based in India and staging through China strike targets in Japan.

Nov. 24, 1944. XXI Bomber Command B-29s attack Tokyo.

Dec. 17, 1944. Maj. Richard I. Bong, America's leading ace of all time, records 40th and final aerial victory.

Booze and Lose
"You people will lose this war if you don't stop drinking."—Lady Astor on visit to VIII Bomber Command headquarters at High Wycombe, Britain, 1942.

Dec. 21, 1944. Hap Arnold becomes General of the Army—first airman to hold five-star rank.

Jan. 11, 1945. Capt. William A. Shomo sets AAF record of seven enemy air victories in single engagement.

Feb. 25, 1945. B-29 crews begin night incendiary raids on Japan.

March 9, 1945. Incendiary night raid by B-29s from Marianas destroys a fourth of Tokyo.

March 11, 1945. AAF delivers 4,738 tons of bombs on Essen, Germany, the most on any single target in Europe.

March 18, 1945. Some 1,250 US bombers, escorted by 670 fighters, deal Berlin its heaviest daylight blow, 3,000 tons of bombs.

March 18, 1945. First flight of Douglas XBT2D-1, prototype of A-1 Skyraider.

March 27, 1945. B-29s begin mining missions around Japan; eventually establish complete blockade.

May 8, 1945. V-E Day. War ends in Europe.

June 16, 1945. First flight of North American XP-82 Twin Mustang.

Aug. 6, 1945. B-29 *Enola Gay* delivers atomic bomb on Hiroshima, Japan.

Aug. 9, 1945. B-29 *Bockscar* drops second atomic bomb on Nagasaki.

USAF photo

Maj. Richard Bong, America's leading ace of all time, ended with 40 confirmed aerial victories.

B-29* Enola Gay *lands at Tinian after Aug. 6, 1945 atomic bombing of Hiroshima.

Sept. 2, 1945. Japan surrenders.

Feb. 28, 1946. First flight of Republic XP-84 Thunderjet.

March 21, 1946. Strategic Air Command, Tactical Air Command, and Air Defense Command activated.

June 17, 1946. First AAF Scientific Advisory Board meets, chaired by Theodore von Karman.

June 26, 1946. "Knot" and "nautical mile" adopted by AAF and Navy as standard aeronautical units of speed and distance.

Aug. 2, 1946. Smithsonian establishes National Air Museum (later National Air and Space Museum).

Aug. 8, 1946. First flight of Convair XB-36 prototype.

March 17, 1947. First flight of North American XB-45 Tornado, first Air Force jet bomber put into production.

Sept. 18, 1947. US Air Force becomes a separate service.

Oct. 1, 1947. First flight of North American XP-86 Sabre.

Oct. 14, 1947. Capt. Chuck Yeager reaches supersonic speed in level flight, Mach 1.06 (700 mph) at altitude of 45,000 feet in rocket-powered Bell XS-1 (later X-1).

Oct. 21, 1947. First flight of Northrop YB-49 flying wing jet bomber.

Atomic Expert
"This is the biggest fool thing we have ever done. ... The bomb will never go off, and I speak as an expert in explosives."—Adm. William D. Leahy, military chief of staff to Presidents Roosevelt and Truman, on atomic bomb project, 1945.

US Air Force C-54 transport delivers vital supplies during 1948-49 Berlin Airlift.

Nov. 23, 1947. First flight of Convair XC-99, cargo version of B-36 and world's largest landplane.

April 21, 1948. Air Force given primary responsibility for air defense of United States.

April 26, 1948. Air Force becomes first service to adopt policy of racial integration.

June 1, 1948. Navy and Air Force air transport systems consolidated into Military Air Transport Service under USAF.

June 26, 1948. Berlin Airlift begins.

Jan. 25, 1949. Air Force adopts blue uniforms.

Feb. 26-March 2, 1949. B-50A *Lucky Lady II* flies nonstop around the world.

May 7, 1949. Congress promotes Hap Arnold to permanent rank of General of the Air Force.

May 12, 1949. Soviets reopen routes into Berlin.

Sept. 30, 1949. Berlin Airlift officially ends.

Deterrent Force: 1950s

Jan. 31, 1950. President Truman orders development of hydrogen bomb.

March 15, 1950. Joint Chiefs of Staff assign Air Force responsibility for strategic guided missiles.

June 25, 1950. Korean War begins.

June 28, 1950. USAF aircraft attack tanks, trucks, and supply columns along North Korean invasion route.

Oct. 25, 1950. Communist China enters Korean War.

Nov. 8, 1950. 1st Lt. Russell J. Brown, flying a Lockheed F-80, downs North Korean MiG-15 in history's first all-jet aircraft aerial combat.

May 20, 1951. Capt. James Jabara becomes Air Force's first Korean War ace.

Feb. 1, 1952. USAF acquires its first digital computer, a Univac I.

April 1, 1952. Air Force redesignates grades of private first class, corporal, and buck sergeant as airman third class, airman second class, and airman first class.

June 23-24, 1952. Combined air elements of Air Force, Navy, and Marine Corps virtually destroy electrical power potential of North Korea.

Oct. 31, 1952. US tests its first thermonuclear device at Eniwetok.

May 18, 1953. Capt. Joseph C. McConnell Jr., flying an F-86, downs three MiG-15s in two separate engagements and becomes leading American ace of Korean War with 16 victories.

Capt. James Jabara was USAF's first ace of the Korean War and the nation's first "jet ace." He shot down 15 MiGs over Korea.

May 25, 1953. First flight of North American F-100 Super Sabre prototype.

June 1, 1953. USAF aerial demonstration team, the Thunderbirds, activated.

June 5, 1953. B-47 bomber achieves initial operational capability.

July 27, 1953. UN and North Korea sign armistice agreement, producing cease-fire in Korea.

Aug. 23, 1954. First flight of Lockheed YC-130 Hercules.

Sept. 29, 1954. First flight of McDonnell F-101A Voodoo.

Sleek, swept-wing B-47 Stratojet became operational in 1953.

Oct. 12, 1954. First flight of Cessna T-37 trainer prototype.

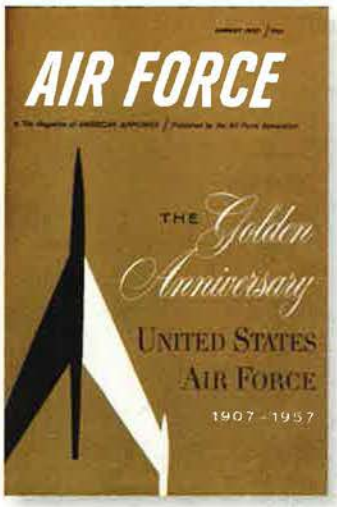
Oct. 27, 1954. Benjamin O. Davis Jr. becomes Air Force's first black general officer.

June 19, 1955. B-52 bomber achieves initial operational capability.

Nov. 26, 1955. Pentagon gives Air Force operational control of ICBMs and all land-based missiles with ranges greater than 200 miles.

Nov. 11, 1956. First flight of Convair XB-58A, Air Force's first supersonic bomber.

Dec. 26, 1956. First flight of Convair F-106 Delta Dart.



***August 1957* Air Force Magazine cover observes 50th anniversary of the founding of the Air Force on Aug. 1, 1907.**

Jan. 18, 1957. Three B-52s complete first round-the-world nonstop flight by jet aircraft.

June 28, 1957. SAC receives first KC-135 jet-powered tankers.

Aug. 1, 1957. US and Canada form North American Air Defense Command.

Aug. 15, 1957. Gen. Nathan F. Twining becomes first USAF officer to serve as Chairman of Joint Chiefs of Staff.

USAF photo

Atlas, operational in 1959 with SAC, was the first US intercontinental ballistic missile. (It is shown here in a 1958 test.) The Air Force was assigned responsibility for ICBMs after a roles and missions challenge from the Army, which argued that ballistic missiles were just a new kind of artillery.

Dec. 17, 1957. First successful flight of Atlas ICBM.

May 27, 1958. First flight of McDonnell XF4H-1 (F-4) Phantom II.

Sept. 1, 1958. New enlisted supergrade, senior master sergeant (E-8), created.

Feb. 12, 1959. SAC retires last B-36, becomes all-jet bomber force.

June 3, 1959. First class graduates from Air Force Academy.

Sept. 9, 1959. Atlas ICBM operational with SAC.

Dec. 1, 1959. New enlisted supergrade, chief master sergeant (E-9), created.

Boeing photo

The KC-135 aerial refueler, the Air Force's first jet-powered tanker, entered the SAC inventory in 1957.

Flexible Force: 1960s

Aug. 18, 1960. Air Force C-119J retrieves in midair a Corona satellite imagery capsule re-entering atmosphere from space.

Sept. 21, 1960. Tactical Air Command accepts first Republic F-105D Thunderchief.

Feb. 3, 1961. SAC's EC-135 "Looking Glass" Airborne Command Post begins operations.

July 21, 1961. Capt. Virgil I. "Gus" Grissom becomes first Air Force astronaut in space.

Nov. 16, 1961. USAF "Farm Gate" air commandos arrive in Vietnam.

Jan. 17, 1962. Air Force adopts Navy's McDonnell F4H-1 Phantom II fighter.

USAF photo

Capt. Virgil "Gus" Grissom was one of the first seven US astronauts. In 1961, he piloted Liberty Bell 7, becoming the first Air Force astronaut in space. He died in a 1967 flash fire aboard an Apollo spacecraft during a training mission.

Oct. 14, 1962. Air Force U-2 obtains photographic evidence of Soviet SS-4 intermediate-range nuclear missile sites in Cuba.

Oct. 22, 1962. Strategic Air Command goes on airborne alert.

Oct. 27, 1962. First 10 Air Force Minuteman ICBMs go on alert.

Oct. 28, 1962. USSR agrees to remove missiles from Cuba, ending Cuban missile crisis.

Oct. 22, 1963. In Exercise Big Lift, Air Force airlifts more than 15,000 Army troops from Texas to Germany.

Dec. 17, 1963. First flight of Lockheed C-141A Starlifter.

Primary Target

"We should stop swatting flies and go after the manure pile."—Gen Curtis E. LeMay, Air Force Chief of Staff, urging US to press the attack on North Vietnam, 1962.

Photo via NASA Dryden Flight Research Center

The futuristic North American XB-70A Valkyrie bomber, shown here, made its first flight in September 1964.

Aug. 2, 1964. Destroyer USS *Maddox* attacked by North Vietnamese patrol boats in Gulf of Tonkin.

Aug. 5, 1964. USAF moves in force into Thailand and South Vietnam.

Aug. 7, 1964. Congress passes Gulf of Tonkin Resolution.

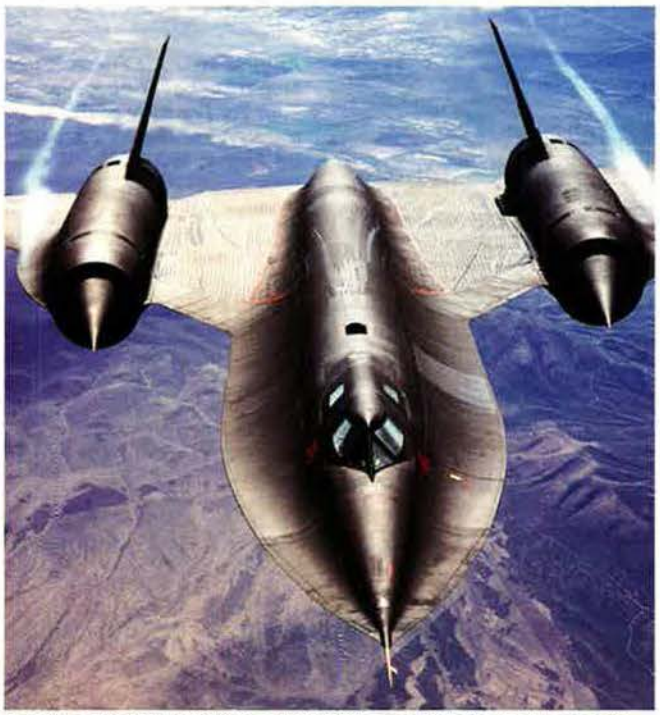
Sept. 21, 1964. First flight of North American XB-70A Valkyrie bomber.

Dec. 14, 1964. Operation Barrel Roll, support of ground forces in northern Laos, begins.

Dec. 21, 1964. First flight of General Dynamics F-111A.

Dec. 22, 1964. First flight of Lockheed SR-71A "Blackbird" strategic reconnaissance aircraft.

USAF photo by TSgt. Michael Haggerty



Lockheed's SR-71A "Blackbird," the world's fastest-ever aircraft, made its debut in December 1964.

March 2, 1965. Operation Rolling Thunder, sustained air campaign against North Vietnam, begins.

April 3, 1965. Operation Steel Tiger, interdiction of Ho Chi Minh Trail, begins.

April 20, 1965. Strategy changes in Vietnam: all air operations in theater subordinated to ground war in South Vietnam.

June 3, 1965. Air Force Maj. Edward H. White makes first US spacewalk.

June 18, 1965. SAC B-52s are used for first time in Vietnam.

Sept. 27, 1965. First flight of YA-7A Corsair II attack aircraft.

Dec. 1, 1965. F-100F Super Sabres carry out first Wild Weasel radar suppression mission in Vietnam.

March 4, 1966. MiG 17s attack Air Force F-4C Phantoms in first air-to-air combat near North Vietnam.

USAF photo

Paul Airey was chosen in 1967 to be the first Chief Master Sergeant of the Air Force. He was a radio operator and B-24 gunner in World War II. His airplane was shot down and he was a POW from 1944 to 1945. Airey spent much of his career as a first sergeant and was noted for his interest in and personal contact with the force in the field.

Jan. 2, 1967. In MiG sweep, Operation Bolo, 8th Tactical Fighter Wing F-4s down seven North Vietnamese MiG-21s over Red River Valley in North Vietnam.

April 3, 1967. CMSgt. Paul W. Airey becomes first Chief Master Sergeant of the Air Force.

May 13, 1967. F-4s from 8th Tactical Fighter Wing again shoot down seven MiGs in a single day.

Jan. 1, 1968. Battle of Khe Sanh in South Vietnam begins. Air Force airlifters deliver average of 165 tons of materiel daily during 77-day siege.

March 31, 1968. President Johnson announces partial halt of bombing of North Vietnam.

May 25, 1968. First flight of Grumman EA-6B electronic warfare-airborne jammer prototype.

Nov. 1, 1968. President Johnson halts all bombing of North Vietnam.

No airplane is more symbolic of the air war against North Vietnam than the F-105. The "Thud" flew 75 percent of the strikes against the north and took more losses over North Vietnam than any other type of aircraft.

Air and Space Force: 1970s, 1980s

June 6, 1970. First operational C-5A Galaxy transport delivered to USAF.

August 1970. Pentagon promulgates "Total Force" concept.

Dec. 30, 1970. First squadron of Minuteman III multiple warhead missiles becomes operational.

July 16, 1971. Jeanne M. Holm becomes first USAF woman general officer.

Sept. 3, 1971. New US Air Force Museum building dedicated in Dayton, Ohio.

March 1972. North Vietnamese spring invasion halted and turned back by US airpower.

April 1, 1972. Community College of the Air Force established.

USAF photo

The C-5A Galaxy airlifter, shown here, entered the force in June 1970. It was at the time the world's largest transport.

USAF image

The Air Force was designated as Department of Defense executive agent for space in 2001, but, long before that, its space programs had been providing many kinds of capability to all of the armed forces. The Defense Support Program satellite, shown here, stood watch against strategic missile launch during the Cold War.

April 6, 1972. US resumes sustained bombing operations against North Vietnam.

April 27, 1972. Four Air Force fighters employing Paveway I "smart" bombs knock down Thanh Hoa Bridge in North Vietnam, where 871 conventional sorties had previously failed.

May 10-11, 1972. F-4 Phantoms with smart bombs take Paul Doumer Bridge at Hanoi out of use.

July 1, 1972. Senior Noncommissioned Officer Academy activated at Gunter AFS, Ala.

Aug. 28, 1972. Capt. Steve Ritchie becomes Air Force's first ace since Korean War.

USAF photo

Minuteman ICBM, shown in test flight, went on alert in October 1962. The Minuteman II version remains the backbone of the nuclear missile force.

Dec. 18, 1972. Operation Linebacker II, 11-day bombing of Hanoi and Haiphong, begins.

Jan. 28, 1973. Cease-fire ends US air operations in Vietnam.

Feb. 12, 1973. Operation Homecoming, return of POWs, begins.

Oct. 12-Nov. 14, 1973. US Nickel Grass airlift resupplies Israel in Yom Kippur War.

Nov. 14, 1973. First production F-15A Eagle delivered to the USAF.

Dec. 23, 1974. First flight of Rockwell B-1A variable-geometry bomber.

Jan. 13, 1975. General Dynamics YF-16 wins Air Force Lightweight Fighter competition.

Sept. 1, 1975. Gen. Daniel "Chappie" James Jr., USAF, becomes first black officer to achieve four-star rank in US military.

Capt. Steve Ritchie, in combat over Vietnam, notched his fifth victory in August 1972. He was USAF's first ace since Korea.

Oct. 21, 1975. First flight of Fairchild Republic A-10A Thunderbolt II.

Nov. 29, 1975. First Red Flag exercise at Nellis AFB, Nev.

Aug. 26, 1976. First women enter USAF pilot training.

March 10, 1977. First flight of Grumman EF-111A airborne tactical jamming platform.

March 23, 1977. Air Force receives first E-3A Sentry (AWACS) aircraft.

June 30, 1977. President Carter cancels B-1A bomber program.

USAF photo

The F-15 Eagle, the most dominant air superiority fighter of its era, entered the USAF inventory in 1973. It has compiled a record of 104 kills and 0 losses in air-to-air combat.

Feb. 22, 1978. First test satellite for Navstar Global Positioning System launched.

Oct. 1, 1979. Atmospheric defense assets and missions of Aerospace Defense Command transferred to Tactical Air Command.

April 24, 1980. Desert One mission to rescue hostages in Iran fails.

May 28, 1980. First women graduate from Air Force Academy.

Aug. 22, 1980. Department of Defense reveals existence of stealth technology.

Oct. 2, 1981. President Reagan reinstitutes B-1 bomber program.

Feb. 24, 1982. NATO receives its first E-3A AWACS aircraft.

Sept. 1, 1982. Air Force Space Command established.

Sept. 13, 1985. Anti-satellite missile, launched by F-15, destroys a satellite in orbit.

Daniel "Chappie" James Jr., shown here in Vietnam, was a crack Air Force fighter pilot. In September 1975, he became the first black officer to achieve four-star rank in the US military.

That's News to Many

"There is nothing in your job description that requires you to be a son of a bitch."—Gen. Russell E. Dougherty, commander in chief, Strategic Air Command, 1974.

Oct. 10, 1985. Peacekeeper ICBM reaches initial operational capability.

April 15, 1986. In Operation El Dorado Canyon, Air Force F-111s take off from England, refuel in air six times, strike targets in Libya, return to base in England.

Sept. 24, 1987. Air Force Thunderbirds fly in Beijing, first US combat aircraft to land in China in almost 40 years.

Nov. 10, 1988. Air Force reveals existence of Lockheed F-117A stealth fighter, operational since 1983.

USAF photo

The B-2 bomber, shown here, was USAF's first stealthy long-range strike aircraft. It made its combat debut in March 1999.

Dec. 29, 1988. USAF receives first dual-role F-15E fighters.

March 19, 1989. First flight of Bell-Boeing V-22 Osprey.

July 6, 1989. Nation's highest civilian award, Presidential Medal of Freedom, presented to Jimmy Doolittle.

July 17, 1989. First flight of Northrop B-2A stealth bomber.

Dec. 20, 1989. Operation Just Cause begins in Panama.

Expeditionary Force: 1990s-2007

June 1990. Air Force publishes "Global Reach-Global Power" white paper.

July 24, 1990. SAC EC-135 Looking Glass command post aircraft ends more than 29 years of continuous airborne alert.

Aug. 2, 1990. Iraq invades Kuwait.

Aug. 7, 1990. Operation Desert Shield, buildup prior to Gulf War, begins.

Aug. 8, 1990. Air Force C-141s, F-15s, AWACS arrive at bases in Saudi Arabia.

USAF photo

The B-52 bomber became operational in June 1955. It has seen combat in Vietnam, Desert Storm, the Balkans, Afghanistan, and Iraq and continues to have a dual mission.

Aug. 17, 1990. First-ever activation of Civil Reserve Air Fleet.

Jan. 16-17, 1991. In 35-hour nonstop mission, B-52Gs take off from Barksdale AFB, La., strike targets in Iraq, and return to Barksdale to land.

Jan. 17, 1991. Operation Desert Storm, the Persian Gulf War, begins.

Jan. 17-Feb. 23, 1991. Iraqi forces sustain attrition of 50 percent or more from coalition air campaign.

Feb. 24, 1991. G-Day. Start of 100-hour ground battle for Kuwait and Iraq.

Feb. 28, 1991. Iraq surrenders.

UN mobility forces are shown moving humanitarian aid in the Balkans during Operation Provide Promise in the mid-1990s.

USAF photo

C-17s such as the one in the foreground have expanded USAF's transport capabilities. The airlifter was first delivered in June 1993.

April 18, 1991. First successful flight test of Martin Marietta-Boeing MGM-134A small ICBM, "Midgetman."

July 24, 1991. Operation Provide Comfort II begins, humanitarian relief and patrol of no-fly zone in northern Iraq. Becomes Operation Northern Watch in 1997.

Sept. 27, 1991. Strategic bomber crews stand down from round-the-clock alert.

Dec. 26, 1991. Soviet Union ceases to exist.

USAF photo

Troops with a small Global Positioning System receiver pinpoint their location. GPS satellite constellation was fully operational in April 1995.

Jan. 18, 1992. Air Training Command receives first T-1A Jayhawk trainer.

June 1, 1992. SAC, TAC, and MAC are deactivated. Air Combat Command and Air Mobility Command established.

July 2, 1992-Jan. 9, 1996. In Operation Provide Promise, USAF flies humanitarian relief missions into Croatia and Bosnia.

Aug. 27, 1992. Operation Southern Watch begins to enforce ban on Iraqi airplanes south of 32nd parallel.

List of Ten

10 Key People

1. Billy Mitchell
2. Hap Arnold
3. Carl Spaatz
4. Ira Eaker
5. George Kenney
6. Curtis LeMay
7. Bernard Schriever
8. Benjamin O. Davis Jr.
9. Paul Airey
10. Jeanne Holm

10 Key Events

1. Mitchell sinks ***Ostfriesland***
2. Doolittle's Tokyo raid
3. Battle of Bismarck Sea
4. Big Week 1944
5. Hiroshima
6. Berlin Airlift
7. Cuban Missile Crisis
8. Thanh Hoa Bridge
9. Linebacker II
10. Gulf War air campaign

10 Key Airplanes

1. Wright Military Flyer
2. B-17
3. P-51
4. B-29
5. B-52
6. C-130
7. KC-135
8. C-5
9. F-15
10. B-2

10 Places to Remember

1. St. Mihiel
2. Pearl Harbor
3. Schweinfurt
4. The Hump
5. MiG Alley
6. Fulda Gap
7. Route Pack 6
8. Hanoi Hilton
9. Baghdad
10. Lackland

10 Key Developments

1. Powered flight
2. Instrument flight
3. Radar
4. Aerial refueling
5. Jet aircraft
6. Atomic bomb
7. ICBMs
8. Space satellites
9. Precision guided munitions
10. Stealth

10 Famous Organizations

1. Hat in the Ring Squadron
2. Lafayette Escadrille
3. Eagle Squadrons
4. Flying Tigers
5. Tuskegee Airmen
6. Eighth Air Force
7. 509th Composite Group
8. Strategic Air Command
9. Red River Rats
10. USAF Thunderbirds

US Navy/AP photo

Crowd gapes at blast-damaged facade of Khobar Towers apartment building, hit by a terrorist truck bomb in June 1996. The attack in Saudi Arabia killed 19 airmen.

April 12, 1993. NATO Operation Deny Fight begins in UN no-fly zone in Bosnia.

April 28, 1993. Department of Defense ends ban on women pilots flying combat aircraft.

June 14, 1993. Delivery of first operational C-17A transport.

July 1, 1993. Control of ICBMs passes to Air Force Space Command from Air Combat Command.

Nov. 21-23, 1994. In Project Sapphire, Air Mobility Command C-5s transport highly enriched uranium from former Soviet republic of Kazakhstan to United States.

April 27, 1995. Global Positioning System (GPS) achieves full operational capability.

July 29, 1995. Air Combat Command activates unmanned aerial vehicle (UAV) unit.

Aug. 30-Sept.14, 1995. Operation Deliberate Force brings Serbia to peace talks.

Dec. 20, 1995. NATO air operation Decisive Endeavor begins to monitor and enforce peace in Bosnia.

June 25, 1996. Terrorist truck bomb at Khobar Towers in Dhahran, Saudi Arabia, kills 19 airmen.

New Way of War

"America has not only the opportunity but the obligation to transition from a concept of annihilation and attrition warfare that places thousands of young Americans at risk in brute, force-on-force conflicts to a concept that leverages our sophisticated military capabilities to achieve US objectives by applying what I like to refer to as an 'asymmetric force' strategy."—Gen. Ronald R. Fogleman, Air Force Chief of Staff, 1996.

Nov. 26, 1996. First fullup test of GBU-31 Joint Direct Attack Munition (JDAM).

Jan. 1, 1997. Operation Northern Watch, follow-on to Provide Comfort II, begins in no-fly zone over northern Iraq.

April 1, 1997. B-2A Spirit stealth bomber reaches initial operational capability.

Sept. 7, 1997. First flight of Lockheed F-22 Raptor.

Dec. 18, 1997. Joint STARS officially achieves IOC seven years after its employment in Persian Gulf War.

Aug. 4, 1998. Air Force announces plans to reorganize its operational capabilities into 10 standing Air Expeditionary Forces.

Dec. 16, 1998. US and British air and naval forces conduct Operation Desert Fox, a limited four-day operation against Iraq.

USAF photo

The F-22 Raptor, shown here on a training flight, replaces the F-15 as USAF's premier fighter. It first flew in September 1997.

March 24-June 20, 1999. Operation Allied Force, the NATO air campaign against Serbia.

March 24, 1999. B-2 bomber makes its combat debut in Operation Allied Force.

June 23-27, 1999. Air Force Lt. Col. Eileen M. Collins becomes first woman to command space shuttle.

Oct. 1, 1999. First regular Air Expeditionary Force rotational cycle begins.

Oct. 6, 1999. Destruction begins of 150 Minuteman III silos, in accordance with Strategic Arms Reduction Treaty.

Feb. 21, 2001. Predator UAV hits a stationary Army tank with a live Hellfire-C missile.

April 22-23, 2001. Global Hawk UAV takes off from California, flies nonstop and unrefueled, to precision landing in Australia.

USAF photo by Lt. Col. Terry Moultrup

With the smoke still rising from the World Trade Center after the terrorist attacks on Sept. 11, 2001, an F-16 from the Vermont Air National Guard flies combat air patrol over New York City.

May 8, 2001. Air Force designated as Department of Defense executive agent for space.

Sept. 11, 2001. Airliners hijacked by terrorists crash into World Trade Center and Pentagon. Operation Noble Eagle—combat air patrols above American cities—begins.

Oct. 7, 2001. Operation Enduring Freedom begins in Afghanistan.

Oct. 7, 2001. US launches first combat mission of an armed Predator UAV against al Qaeda target in Afghanistan.

Nov. 13 - Dec. 9, 2001. Taliban, hammered hard by airpower, loses control in Afghanistan.

May 22, 2002. First flight of Boeing X-45A Unmanned Combat Air Vehicle prototype.

March 17, 2003. Northern Watch missions end in Iraq.

NASA photo

Air Force Lt. Col. Eileen Collins, in June 1999, became the first woman to command a space shuttle.

March 19, 2003. Southern Watch missions end in Iraq.

March 20, 2003. Air Force F-117 fighters, cruise missiles from US warships strike "leadership targets of opportunity" in Iraq.

March 20, 2003. Operation Iraqi Freedom begins.

April 9, 2003. Baghdad falls to coalition forces.

Dec. 15, 2003. National Air and Space Museum opens huge Udvar-Hazy annex in Chantilly, Va.

March 1, 2005. MQ-1 Predator UAV achieves initial operational capability.

Dec. 7, 2005. New Air Force mission statement adds cyberspace to current combat domains of air and space.

Dec. 15, 2005. F-22 fighter achieves initial operational capability.

Photo by Guy Aceto

Three spires of the Air Force Memorial in Arlington, Va., tower above bronze honor guard statues. The memorial dedication took place in October 2006.

March 20, 2006. Air Force receives first operational CV-22 tilt-rotor aircraft.

Oct. 14, 2006. Air Force Memorial dedicated in Arlington, Va.

Dec. 15, 2006. First flight, Lockheed-Martin F-35 Lightning II Joint Strike Fighter.

March 29, 2007. Tuskegee Airmen awarded Congressional Gold Medal.

Aug. 1, 2007. Centennial of founding of Aeronautical Division of the US Army Signal Corps, the genesis of the US Air Force. ■

US airpower was ready for its independence. The North African debacle kicked away the last obstacles.

Up From Kasserine Pass

By Rebecca Grant

Rallying after losing to Rommel's forces, US soldiers march through the Kasserine Pass (at left) and British grenadiers (below) reconnoiter on the slopes.

Caesar had the Rubicon. Paul had the road to Damascus. For American airpower, there was the Battle of Kasserine Pass.

German Field Marshal Erwin Rommel's February 1943 rout of American forces in the Atlas Mountains of North Africa turned out to be a watershed event. In this desperate battle in Tunisia, US Army doctrine tied airpower, as an auxiliary force, to the corps commander—with disastrous results. US forces fought without effective air superiority or timely air support.

By summer, though, everything had changed. The July 1943 version of US Army Field Manual 100-20, *Command and Employment of Airpower,* stated

a new order of things. In it, the War Department, with support from Gen. George C. Marshall, declared, "Land power and airpower are co-equal and interdependent forces; neither is an auxiliary of the other."

However, the full story is more complicated than that. In truth, most of the major changes in airpower thinking took place shortly before the battle at Kasserine Pass. Moreover, the big transformation of US air doctrine owed much to the strong but subtle influence of British airmen.

Since the war began, British military leaders had been hashing out unified air command arrangements across their arc of operations in the Mediterranean. In fluid desert battles, they found that air operations could provide the structure of, and set the conditions for, victory on the ground.

Though the RAF already had become a separate service, British commanders still had to work out complex arrangements for support of land and sea forces while struggling with acute shortages of aircraft and the power of the Luftwaffe.

Lack of situation awareness constituted a major obstacle to air support to ground forces in the seesaw desert battles. "The Army still seemed to be incapable of knowing the positions and movements of their own forces," noted Air Marshal Arthur W. Tedder, who took over Middle East command in May 1941. "The 'bomb line' given by corps, if adhered to, would again and again have hamstrung our ability to give effective help in battle."

Tedder also complained that the other services rarely let him know their air needs in time for the RAF to be of help.

However, by 1942, British forces had lashed together a unified air command and sophisticated air-ground liaison system. They recognized the importance of keeping air superiority, and they developed techniques for rapidly setting up advance airfields to push the attack on exposed maneuver forces.

British Beaufighters worked forward to spot targets for Wellington bombers. Command and control centers monitored ground battles in real time. Army and RAF commanders developed tight working relationships. The British Army's definitive pamphlet on air support, published by Field Marshal Bernard L. Montgomery, actually was drafted by an RAF commander.

For British authorities blooded by desert combat, there were three principal lesson.

Corbis photo

An Overwhelming Impact

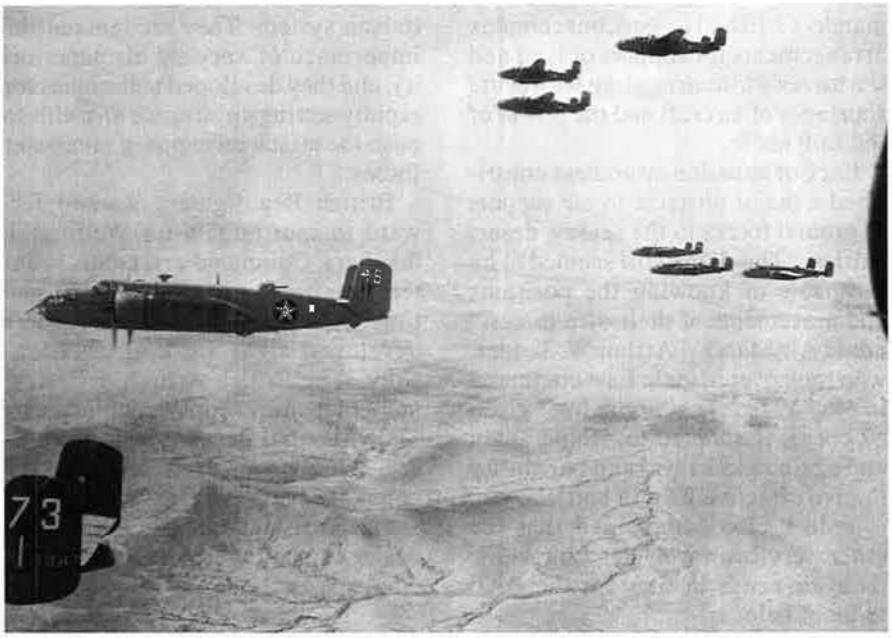
First, there would never be enough fighters, bombers, or transports to service the far-flung theater, so the air commander had to have the authority to send air where it was most needed. This was a bitter pill for British land and sea commanders, each of whom wanted to own a piece of airpower. Yet the senior leaders realized that, to use air most effectively, the air commander's judgment had to stand independently.

Second, air superiority was the supreme requirement. Soldiers had come to know all too well the distinctive scream of the Stuka dive bomber. German air attack caused devastating disruption. Aircraft burning on the ground, airfields knocked out of action, and smoking tanks and vehicles strewn across the desert had become common sights.

Third, airpower, when properly employed, could produce an overwhelming impact on the course and outcome of warfare between surface forces. In other words, airpower, properly concentrated and applied, could exert a controlling influence over enemy maneuver, whether on land or at sea.

It was at the Battle of Alam Halfa that the world had received what was, up to that time, the most significant single demonstration of airpower's impact on the land battle.

In the period Aug. 30-Sept. 4, 1942, RAF pilots bombed Rommel's panzer army around the clock. Germany later calculated that 9,200 bombs hit its formations, destroying 170 support vehicles and damaging another 270.



Bettman/Corbis photo

B-25 bombers in formation fly during an attack that softened up Rommel's forces in Africa.

Rommel complained that the air attacks "pinned my army to the ground." Matthew Cooper, noted historian of the German Army, wrote that, after Alam Halfa, the prime panzer capabilities of speed, maneuver, and the rapid concentration of forces went out the window.

British forces in North Africa had, in the eastern sector, created a tidy set of command arrangements. Ground-force generals worked well with their air counterparts, a fact duly recognized by Rommel. At the second battle of El Alamein in October 1942, no less an authority than the Desert Fox himself conceded in his private diary: "The British command of the air was complete."

When American forces landed in North Africa, they themselves got an opportunity to learn these employment lessons.

The proximate cause was Operation Torch. It was a brief campaign featuring a combined US-British invasion of German-held North Africa in the west. It ran from Nov. 8, 1942 to May 12, 1943 and eventually drew in more than 20 Allied and Axis ground divisions supported by strategic and tactical air forces.

The goal for Allied forces was simple: Drive eastward, defeat the enemy and link up with Montgomery's Eighth Army, which broke through at El Alamein in October 1942 and was driving the Afrika Korps westward.

Torch began with the landing of a US-British force on Algeria's Mediterranean coast and of an all-US force (commanded by Maj. Gen. George S. Patton Jr.) on Morocco's Atlantic coast. This entire operation was conceived and commanded by Lt. Gen. Dwight D. Eisenhower, whose senior airman was Maj. Gen. Carl A. "Tooey" Spaatz.

A Separate War

Eisenhower proposed a headlong Allied dash for Tunis in hopes of capturing that key capital city by December. From there, Allied forces were to cut off German supply routes and sea lines of communication and get ready for the next move—a thrust into Sicily and then the Italian mainland.

However, problems cropped up almost immediately. German aviation constantly denied the Allies local air superiority. The task of building airfields, difficult already, was slowed even more by the Luftwaffe's harrying raids. Ramp space for dispersal was almost nonexistent.

Eisenhower in late November transferred his headquarters from Gibraltar to Algiers, and, soon, he gained a firsthand, up-close view of the air problem. In Algiers "the continuous din" of Luftwaffe night raids "made sleep impossible," he later wrote in his memoirs.

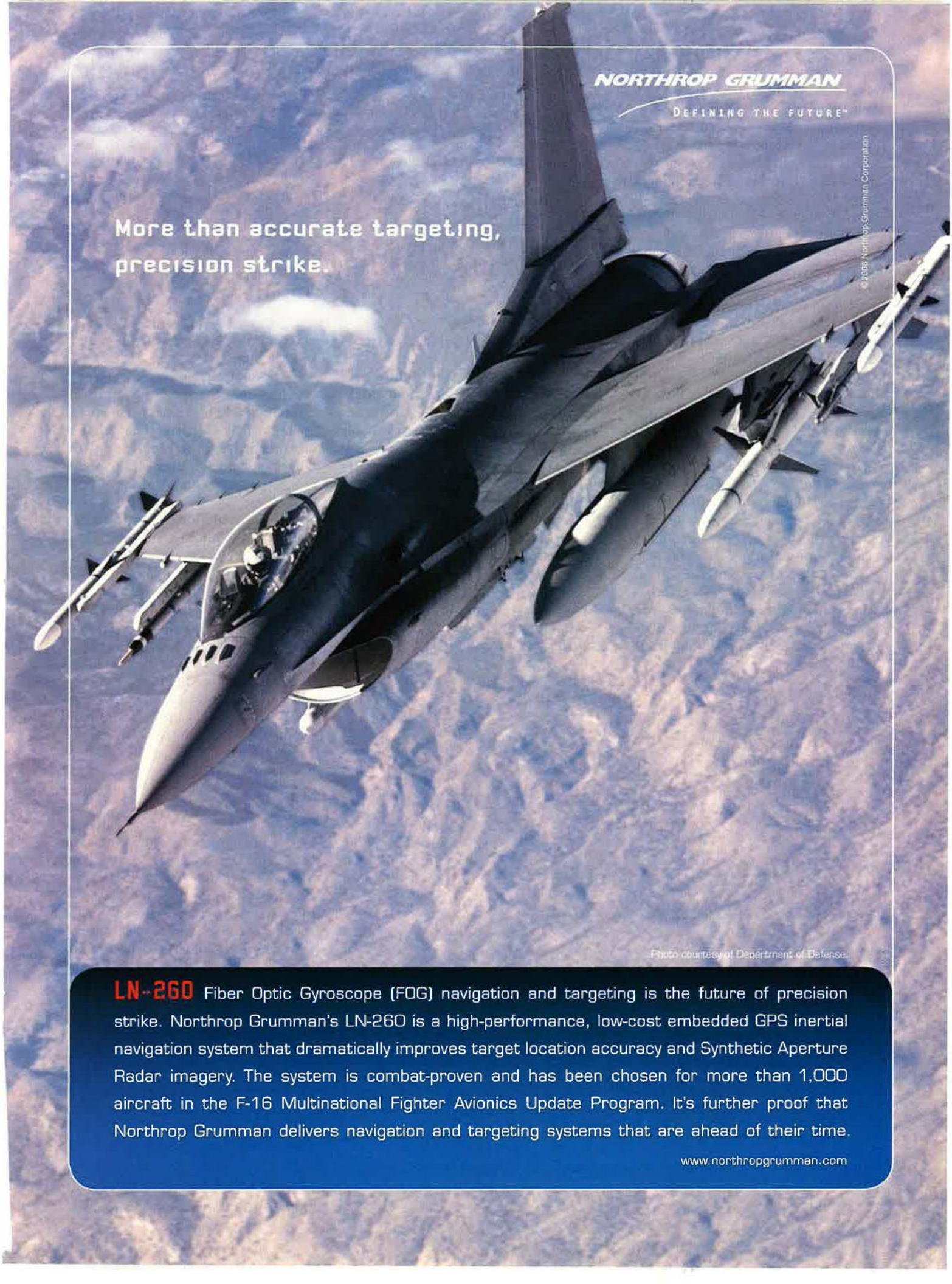
The Allies strengthened the air defense of that city, but the Luftwaffe still bedeviled front-line troops. "Because of hostile domination of the air, travel anywhere in the forward area was an exciting business," observed Ike. Troops complained to him, "Where is this bloody Air Force of ours?" The new supreme commander took it in stride, but resolved to take care of the problem.

"When the enemy has air superiority, the ground forces never hesitate to curse the 'aviators,' " Eisenhower observed.

The experienced British smelled trouble right away. Tedder noted that "the US air [arm] was running a separate war," meaning it was not flying in

Sdt. Zwilling/Corbis photo

Rommel surveys the Libyan desert in 1941. Allied air and ground arms finally defeated the "Desert Fox."



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support of the overall Allied operation. For example, one US force on Nov. 27 refused to assist Britain's First Army, even though Eisenhower's guidance mandated it. The US commander did not want to give up his airpower.

Meanwhile Tedder, when at all possible, was diverting RAF night fighters, Hurricanes, and even bombers away from action in the east to help out in the west. Still, handling competing claims was growing more difficult. US bomber forces in England watched uneasily as the desert air forces took priority for supplies. In Tedder's words, "It was clear enough that the existing air organization was almost crazy, with two air forces but no effective command."

A big part of the problem was that the United States Army's FM 31-35 doctrine on airpower—written in April 1942—was almost criminally vague.

Historian Shawn P. Rife, in a 1998 article in *Joint Force Quarterly,* commented, "Contrary to popular belief, FM 31-35 did not prescribe that air units should be either assigned or attached to ground units." The problem was that the doctrine said little at all, and served no one well. According to Rife, ground force commanders were disappointed that they did not "own" airplanes. Airmen worried about airpower being watered down. Distress was widespread.

On Dec. 1, 1942, Spaatz reported to North Africa to take command of US Army air assets. That move, however, did not resolve the overall problem of uniting all British and American air forces in the Mediterranean arc. By early December, Eisenhower was seeking more B-24s and B-17s to provide battlefield support to his forces in North Africa, even though they were kept busy attacking Rommel's supply lines at Tripoli.

The Germans were chipping away at Allied air strength. On Dec. 6, 1942, German aircraft destroyed six RAF Spitfires on the ground. Other attacks claimed five American P-38s plus 11 light bombers.

The solution, the airmen knew, was to shift US and British air assets around the Mediterranean Theater on an almost daily basis. That kind of movement, however, required unified command and planning at Eisenhower's supreme headquarters.

The Common Currency of Penny Packets

Field Marshal Bernard L. Montgomery and other British commanders were famous for using the phrase "penny packets," or small packets, to describe the improper subdivision and parceling out of airpower to ground forces.

By the time the Americans arrived in North Africa, British commanders used the phrase so often that it was common currency. The idea was best summed up in Air Marshal Arthur Coningham's principles: "The strength of airpower lies in its flexibility and capacity for rapid concentration; it follows that control must be centralized in an air commander and command exercised through Air Force channels; and air forces must be concentrated in use and not dispersed in penny packets."

At the Casablanca Conference

Then-Lt. Gen. Henry H. "Hap" Arnold, the Commanding General of US Army Air Forces, was in Washington, D.C., and favored unification, under a single command, of RAF and American assets, as did US and British commanders in North Africa. Tedder on Dec. 12 arrived at Eisenhower's headquarters in Algiers for a conference. After a long talk, these two generals sketched out a unified command arrangement on the British model. "Think he is firmly hooked, but by no means landed," Tedder reported to his boss in London.

It was at the Casablanca Conference in January 1943 that the door to lasting change swung open. President Franklin D. Roosevelt and Prime Minister Winston Churchill reached a number of key decisions. One of them, on Jan. 26, established in the Mediterranean Theater one overall ground commander—British Gen. Harold Alexander—and one overall air commander, Tedder.

"From a headquarters in Algiers, Tedder was to command everything with wings between Gibraltar and Palestine, under the overall direction of Eisenhower," wrote Tedder's biographer, historian Vincent Orange.

Unfortunately, the change didn't come into effect soon enough. While these new commanders were in the midst of taking up their positions, Rommel launched a last-chance attack

Bettman/Corbis photo

Lt. Gen. George Patton watches US forces fighting enemy troops during the African campaign.

USAF photo

Maj. Gen. Carl Spaatz (left) and Air Chief Marshall Arthur Tedder at the Casablanca Conference, where Tedder was finally put in control of all air forces.

that soon had US forces in a headlong retreat.

For three years the war in the desert had been a back and forth game of sweeping maneuver, retreat, and counterattack. When Montgomery captured Tripoli on Jan. 23, 1943, Rommel's eastern supply route was blocked. The Germans still had capable forces in Tunisia. Rommel decided to counterattack and drive through to the northern coast at Bone, splitting the Allied front. Then he could fall back on old French defensive works and hold his sea lines indefinitely.

By early February 1943, though, the Americans had begun pressing in from the west. German commanders Jurgen von Armin and Rommel awaited them with their backs to the sea at Tunis in the north and Sfax in the south. However, the American operations had given the Desert Fox a tempting target. He noted with great interest that the US Army's overextended lines spooled out in a 250-mile semicircle.

Rommel struck. German forces on Feb. 14 attacked the town Sidi Bou Zid, sending the American forces scurrying backward toward the mountain passes in a disorderly retreat, equipment strewn in their wake. A main forward air base at Thelepte, which once had 124 fighters, came under attack and was evacuated on Feb. 17. The last P-39s took off at 10:30 a.m. Then, the US forces dug in on the mountain passes and roads and waited.

RAF Air Marshal Arthur Coningham, designated overall tactical air commander, arrived on Feb. 17 and found the US airmen in the equivalent of a defensive crouch. Some fighters and bombers hadn't even been tasked, even though Rommel's forces presented plenty of targets.

Worse was to come, and the site was the Kasserine Pass, a muddy main road through the mountains. The Americans had battened down to hold it at all costs. However, they failed. On Feb. 19, Rommel personally led the 10th Panzer Division in an armored attack on American lines, seeking to break through. That thrust fell short, but the next one did not. The German assault on Feb. 20 crushed organized resistance and opened the floodgates to a westward move.

The Final Spur

As the situation deteriorated, airmen could do little to help. Most aircraft were grounded either by dust storms or inept management by local ground commanders. In one appalling case, B-17s got lost and bombed an RAF base 90 miles away, killing several British airmen and Tunisians. By dawn on Feb. 21, Rommel's forces held both sides of the Kasserine Pass.

Elsewhere, Rommel's position was not as good. British and American delaying actions had already stopped the right prong of his advance. Tougher resistance changed the tempo during the day on Feb. 22, and by evening, artillery reinforcements had arrived. Under Coningham's guidance, air attacks resumed on Feb. 22 and Feb. 23. A-20s hunted for targets. P-38s strafed Rommel's forces crowded in the passes.

Rommel's forces now found that they were exposed to air attacks. This was a lesson already learned many times by commanders at all levels in North Africa. Armored forces that were bunched together or arrayed on open plains could be picked off by fighters and bombers—as long as those aircraft were not leashed to ground units.

Time finally ran out on Rommel, and he methodically pulled back his forces.

US Brig. Gen. Elwood R. "Pete" Quesada, who was then a deputy in the coastal command, credited Coningham with bringing order out of chaos. It was Coningham who, in Quesada's words, "overcame the concept of using the air force as artillery" and "established the doctrine that, if an airman is left to use his own weapon and use his experience, he would further the cause of the Army or the ground battle."

Coningham's authority, clearly established in the system created by Eisenhower, freed airmen from control of the US Army's II Corps, which was dominated by ground officers. According to future Gen. William Momyer, who served in the North African campaign, II Corps had "very little understanding of the importance of air superiority," and it had showed.

For many hours during the clash at Kasserine Pass, Eisenhower stared battlefield failure in the face, and he did not like it. "The week of the hostile offensive was a wearing and anxious one," he acknowledged. When the danger passed, Eisenhower leapt in to take stock of things. He first assigned blame to himself for not knowing when to slow the headlong plunge toward Tunis. He then cited failures in intelligence and organization.

On the latter score, Kasserine was the final spur to releasing airpower to operate at peak efficiency. All air forces were forthwith integrated under Tedder. Spaatz controlled the Northwest African Air Force with its fighter, bomber, and coastal missions. Meanwhile, Alexander took control of the ground forces.

In today's parlance, Tedder and Alexander would be called "combined force air component commander" and "combined force land component commander," respectively.

USAF photo

Victorious Allied troops enter Tunis three-and-a-half months after the defeat at Kasserine Pass.

With these posts in place, Eisenhower had a much better command setup. Ike expeditiously fired the II Corps commanding general, Maj. Gen. Lloyd R. Fredendall, who was viewed as neither likeable nor competent. On March 6, 1943, he was relieved by Patton, now a lieutenant general.

In conversations with his boss, Marshall, Eisenhower admitted he had made a serious mistake at Kasserine. The problem began, he said, with "the initial decision not to unify our air forces under a single command." Now, the command arrangement was fixed. He also told Marshall that Tedder and Spaatz, together, "accomplished a practical perfection in the coordinated employment of the air forces of the two nations."

Tedder was still apprehensive, though. In late February 1943, he wrote to his boss that, for Americans, it was "difficult to understand that every general has not a divine right to command his own private air forces, and, incidentally, a divine inspiration by which he knows better than anyone else how those air forces should be employed."

Back in Washington, a doctrine fix got under way quickly.

Brig. Gen. Laurence S. Kuter had left the Northwest Africa force for the Pentagon staff. In three weeks, Kuter and a small team had thoroughly revamped the Army's air doctrine. Their product was War Department Field Manual 100-20. It declared, "The inherent flexibility of airpower is its greatest asset." Moreover, it said in a key passage, "Control of available airpower must be centralized and command must be exercised through the air force commander if this inherent flexibility and ability to deliver a decisive blow are to be exploited."

In FM 100-20, the institutional Army formally "rejected the principle of organic control of tactical air assets by stating that control of available airpower must be centralized to realize the maximum benefits," commented Lt. Gen. John W. Pauly in a 1976 article in *Air University Review*. "This represented a complete turnaround in official Army doctrine and helped pave the way for a separate Air Force." In Washington, the new field manual was viewed as airpower's "declaration of independence."

Not everyone liked it, of course. According to doctrine historian Robert F. Futrell, one critic complained that the US airmen had "swallowed the RAF solution of a local situation in Africa hook, line, and sinker."

Whatever they swallowed, the medicine worked. FM 100-20 went well beyond North Africa. It endorsed concepts such as strategic attack on an enemy nation.

Indeed, for the rest of World War II, Eisenhower could always refer to the North Africa experience and use its lessons to keep his air and ground commanders working in unity. When confusion threatened in the hectic days after the 1944 Normandy landings, part of Eisenhower's solution was to send Tedder, his deputy, to spend time with Montgomery at his headquarters in France and smooth out command arrangements. In France, Quesada and the US Army ground commander, Lt. Gen. Omar N. Bradley, kept in close coordination by sharing a trailer.

Making airpower equal took more than a change in doctrine. If there was an undisputed lesson from North Africa, it was that personal relationships were also key to effective command and employment of airpower. Overcoming what Tedder called the Army instinct toward a "divine right" to control airplanes also depended on trust among commanders. Airmen had to help ground commanders understand what made airpower work.

The education of ground commanders is an ongoing task. However strong the doctrine, however stark the battle results, truly effective airpower fulfills its potential only as a result of that elusive condition of mutual understanding among the units engaged in combined-arms warfare. ■

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FOR THE WARFIGHTER, A PROVEN PATH TO TSAT.
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USAF picked Boeing's HH-47 variant of the Chinook for the CSAR-X.

The Struggle Over CSAR-X

Boeing photo

By Michael C. Sirak

USAF's plan to quickly buy a new combat search and rescue helicopter is going nowhere fast.

The Air Force's quest to quickly field a new fleet of combat search and rescue helicopters has become an unexpectedly dramatic and contentious process. The service is trying to field a fleet of 141 next generation CSAR-X aircraft beginning early next decade to replace its old HH-60 rescue helicopters, but the process has been controversial and nasty from the day Boeing's HH-47 was first named the surprise winner.

The controversy continues to simmer, and no resolution is expected soon.

Last November, Boeing's HH-47 tandem-rotor helicopter, derived from the venerable Chinook, won out over Sikorsky's HH-92 Super Hawk and the Lockheed Martin-led US101 as the Air Force pick for CSAR-X. The losing competitors immediately protested the decision to the Government Accountability Office.

"Protests are part of the acquisition process," Lt. Gen. Donald J. Hoffman, USAF's senior uniformed acquisition official, recently said. But things really got interesting after the protests were filed.

In a highly unusual sequence, the GAO upheld the losing contractors' protests, and the Air Force then decided to reopen the competition to resolve the cost issue.

By this point, nearly everybody—GAO, contractors, and Air Force—has been able to find fault with some part of the process. No less an authority than Gen. T. Michael Moseley, Chief of Staff, created waves this winter when he said the HH-47 would not have been his first choice for CSAR-X.

"It was a surprise to me," Moseley told reporters in February at the Air Force Association's Orlando, Fla., symposium.

The Chief's words, while not a ringing endorsement, were not a total rebuke of the HH-47 either. "I am going to be OK with this," he clarified. The US military has "a lot of people out there operating that airplane in some fairly bad places and it is working like a champ," he said in reference to the Army's workhorse Chinook helicopter and its continued use in Afghanistan and Iraq. "I didn't say I was upset about it. All I said is, it wouldn't have been the one that I picked, but I will make this work."

While the road to the new CSAR platform may still have bumps ahead, this is clear: The Air Force's leadership wants the new fleet of rescue birds as soon as possible. The CSAR-X program is the service's second-highest procurement priority, eclipsed only by the quest to field a new aerial refueling aircraft.

In fact, Moseley says the Air Force has a "moral and ethical imperative" to rescue the pilots and ground troops that venture into harm's way—potentially hundreds of miles into hostile environments—in service of their country.

"Combat search and rescue is a big deal for people like me," he told reporters in April. Accordingly, the service wants to have the best equipment possible to carry out the mission.

As good as the Air Force's current rescue bird, the Sikorsky-built HH-60G Pave Hawk, has been since its incep-

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tion in 1982, it has acute performance limitations in areas such as speed, range, carrying capacity, and reliability that are evident in Afghanistan's harsh operations environment and in Iraq.

A more capable platform is needed to execute the kinds of dangerous missions necessary to retrieve downed aircrew and stranded soldiers, sailors, or marines, including those wounded or injured, in future conflicts, officials say.

Accordingly, the Air Force has been pursuing the CSAR-X with a sense of urgency. Last November, when the service chose the HH-47, it wanted to have the first combat-ready squadron of five CSAR-X aircraft, as well as a training unit, before the end of 2012.

The goal is to have all 141 of the new airframes in the inventory by 2019.

As of mid-2007, all three offerors were still saying they could meet the initial combat-ready date in 2012.

For each industry team, the stakes are high, since it's not every day that a multibillion-dollar program comes along for 141 helicopters, plus test assets, spares, and training equipment. The Air Force estimates that the total value of the work to develop and build the new helicopters could be $15 billion—an absolute bonanza in the military helicopter market. An additional $20 billion is projected to cover the costs of operating and maintaining the fleet for 30 years.

Prevailing in the CSAR-X competition could also potentially afford the helicopter the inside track to fill the Air Force's other rotary-winged void: the future Common Vertical Lift Support Platform (CVLSP). This bird will replace the Vietnam War-era Bell UH-1N Hueys that protect the nation's ICBM fields, and that are also used to transport VIPs. The Air Force plans to buy more than 50 helicopters for these missions.

A Protest

Nothing is a given in this business, however. A US101 variant, now designated the VH-71, is being built as the next generation "Marine One" shuttle for the President. Many analysts thought the Lockheed Martin-led US101 team had the inside track for CSAR-X because it had already won that competition. (Team US101 is a transatlantic partnership of Bell Helicopter, Lockheed Martin, and the Italian-UK joint venture AgustaWestland.)

The controversy began after the Air Force's choice of the HH-47 on Nov. 9, 2006. Service acquisition officials said they found the HH-47 to be a capable machine that could be fielded soonest with the lowest technical risk of the three helicopters. On the same day, the Air Force awarded the Chicago-based company a $712 million contract to mature the HH-47 design and start building the helicopters.

Sue C. Payton, the Air Force's acquisition executive, said on that day that the HH-47 represented the best overall value, when factoring four areas ranked in order of importance: mission capability, proposal risk, past performance, and cost-price calculated on the basis of most probable life cycle cost (MPLCC).

The HH-47 met the criteria "better than any other proposal," she said.

While the US101's life cycle costs were estimated to be approximately $3 billion less than the other two designs, cost was not the driving factor in the assessment, the Air Force said.

Days after the award, both Sikorsky and Lockheed protested the decision with the GAO, contending that their respective offers may not have been fairly and accurately evaluated. By law, a work stoppage was issued to Boeing while the GAO investigated the complaints.

That work stoppage remains in effect today.

At right and below, members of the Utah National Guard are lifted on board an HH-60 during a combat search and rescue exercise.

USAF photos by MSgt. Kevin J. Gruenwald

Sikorsky's HH-92 Super Hawk, left, was originally a V-22 competitor.

In late February, the GAO ruled in favor of the two protestors on one of the numerous complaints that they lodged. The agency found that the Air Force's manner of evaluating the MPLCC of each offeror's helicopters "was inconsistent" with the required approach as set forth in the solicitation. CSAR-X is one of the largest weapon projects for which the GAO has ever sustained a protest.

"We basically found out that we were not clear enough in how we were going to evaluate one of the factors under operations and support in our cost area," Payton told *Air Force* Magazine during a June interview.

The Air Force had asked the offerors to provide data on the maintenance man-hours per flight hour necessary to keep their respective aircraft flying, so that the service could evaluate mission capability.

Air Force evaluators "never intended to use that data to help . . . determine manpower requirements out in the field or at a base for doing maintenance on the aircraft," Payton said. But aside from a single reference to this effect in a request for proposals spreadsheet, the Air Force did not properly clarify this point.

Instead, USAF calculated the manpower requirements for the helicopters "based on our own infrastructure of how many people we need to fix a helicopter, and based on the level of skills" available, she said.

An Opportunity to Quantify

What the service "did wrong" was "not clarify that that data was not going to be used to calculate how we would maintain the helicopters," she said. "We absolutely owe it to industry and to the warfighter to be clear on what it is that we are going to do once we get their data in."

This was enough for GAO to sustain the protest and throw a wrench into what was already a controversial decision. Some observers thought the HH-47 the best choice for its size, payload, and proven effectiveness. Others felt speed is more important than size in rescuing downed airmen, and said the HH-47's mass may actually be a liability.

The HH-47, as the reigning winner, is the target of harsh criticism from analysts and paid consultants. Some have argued the Boeing platform is too old, too large, heavy and cumbersome, too noisy and too easy to detect, and kicks up too much dust—among other purported flaws that make it ill-suited for the CSAR role.

Part of the reason its selection was so surprising in the first place is because the Air Force had for several years before the formal competition described the need for a "medium lift" CSAR-X. The Chinook is decidedly heavy compared to its competitors.

USAF has indirectly refuted the charges. "From program inception, experienced Air Force combat search and rescue personnel, both aircrew and maintainers, have been involved in every step of the acquisition process," the service said in May in a statement. "The development of the CSAR-X requirements was led by Air Force pilots, aircrew, and support personnel who have flown demanding CSAR missions, maintained CSAR aircraft, and supported CSAR operations in austere locations around the world."

Further, the Air Force's leadership,

Lockheed Martin photo

The US101 seemed a favorite for a "medium" lift rescue chopper. The choice of the "heavy" HH-47 surprised many.

including Payton, notes that GAO found fault with the Air Force solely on the cost issue—not capability assessments.

To resolve the protest, the Air Force agreed to follow the GAO's recommendations. The service issued a revised solicitation in May that clarified how it will calculate the CSAR-X's operations and support costs, and is accepting new data from the bidders in that area.

If the HH-47 is found to no longer represent the best overall value based on inclusion of the new cost data in the pool of already completed analysis from the original source-selection evaluation, the Air Force will terminate its contract with Boeing and crown a new winner.

Boeing has said publicly that it remains confident that the new assessment will show that the HH-47 clearly remains the best choice. Further, supporters of the HH-47 say many of the criticisms leveled at it do not hold water on a closer examination of the facts and that the qualities of the aircraft, such as its heat signature, met or exceeded the Air Force's requirements.

Before it issued the revised solicitation, the Air Force asked the GAO to go back and rule on the remaining 19 or so protest points that Sikorsky and Lockheed had raised. The agency denied all of these additional initial protests, thereby clearing the way for the Air Force to move forward.

Said Payton, "We didn't want to have shades of gray" clouding the competition.

In the revised solicitation, issued May 29, the Air Force did more than just clarify how it intends to evaluate the operations and support costs. It also provided the offerors "an opportunity to quantify and substantiate potential maintenance manpower efficiencies based on the reliability and maintainability characteristics of their proposed aircraft," according to an Air Force statement.

Payton said the Air Force could have just republished the RFP clarifying its intent, because "the way in which we calculate most probable life cycle cost is the same way that we have done it for decades." Instead, the Air Force "felt it compelling" to "give credit to better designed, more reliable offerings" and "allow industry to substantiate their potential maintenance savings," she said.

At the same time, the Air Force was clear that it would not reopen the other areas of the original evaluation to new data.

Combat Rescue Mission Requirements

The Air Force designed the CSAR-X program to be a low-risk undertaking that would field an initial Block 0 combat search and rescue aircraft that met the basic performance attributes needed in the new platform. The service would then field a more sophisticated Block 10 configuration later.

At issue is the Air Force's need for a larger, faster, more survivable, and more reliable fleet of helicopters to replace the old HH-60 Pave Hawks that have served admirably but have serious mission limitations and are now nearly worn out.

USAF wants the Block 0 CSAR-X platform capable of flying out to 316 miles and loitering for five minutes during an extraction, and then returning to base. This compares favorably to the HH-60 Pave Hawk, which can only reach out 213 miles under the same rescue scenario.

The new rescue bird must also be able to carry three pararescue jumpers (PJs)—the airmen that leave the helicopter to retrieve downed aircrew—as opposed to two on the HH-60G, and hold four litters for wounded when carrying a full crew, as opposed to two litter patients on the Pave Hawk.

Block 10 enhancements would include items such as radar that allows the helicopter to fly low and hug the terrain, an obstacle-detection system, and air-to-air missiles to defend itself from hostile aircraft, the Air Force says.

This approach did not sit well with Sikorsky and Lockheed Martin. The contractors currently on the outside said the service was taking a far too restrictive approach that would not properly factor in the technical innovations of their designs and their resulting cost savings.

About Operational Capability

Sikorsky called the latest competition "seriously flawed" since, among other things, it did not appear to show that it would calculate fuel cost as prescribed by the Office of the Secretary of Defense. This is important, the company said, because "the HH-92 has a significant fuel burn advantage over both competitors."

Lockheed called for a "fair and open reconsideration of fully revised proposals—to include updated past performance information based on recent rather than historical data." The US101 was penalized in the past-performance portion of the original evaluation due to the track record of the VH-71 program.

Since the time period the Air Force evaluated, even the Navy has said VH-71 is now on track to achieve its goals. The Air Force reiterated in June that the GAO's March decision rejected the additional protests, however, "including the Air Force's evaluation of [Lockheed Martin's] past performance issues with the VH-71 Presidential Helicopter program."

Lockheed filed a new protest with the GAO on June 8, saying the Air Force's action "does not comply with the corrective action recommended by the GAO earlier this year."

Sikorsky also strenuously objected, and followed suit with its own new protest on June 18, contending that "the only way to ensure a full, fair, and complete competition is for a broader re-evaluation of the proposals."

The GAO has 100 days, until September, to rule on the new protests, but said it would expedite the process—at the Air Force's request.

While Air Force officials have said they are committed to resolving the cost issue properly, they have added that they do not want the controversy to linger on with no end in sight.

"At the end of the day, we have to get a new helicopter," Moseley said in April.

"This is not about lawyers. This is not about companies. This is about operational capability," Moseley continued. The Air Force must be able to "go pick up airmen, soldiers, sailors, marines, and coalition partners. ... So the notion of continued protests, and the notion of continued lawyers, and admin, and messing with this, is not right" when there is a war going on.

Unfortunately for the Air Force, there is so much at stake for the competitors that a new round of protests is almost a certainty, no matter which helicopter it chooses as its new CSAR platform. The losers, whoever they are, are expected to find fault with the result and may very well call in the lawyers once again.

The question is not just which platform will win, but when it will be allowed to enter service. ■

Michael C. Sirak is a Washington, D.C.-based correspondent with Defense Daily. *His last article for* Air Force *Magazine, "Year of the Missile Shield," appeared in the January 2004 issue.*

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By John T. Correll, Contributing Editor

Helicopters? What Helicopters?

"We don't know if there were any helicopters, but we do know that there could not have been any helicopters from Russia. Observers have noticed lots of actions of a provocative nature from the Georgian side."***—Dmitry Peskov, spokesman for Russian President Vladimir Putin, denying knowledge of helicopter attack, observed by more than 50 witnesses, on settlements across the border in the former Soviet republic of Georgia,*** **Wall Street Journal,** ***July 4.***

Badgers? What Badgers?

"We can categorically state that we have not released man-eating badgers into the area."***—British military spokesman Mike Shearer, denying rumors that spread after local farmers killed several aggressive honey badgers near Basra in Iraq, BBC News, July 12.***

Role 'Em

"We continue to struggle to determine what the appropriate roles and missions are for the Department [of Defense] and what capabilities each of our military services should have in order to fulfill those roles and missions. Since the end of the Cold War, it has become apparent that the department must respond to both the changes in the geopolitical climate and to the adaptation of modern technology, which poses irregular and disruptive threats. These changes require no less than a complete review of the missions of the Department of Defense and a re-evaluation of the capabilities needed to deliver desired effects."***—Rep. Duncan Hunter (R-Calif.), ranking Republican on the House Armed Services Committee, UPI, June 20.***

Secret No More

"It's something that was a closely guarded secret not that long ago and now everybody's got access to it."***—Lt. Gen. David A. Deptula, USAF deputy chief of staff for intelligence, surveillance, and reconnaissance, on detailed imagery of Earth from space available on line from Google Earth, Defense Writers Group, June 21.***

Training Creep

"Ancillary training 'creep' is having a negative impact on our Total Force. Over the years it's expanded to a level that consumes a disproportionate amount of our airmen's time and jeopardizes mission accomplishment. This is especially true for airmen in the Air Force Reserve and Air National Guard, who have the least time and computer resources available to conduct anything but their primary duties. In today's smaller yet more capable Air Force, our airmen's time is at a premium—in fact, your time is critical. I intend to reverse the tide of ancillary training 'creep' and give you some of that time back."***—Gen. T. Michael Moseley, Air Force Chief of Staff, CSAF's Scope, June 18.***

Speak Fast, Act Slow

"In January, President Bush announced the 'surge' but only in June did sufficient troops arrive for the plan to take full effect. We telegraphed the punch, then took six months to deliver it. This gave the enemy ample time to adjust. And that includes the Iranians, initially impressed by the President's political courage but now much less impressed by the follow-through. So our enemy's countersurge began before we could even implement our strategy."***—Alexander M. Haig Jr., retired Army four-star general and former Secretary of State,*** **Wall Street Journal,** ***July 10.***

The AWACS Gateway

"When the E-3 started, it was purely an additive to our ability to conduct air defense. It would go out and point the fighters in the right direction. Now it can do so much more. The E-3 is becoming a gateway. It's not only a command and control aircraft but also a gateway to process information and send it to the larger force."***—Gen. Ronald E. Keys, Air Combat Command commander, on 30th anniversary of E-3 Airborne Warning and Control System, ACC News Service, July 1.***

Tiger and the Troops

"For me, all my life, I've been part of the military. I've always been around [service members]. I understand the commitment it takes for men and women to do what they do each and every day. That's a commitment that I don't think that people truly understand. Especially with what's going on overseas, we need to say 'thank you' somehow, and this is a small way of doing that."***—Golf champion Tiger Woods, host of the AT&T National golf tournament in Washington, named for his father (a retired Army lieutenant colonel), with special honors and 30,000 tournament tickets donated to military members, American Forces Press Service, July 4.***

That Sounds Familiar

"We're working hard on winning the hearts and minds. I don't know if 'hearts and minds' is the right phrase to use for what we're trying to do. But we're certainly working hard on the indirect form of warfare."***—Army Gen. Bryan D. Brown, then commander of Special Operations Command,*** **St. Petersburg [Fla.] Times,** ***July 2.***

Timeline

"Right now the experts are saying that Iran will not have an ICBM until the 2010-2015 time frame. But it's going to take us at least that long, until 2011 or 2012, to get a first capability on the ground."***—Air Force Lt. Gen. Henry A. Obering III, director of the Missile Defense Agency,*** **Washington Post,** ***July 5.***

Perspective on the Bombs

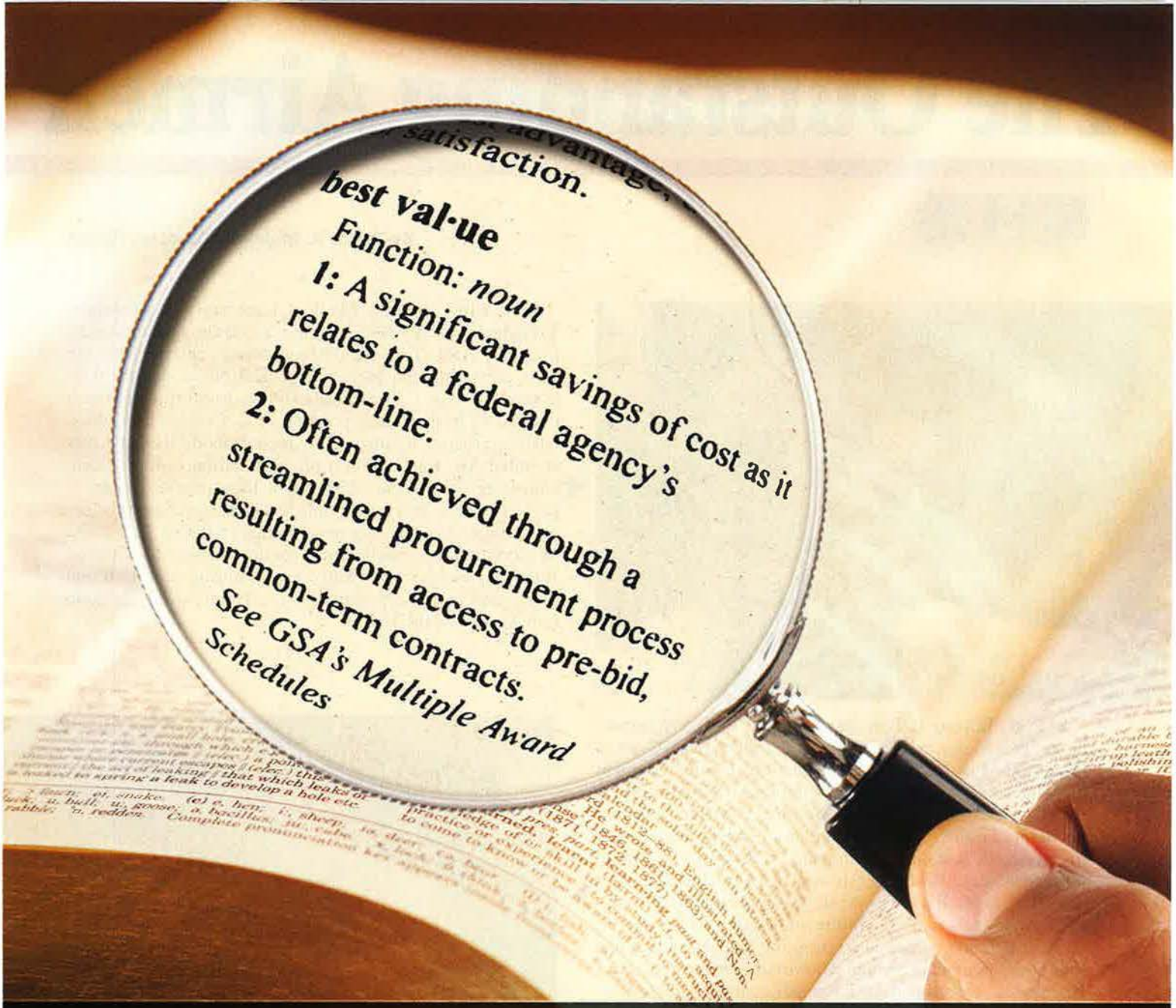
"My understanding is that it ended the war and that it couldn't be helped. ... I don't hold a grudge against the United States."***—Japanese Defense Minister Fumio Kyuma on use of atomic bombs against Japan, Reuters, July 1.***

Protest and Resignation

"I regret that my comments have caused trouble. I am very sorry."***—Kyuma, resigning as Defense Minister, after reprimand from Prime Minister Shinzo Abe and waves of protest and criticism in Japan, Reuters, July 3.***

Not in India

"Neither the country nor the IAF is ready for women fighter pilots."***—Air Chief Marshal Fali Homi Major, on combat pilot policy of Indian Air Force, NewKerala.com, June 26.***



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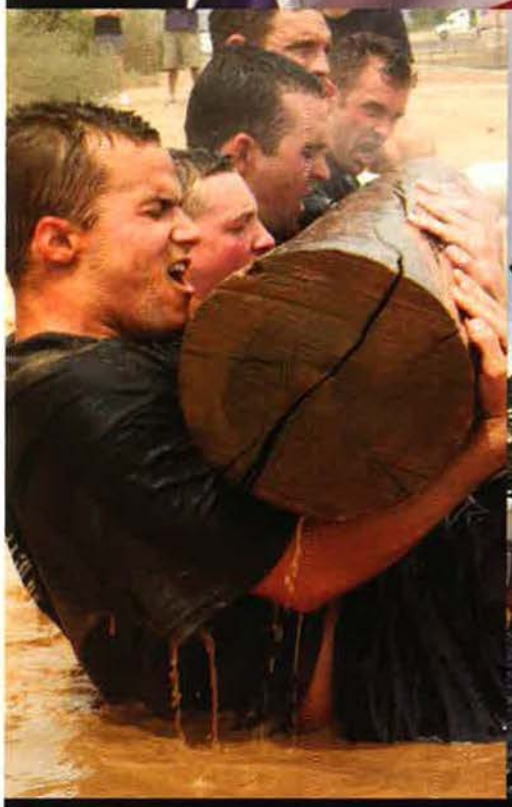
The Outstanding Airmen

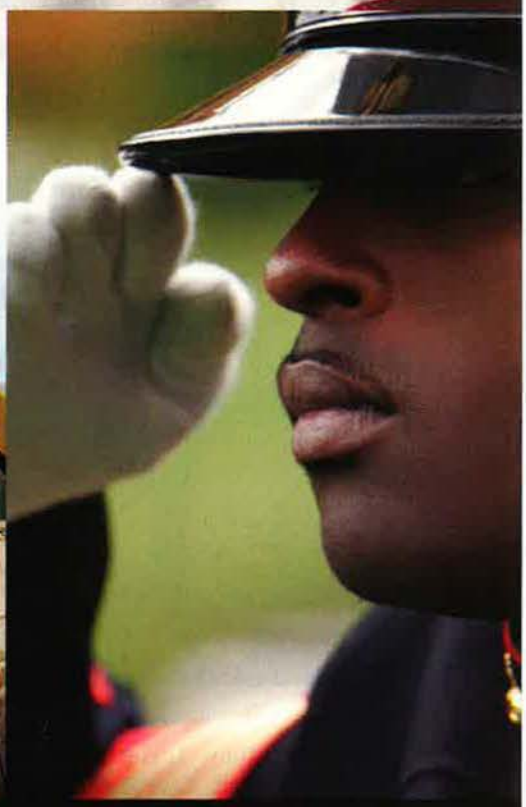
By Tamar A. Mehuron, Associate Editor

SrA. Linn Aubrey. Medical Laboratory Journeyman, 59th Medical Wing (Air Education and Training Command), Lackland AFB, Tex.—Led blood donor center processing team collecting and preparing critical blood shipments to Southwest Asia. ... Spearheaded blood drive efforts to reach Lackland's basic trainee population. ... Created new blood labeling process, significantly reducing blood-labeling errors at Balad AB, Iraq. ... Set a blood donation center record, collecting 16 percent more blood than previous year. ... Reduced donor processing time and increased blood collection productivity through new training initiative. ... Trained Reservists and certified airmen for deployments. ... Created supply spreadsheet to reduce errors during mobile blood drives and increase productivity. ... Named AETC's 2006 Lab Airman of the Year.

SMSgt. Tammy L. Brangard-Hern. Chief, Assignment Issues, Procedures, and Training (Air Force Personnel Center), Randolph AFB, Tex.—Developed action plan to implement personnel reductions in 130 specialties Air Force-wide. ... Aided activation of USAF's Web-based virtual Military Personnel Flight. ... Developed plan to enable reduction in personnel staffs at major commands. ... Proposed options to mitigate Fiscal 2007 budget shortfall for permanent changes of station. ... Modified special duty assignment process, giving commanders more flexibility and reducing PCS moves. ... Identified and corrected a retraining restriction that had limited the number of airmen who volunteered to deploy for 365 days. ... Developed Air Force policy to provide follow-on assignment preference program for airmen on 365-day deployments. ... Streamlined management of airmen who deploy for 365 days, reducing assignment mismatches.

SMSgt. Ronald A. Colaninno. Noncommissioned Officer in Charge, Training, 514th Security Forces Squadron (Air Force Reserve Command), McGuire AFB, N.J.—During deployment to Afghanistan, led squad for a joint security forces-Office of Special Investigations team offensive operation against Taliban suicide bombers. ... Credited with defeat of suicide assault on Bagram Air Base and capture of two armed bombers. ... Acted as convoy commander for weapons recovery mission. ... Secured a damaged C-130 at a forward operating base and ensured security during eight-hour repair job. ... Worked with US Secret Service for first-time Presidential visit to Bagram. ... Initiated creation of Joint Defense Operations Center to provide central control for defense of Bagram. ... Developed urban warfare training plan. ... Provided security forces expertise for F-16 beddown at Bagram. ... Orchestrated beddown plan for 167 security forces airmen from 15 different bases.





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The Air Force Outstanding Airman program annually recognizes 12 enlisted members for superior leadership, job performance, community involvement, and personal achievements.

The program was initiated at the Air Force Association's 10th annual National Convention, held in New Orleans in 1956. The selection board comprises the Chief Master Sergeant of the Air Force and the command chief master sergeants from each USAF major command. The selections are reviewed by the Air Force Chief of Staff.

The 12 selectees are awarded the Outstanding Airman ribbon with the bronze service star device and wear the Outstanding Airman badge for one year.

TSgt. Jeremy L. Griffin. Fire Protection Station Chief, 45th Civil Engineer Squadron (Air Force Space Command), Patrick AFB, Fla.—During deployment to Balad AB, Iraq, arrived first on scene for F-16 hot-brakes ground emergency, safely removed pilot, and secured aircraft. ... Applied life-saving emergency medical treatment to wounded Iraqi police officer. ... Led effort to extinguish fire on Humvee, getting troops out and preventing ammo from igniting. ... Directed first response to C-130 hot-brakes emergency during mortar attack. ... Stabilized soldier who had gunshot wound. ... Administered critical initial medical care outside the base to Iraqi youth with gunshot wound. ... Directed crew in quickly extinguishing fire in Balad housing area. ... Led team to equip and test new fire truck for Iraq operations. ... Named base NCOIC of the Year for his work as station chief at Patrick and self-improvement and volunteer efforts.

SSgt. Matthew J. Hefti. Explosive Ordnance Disposal Craftsman, 775th Civil Engineering Squadron (Air Force Materiel Command), Hill AFB, Utah—Received Army Commendation Medal for securing improvised explosive devices during deployment to Iraq. ... Briefed AFMC commander on combat operations and latest threats to coalition forces in Iraq. ... Selected for special Secret Service detail at the White House. ... Led Joint IED division conference for EOD specialists. ... Directed 20-man team to clear unexploded ordnance from Navy SEAL training range. ... Provided hands-on training for younger EOD specialists. ... Oversaw safe disposal of two Navy Trident missile motors. ... Spearheaded disposal of last Titan IV rocket. ... Chosen as one of three USAF spokesmen for DOD's "Why We Serve" program.

SrA. Matthew C. Hulsman. Explosive Ordnance Disposal Apprentice, 3rd Civil Engineering Squadron (Pacific Air Forces), Elmendorf AFB, Alaska—Rescued two injured troops in an Afghanistan combat zone, killing two enemy combatants. ... Helped successfully repel numerous Taliban attacks during combat missions. ... Neutralized a minefield, saving 40 trapped civilians. ... Cleared improvised explosive devices from roads. ... Identified new enemy tactics during investigations of bombing locations. ... Eliminated 48,000 unexploded ordnance threats. ... Performed two post-blast investigations while under rocket attack, preserving key evidence. ... Led a drive to upgrade robotics equipment. ... Trained contract security personnel at Elmendorf on vehicle search techniques. ... Awarded Army Commendation Medal for actions while deployed to Afghanistan. ... Selected as PACAF Airman of the Year.

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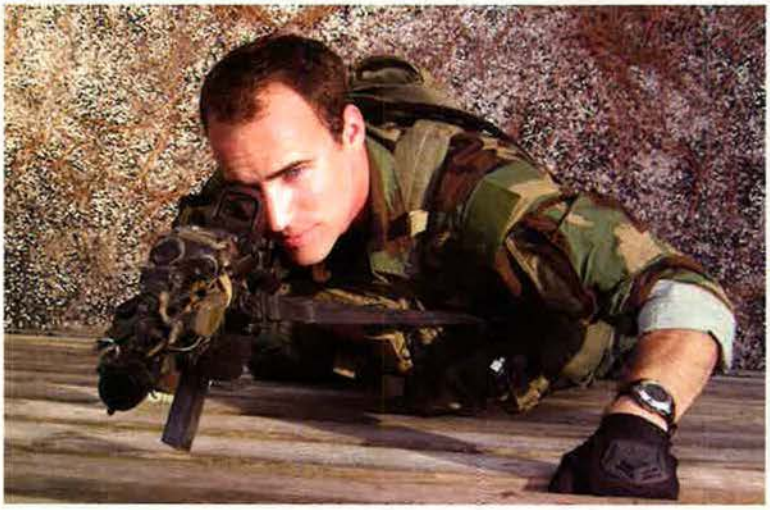
TSgt. (now MSgt.) Sachiko D. Jones. Lodging Manager, 423rd Services Squadron (United States Air Forces in Europe), RAF Alconbury, England—Directed an Operation Iraqi Freedom deployment beddown, arranging for linen contracts, hundreds of tents, and thousands of beds. ... Reworked Ali Base, Iraq, beddown plan. ... Reconfigured abandoned trailers as visiting officer quarters for one-year tours. ... Led arrangements for first coalition leadership luncheon. ... Led team of 57 military and civilian lodging employees. ... Wrote a mortuary affairs plan, training 12 staff members in its use. ... Exceeded USAFE room utilization rate. ... Spearheaded self-inspection drive, creating a tracking chart. ... Negotiated and secured USAFE funding for needed facility renovations. ... Named USAFE NCO of the Year.



SSgt. Jonathan C. McCoy. Special Tactics Team Leader, 24th Special Tactics Squadron (Air Force Special Operations Command), Pope AFB, N.C.—Led elite forces in combat in Iraq, serving as point man on high risk compound assault, engaging in hand-to-hand combat and paving the way for capture of high-value target. ... Dodged fire to drag wounded teammate to safety. ... Helped advance effort to take a key al Qaeda command and control facility. ... Rewrote Vietnam War-era rescue template. ... Integrated three helicopter rescue units into special operations. ... Developed integrated strike aircraft and helicopter tactics. ... Led joint team in improvised Scuba search technique, reduced aircraft payload. ... Folded US Navy helicopters and crews into combat search and rescue predeployment training. ... Revised unit's predeployment concept of operations for Afghanistan deployment training. ... Led joint Air Force-Army team in night rescue of Army Black Hawk helicopter crew that crash-landed into Iraqi lake. ... Received two Bronze Star Medals, one with valor, for efforts during deployments to Afghanistan and Iraq.

SSgt. David Orvosh. Combat Control Journeyman, 21st Special Tactics Squadron (AFSOC), Pope AFB, N.C.—Served in Afghanistan and Iraq. ... Helped train Iraqi counterterror unit. ... Engaged in firefights on Baghdad patrols. ... Guided AC-130 gunships to targets in congested, urban Sadr City during raids against insurgents. ... Briefed air assault plan to helicopter crews and Iraqi-Army Special Forces team. ... Integrated ROVER III into operations, using real-time Predator unmanned aerial vehicle data to identify threats and clear routes. ... Served as sole airman with Special Forces team, hunting Taliban in Afghanistan-Pakistan border area. ... Directed rapid close air support to defeat a mortar attack. ... Taught emergency close air support procedures to SOF troops in Iraq and Afghanistan. ... Served as lead fire supporter during major command operational readiness inspection. ... Led team through complex night urban training with AC-130 gunship. ... Received Bronze Star with valor for service in Afghanistan.

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SSgt. Richard W. Rose. Aerial Combat Photographer, 1st Combat Camera Squadron (Air Mobility Command), Charleston AFB, S.C.—During deployment to Iraq, led combat camera team. ... Returned fire quickly to stop attacking insurgents as he was photographing work of explosive ordnance disposal patrol. ... Taught tactics and techniques and mentored several photojournalists in Iraq. ... Trained joint replacements. ... Led team that documented enemy sniper fire during weapons cache mission. ... Served with Army airborne unit for 30 air assault "grab and destroy" missions, capturing thousands of photos and hours of video for legal and intelligence operations. ... Lauded for courage under fire for coverage of direct assault on sniper positions and mortar attacks on coalition forces and schoolyard. ... Earned Combat Action Badge. ... Selected by 10th Special Forces commander to document insurgent raids, capturing ground and air action. ... Provided combatant commanders with near real-time view of tactics and procedures. ... Received Bronze Star for heroic actions on Iraq deployment.

MSgt. Lawrence B. Taylor. Air Traffic Control Tower Chief Controller, 270th ATCS (Air National Guard), Klamath Falls, Oregon—Supervised Baghdad air traffic control operations on volunteer deployment to Iraq. ... Certified to control aircraft just 48 hours after arrival. ... Ensured smooth and safe transit of more than 4,000 military flights. ... Instituted a backup air traffic control capability with a mobile ATC facility. ... Acquired two-way tower satellite communications, providing control capability during power outage. ... Overcame language barriers and differing ATC rules to blend US-Iraqi team of controllers. ... Created new helipad routes through Baghdad airspace, streamlining special operations missions. ... Drew up an emergency "tower-crash plan" to correct flaw in emergency response procedures. ... Reviewed home base control tower and radar operations, identifying procedures not meeting FAA, USAF, and ANG directives. Photo not available.

SSgt. Geoffrey M. Welsh. Military Working Dog Handler, 4th Security Forces Squadron (Air Combat Command), Seymour Johnson AFB, N.C.—Conducted critical K-9 explosive detections while deployed with Army unit working in Baghdad and Sadr City in Iraq. ... Received Army Combat Action Badge. ... Conducted bomb sweeps, working under indirect and direct fire and insurgent attacks. ... Engaged in 45-minute firefight, killing 12 insurgents. ... Aided rescue of convoy hit by IED. ... Planned dog team support for Army sweep team patrols aimed at suspected IED manufacturing sites, uncovering 100 anti-personnel mines and armed IEDs and capturing a bomb maker. ... Provided immediate first aid on separate occasions for wounded soldiers, saving lives. ... Identified an internal threat, seizing detonation cord and triggering devices from interpreter's quarters on base. ... Educated forward operating base personnel on military working dog abilities, integrating dogs into Army tactics and techniques. ■

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Osan AB, South Korea

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The Keeper File

Colin Powell's "One Air Force"

In July 1992, Sen. Sam Nunn (D-Ga.), chairman of the Senate Armed Services Committee, reprised the clichéd charge that we are "the only military in the world with four air forces." Bill Clinton, the Democratic candidate for President, echoed Nunn, fretting, "We have four separate air forces." The New York Times *piled on with, "Who needs four air forces?"*

This was strong criticism, and the message was clear: The nation's airpower was snarled in a swamp of service parochialism and wasteful duplication, and also was essentially generic, with no one service having any special claim on it.

It took a while, but reason finally returned on Feb. 12, 1993, courtesy of Gen. Colin Powell. The influential Chairman of the Joint Chiefs of Staff, who had just finished a major roles and missions study, took the opportunity to set the record straight. He expressed strong support for maintaining redundant capabilities as a hedge against surprises. More important, he pointed out something that needed saying: There is "really only one" air force—"the United States Air Force, first and foremost, the best in the world."

"Roles & Missions"

Gen. Colin L. Powell
Pentagon News Conference
Washington, D.C.
Feb. 12, 1993

Find the full text on the Air Force Association Web site
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***Air Force* Magazine**
"The Keeper File"

ONE of those great rhetorical questions is, "Why do we have four air forces, and do we need four air forces?"—the premise underneath the question being, "Get rid of one of them or consolidate them into perhaps only two or only one." The answer is, "The nation is well served by each one of our services having an aviation component in it." There is really only one United States Air Force—first and foremost, the best in the world. It dominates the skies and space over any battlefield that American troops may have to step foot on.

Within the Navy, within the Marine Corps, and within the Army, they have taken advantage of the potential of air by putting attack helicopters into the Army, by the Navy being able to project airpower from floating airfields—our carrier force—and by the Marines being absolute masters of using integrated air-ground operations to perform their missions. So the real issue is not getting rid of any one of these. They serve America's interests well.

Let me give you an example. In early August of 1990, when Iraq invaded Kuwait, I was very, very pleased to know that in that early stage of the crisis the carrier *Independence* was moving into position and could have launched air strikes should that have been necessary. A few days later then, Air Force airpower started to arrive on scene. And even later, when the Army showed up, its attack helicopters made a major contribution to the ability of the Army to perform its mission. Throughout the entire crisis and through the war itself, Marine aviation demonstrated what it can do working closely with Marine ground power. I am glad that that basket of air capability was available to the President of the United States and to the Joint Chiefs of Staff and to General Schwarzkopf so that he could perform his mission. And I'm glad that the Congress over the years has supported this investment in airpower.

The real issue now is not how do I get rid of one of those. The real issue now is how do I make sure we have not overinvested in any one of those? How do I make sure they are truly complementary? How do I make sure that, underneath the four aviation elements, we are not wasting money in the ways in which they are trained, in the ways in which we maintain those aircraft, how we determine the number of aircraft that we need?...

For the last three-and-a-half years the capabilities inherent in Army, Navy, the Marine Corps, and the Air Force have served the nation extremely well. I have faced one problem or crisis after another where I was awfully glad, awfully glad, that somebody had thought hard in previous years to protect the kind of force we have and the kind of capabilities we have. ...

I am prepared to receive any suggestions about which service we should "eliminate" or cut in half or let's go up and eliminate Marine aviation. But my mama did not raise a fool, and there are some issues that I know you're not going to take on because it doesn't make sense to take on. It's not in the national interest to do some of the ideas that are suggested. ... I'll look at anything, but I am not going to apologize for the fact that we are trying to protect a broad range of capabilities to serve the nation's interests in the future. ...

I'm not saying that there are not four packages of airpower. ... I'm just trying to make the distinction that they all serve a legitimate purpose. The President has made reference to them, Senator Nunn has made reference to them, a lot of people have made reference to them. The answer to this issue, as I'm presenting it, is that you've got to remember the uniqueness of the United States Air Force, and you've got to remember why the other services have airpower within them. If you wish to call that airpower a Navy air force, an Army air force, and a Marine air force, therefore four, that's fine, but that isn't where the real challenge is. ...

It just doesn't make sense to take a small fleet of airplanes from one service and a small fleet of airplanes from another service, which has larger families of similar airplanes in that service, and merge them together, breaking up a unique capability to put together some ad hoc capability just so I can be able to say I consolidated something. It may have a surface attractiveness, but it is fundamentally dumb. ■


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AFA Almanac

By Frances McKenney, Assistant Managing Editor

Chapters of the Year

Year	Recipient(s)
1953	San Francisco Chapter
1954	Santa Monica Area Chapter (Calif.)
1955	San Fernando Valley Chapter (Calif.)
1956	Utah State AFA
1957	H.H. Arnold Chapter (N.Y.)
1958	San Diego Chapter
1959	Cleveland Chapter
1960	San Diego Chapter
1961	Chico Chapter (Calif.)
1962	Fort Worth Chapter (Tex.)
1963	Colin P. Kelly Chapter (N.Y.)
1964	Utah State AFA
1965	Idaho State AFA
1966	New York State AFA
1967	Utah State AFA
1968	Utah State AFA
1969	*(no presentation)*
1970	Georgia State AFA
1971	Middle Georgia Chapter
1972	Utah State AFA
1973	Langley Chapter (Va.)
1974	Texas State AFA
1975	Alamo Chapter (Tex.) and San Bernardino Area Chapter (Calif.)
1976	Scott Memorial Chapter (Ill.)
1977	Thomas B. McGuire Jr. Chapter (N.J.)
1978	Thomas B. McGuire Jr. Chapter (N.J.)
1979	Brig. Gen. Robert F. Travis Chapter (Calif.)
1980	Central Oklahoma (Gerrity) Chapter
1981	Alamo Chapter (Tex.)
1982	Chicagoland-O'Hare Chapter (Ill.)
1983	Charles A. Lindbergh Chapter (Conn.)
1984	Scott Memorial Chapter (Ill.) and Colorado Springs/Lance Sijan Chapter (Colo.)
1985	Cape Canaveral Chapter (Fla.)
1986	Charles A. Lindbergh Chapter (Conn.)
1987	Carl Vinson Memorial Chapter (Ga.)
1988	Gen. David C. Jones Chapter (N.D.)
1989	Thomas B. McGuire Jr. Chapter (N.J.)
1990	Gen. E.W. Rawlings Chapter (Minn.)
1991	Paul Revere Chapter (Mass.)
1992	Central Florida Chapter and Langley Chapter (Va.)
1993	Green Valley Chapter (Ariz.)
1994	Langley Chapter (Va.)
1995	Baton Rouge Chapter (La.)
1996	Montgomery Chapter (Ala.)
1997	Central Florida Chapter
1998	Ark-La-Tex Chapter (La.)
1999	Hurlburt Chapter (Fla.)
2000	Wright Memorial Chapter (Ohio)
2001	Lance P. Sijan Chapter (Colo.)
2002	Eglin Chapter (Fla.)
2003	Hurlburt Chapter (Fla.)
2004	Carl Vinson Memorial Chapter (Ga.)
2005	Central Florida Chapter
2006	Enid Chapter (Okla.)
2007	Central Oklahoma (Gerrity) Chapter

Gold Life Member Card Recipients

Awarded to members whose AFA record, production, and accomplishment on a national level have been outstanding over a period of years.

Name	Year	Card No.
Gill Robb Wilson	1957	1
Jimmy Doolittle	1959	2
Arthur C. Storz Sr.	1961	3
Julian B. Rosenthal	1962	4
Jack B. Gross	1964	5
George D. Hardy	1965	6
Jess Larson	1967	7
Robert W. Smart	1968	8
Martin M. Ostrow	1973	9
James H. Straubel	1980	10
Martin H. Harris	1988	11
Sam E. Keith Jr.	1990	12
Edward A. Stearn	1992	13
Dorothy L. Flanagan	1994	14
John O. Gray	1996	15
Jack C. Price	1997	16
Nathan H. Mazer	2002	17
John R. Alison	2004	18

AFA "Member of the Year" Award Recipients

State names refer to recipient's home state at the time of the award.

Year	Recipient(s)	Year	Recipient(s)
1953	Julian B. Rosenthal (N.Y.)	1980	David C. Noerr (Calif.)
1954	George A. Anderl (Ill.)	1981	Daniel F. Callahan (Fla.)
1955	Arthur C. Storz (Neb.)	1982	Thomas W. Anthony (Md.)
1956	Thos. F. Stack (Calif.)	1983	Richard H. Becker (Ill.)
1957	George D. Hardy (Md.)	1984	Earl D. Clark Jr. (Kan.)
1958	Jack B. Gross (Pa.)	1985	George H. Chabbott (Del.) and Hugh L. Enyart (Ill.)
1959	Carl J. Long (Pa.)		
1960	O. Donald Olson (Colo.)	1986	John P.E. Kruse (N.J.)
1961	Robert P. Stewart (Utah)	1987	Jack K. Westbrook (Tenn.)
1962	*(no presentation)*	1988	Charles G. Durazo (Va.)
1963	N.W. DeBerardinis (La.) and Joe L. Shosid (Tex.)	1989	Oliver R. Crawford (Tex.)
		1990	Cecil H. Hopper (Ohio)
1964	Maxwell A. Kriendler (N.Y.)	1991	George M. Douglas (Colo.)
1965	Milton Caniff (N.Y.)	1992	Jack C. Price (Utah)
1966	William W. Spruance (Del.)	1993	Lt. Col. James G. Clark (D.C.)
1967	Sam E. Keith Jr. (Tex.)	1994	William A. Lafferty (Ariz.)
1968	Marjorie O. Hunt (Mich.)	1995	William N. Webb (Okla.)
1969	*(no presentation)*	1996	Tommy G. Harrison (Fla.)
1970	Lester C. Curl (Fla.)	1997	James M. McCoy (Neb.)
1971	Paul W. Gaillard (Neb.)	1998	Ivan L. McKinney (La.)
1972	J. Raymond Bell (N.Y.) and Martin H. Harris (Fla.)	1999	Jack H. Steed (Ga.)
		2000	Mary Anne Thompson (Va.)
1973	Joe Higgins (Calif.)	2001	Charles H. Church Jr. (Kan.)
1974	Howard T. Markey (D.C.)	2002	Thomas J. Kemp (Tex.)
1975	Martin M. Ostrow (Calif.)	2003	W. Ron Goerges (Ohio)
1976	Victor R. Kregel (Tex.)	2004	Doyle E. Larson (Minn.)
1977	Edward A. Stearn (Calif.)	2005	Charles A. Nelson (S.D.)
1978	William J. Demas (N.J.)	2006	Craig E. Allen (Utah)
1979	Alexander C. Field Jr. (Ill.)	2007	William D. Croom Jr. (Tex.)

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H.H. Arnold Award Recipients

Until 1986, AFA's highest aerospace award was the H.H. Arnold Award. Named for the World War II leader of the Army Air Forces, it was presented annually in recognition of the most outstanding contributions in the field of aerospace activity. In 1986, the Arnold Award was redesignated AFA's highest honor to a member of the armed forces in the field of national security. It continues to be presented annually.

Year	Recipient(s)
1948	W. Stuart Symington, Secretary of the Air Force
1949	Maj. Gen. William H. Tunner and the men of the Berlin Airlift
1950	Airmen of the United Nations in the Far East
1951	Gen. Curtis E. LeMay and the personnel of Strategic Air Command
1952	Sens. Lyndon B. Johnson and Joseph C. O'Mahoney
1953	Gen. Hoyt S. Vandenberg, former Chief of Staff, USAF
1954	John Foster Dulles, Secretary of State
1955	Gen. Nathan F. Twining, Chief of Staff, USAF
1956	Sen. W. Stuart Symington
1957	Edward P. Curtis, special assistant to the President
1958	Maj. Gen. Bernard A. Schriever, Cmdr., Ballistic Missile Div., ARDC
1959	Gen. Thomas S. Power, CINC, SAC
1960	Gen. Thomas D. White, Chief of Staff, USAF
1961	Lyle S. Garlock, Assistant Secretary of the Air Force
1962	A.C. Dickieson and John R. Pierce, Bell Telephone Laboratories
1963	The 363rd Tactical Recon. Wing and the 4080th Strategic Wing
1964	Gen. Curtis E. LeMay, Chief of Staff, USAF
1965	The 2nd Air Division, PACAF
1966	The 8th, 12th, 355th, 366th, and 388th Tactical Fighter Wings and the 432nd and 460th TRWs
1967	Gen. William W. Momyer, Cmdr., 7th Air Force, PACAF
1968	Col. Frank Borman, USAF; Capt. James Lovell, USN; and Lt. Col. William Anders, USAF, Apollo 8 crew
1969	*(No presentation)*
1970	Apollo 11 team (J.L. Atwood; Lt. Gen. S.C. Phillips, USAF; and astronauts Neil Armstrong and USAF Cols. Buzz Aldrin and Michael Collins)
1971	John S. Foster Jr., Dir. of Defense Research and Engineering
1972	Air units of the Allied Forces in Southeast Asia (Air Force, Navy, Army, Marine Corps, and the Vietnamese Air Force)
1973	Gen. John D. Ryan (Ret.), former Chief of Staff, USAF
1974	Gen. George S. Brown, USAF, Chm., Joint Chiefs of Staff
1975	James R. Schlesinger, Secretary of Defense
1976	Sen. Barry M. Goldwater
1977	Sen. Howard W. Cannon
1978	Gen. Alexander M. Haig Jr., USA, Supreme Allied Commander, Europe
1979	Sen. John C. Stennis
1980	Gen. Richard H. Ellis, USAF, CINC, SAC
1981	Gen. David C. Jones, USAF, Chm., Joint Chiefs of Staff
1982	Gen. Lew Allen Jr. (Ret.), former Chief of Staff, USAF
1983	Ronald W. Reagan, President of the United States
1984	The President's Commission on Strategic Forces (the Scowcroft Commission)
1985	Gen. Bernard W. Rogers, USA, SACEUR
1986	Gen. Charles A. Gabriel (Ret.), former Chief of Staff, USAF
1987	Adm. William J. Crowe Jr., USN, Chm., Joint Chiefs of Staff
1988	Men and women of the Ground-Launched Cruise Missile team
1989	Gen. Larry D. Welch, Chief of Staff, USAF
1990	Gen. John T. Chain, CINC, SAC
1991	Lt. Gen. Charles A. Horner, Cmdr., CENTCOM Air Forces and 9th Air Force
1992	Gen. Colin L. Powell, USA, Chm., Joint Chiefs of Staff
1993	Gen. Merrill A. McPeak, Chief of Staff, USAF
1994	Gen. John Michael Loh, Cmdr., Air Combat Command
1995	World War II Army Air Forces veterans
1996	Gen. Ronald R. Fogleman, Chief of Staff, USAF
1997	Men and women of the United States Air Force
1998	Gen. Richard E. Hawley, Cmdr., ACC
1999	Lt. Gen. Michael C. Short, Cmdr., Allied Air Forces Southern Europe
2000	Gen. Michael E. Ryan, Chief of Staff, USAF
2001	Gen. Joseph W. Ralston, CINC, EUCOM
2002	Gen. Richard B. Myers, USAF, Chm., Joint Chiefs of Staff
2003	Lt. Gen. T. Michael Moseley, Cmdr., air component, CENTCOM, and 9th Air Force
2004	Gen. John P. Jumper, Chief of Staff, USAF
2005	Gen. Gregory S. Martin, Cmdr., AFMC
2006	Gen. Lance W. Lord, Cmdr., AFSPC
2007	Gen. Ronald E. Keys, Cmdr., ACC

John R. Alison Award Recipients

Established in 1992, the John R. Alison Award is AFA's highest honor for industrial leadership.

1992	Norman R. Augustine, Chairman, Martin Marietta
1993	Daniel M. Tellep, Chm. and CEO, Lockheed
1994	Kent Kresa, CEO, Northrop Grumman
1995	C. Michael Armstrong, Chm. and CEO, Hughes Aircraft
1996	Harry Stonecipher, Pres. and CEO, McDonnell Douglas
1997	Dennis J. Picard, Chm. and CEO, Raytheon
1998	Philip M. Condit, Chm. and CEO, Boeing
1999	Sam B. Williams, Chm. and CEO, Williams International
2000	Simon Ramo and Dean E. Wooldridge, missile pioneers
2001	George David, Chm. and CEO, United Technologies
2002	Sydney Gillibrand, Chm., AMEC; and Jerry Morgensen, Pres. and CEO, Hensel Phelps Construction
2003	Joint Direct Attack Munition Industry Team, Boeing
2004	Thomas J. Cassidy Jr., Pres. and CEO, General Atomics Aeronautical Systems
2005	Richard Branson, Chm., Virgin Atlantic Airways and Virgin Galactic
2006	Ronald D. Sugar, Chm. and CEO, Northrop Grumman
2007	Boeing Co. and Lockheed Martin

W. Stuart Symington Award Recipients

Since 1986, AFA's highest honor to a civilian in the field of national security has been the W. Stuart Symington Award. The award, presented annually, is named for the first Secretary of the Air Force.

Year	Recipient(s)
1986	Caspar W. Weinberger, Secretary of Defense
1987	Edward C. Aldridge Jr., Secretary of the Air Force
1988	George P. Schultz, Secretary of State
1989	Ronald W. Reagan, former President of the United States
1990	John J. Welch, Asst. SECAF (Acquisition)
1991	George Bush, President of the United States
1992	Donald B. Rice, Secretary of the Air Force
1993	Sen. John McCain (R-Ariz.)
1994	Rep. Ike Skelton (D-Mo.)
1995	Sheila E. Widnall, Secretary of the Air Force
1996	Sen. Ted Stevens (R-Alaska)
1997	William Perry, former Secretary of Defense
1998	Rep. Saxby Chambliss (R-Ga.) and Rep. Norman D. Dicks (D-Wash.)
1999	F. Whitten Peters, Secretary of the Air Force
2000	Rep. Floyd Spence (R-S.C.)
2001	Sen. Michael Enzi (R-Wyo.) and Rep. Cliff Stearns (R-Fla.)
2002	Rep. James V. Hansen (R-Utah)
2003	James G. Roche, Secretary of the Air Force
2004	Peter B. Teets, Undersecretary of the Air Force
2005	Rep. Duncan Hunter (R-Calif.)
2007	Michael W. Wynne, Secretary of the Air Force

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Chairman, 1946-47

Thomas G. Lanphier Jr.
President, 1947-48
Chairman, 1951-52

C.R. Smith
President, 1948-49
Chairman, 1949-50

Robert S. Johnson
President, 1949-51

Carl A. Spaatz
Chairman, 1950-51

Harold C. Stuart
President, 1951-52
Chairman, 1952-53

Arthur F. Kelly
President, 1952-53
Chairman, 1953-54

George C. Kenney
President, 1953-54
Chairman, 1954-55

John R. Alison
President, 1954-55
Chairman, 1955-56

Gill Robb Wilson
President, 1955-56
Chairman, 1956-57

John P. Henebry
President, 1956-57
Chairman, 1957-58

Peter J. Schenk
President, 1957-59

James M. Trail
Chairman, 1958-59

Howard T. Markey
President, 1959-60
Chairman, 1960-61

Julian B. Rosenthal
Chairman, 1959-60

Thos. F. Stack
President, 1960-61
Chairman, 1961-62

Joe Foss
President, 1961-62
Chairman, 1962-63

John B. Montgomery
President, 1962-63

W. Randolph Lovelace II
President, 1963-64
Chairman, 1964-65

Jack B. Gross
Chairman, 1963-64

Jess Larson
President, 1964-67
Chairman, 1967-71

Robert W. Smart
President, 1967-69

George D. Hardy
President, 1969-71
Chairman, 1966-67
Chairman, 1971-72

Martin M. Ostrow
President, 1971-73
Chairman, 1973-75

Joe L. Shosid
President, 1973-75
Chairman, 1972-73
Chairman, 1975-76

George M. Douglas
President, 1975-77
Chairman, 1977-79

Gerald V. Hasler
President, 1977-79
Chairman, 1976-77

Victor R. Kregel
President, 1979-81
Chairman, 1981-82

Daniel F. Callahan
Chairman, 1979-81

John G. Brosky
President, 1981-82
Chairman, 1982-84

David L. Blankenship
President, 1982-84
Chairman, 1984-85

Edward A. Stearn
Chairman, 1985-86

Martin H. Harris
President, 1984-86
Chairman, 1986-88

Sam E. Keith Jr.
President, 1986-88
Chairman, 1988-90

Jack C. Price
President, 1988-90
Chairman, 1990-92

Oliver R. Crawford
President, 1990-92
Chairman, 1992-94

James M. McCoy
President, 1992-94
Chairman, 1994-96

Gene Smith
President, 1994-96
Chairman, 1996-98

Doyle E. Larson
President, 1996-98
Chairman, 1998-2000

Thomas J. McKee
President, 1998-2000
Chairman, 2000-02

John J. Politi
President, 2000-02
Chairman, 2002-04

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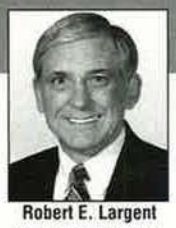
Stephen P. Condon
President, 2002-04
Chairman, 2004-06



Robert E. Largent
President, 2004-06[a]
Chairman, 2006-[b]

[a] The office of National President, an elected position, was disestablished in 2006.
[b] AFA's Chairman of the Board also serves as Chairman of both AFA affiliates, the AFA Veterans Benefit Association and the Air Force Memorial Foundation.
[c] The position of Executive Director was replaced in 2006 by President-CEO.

Vice Chairman for Field Operations

Joseph E. Sutter	2006-

Vice Chairman for Aerospace Education

L. Boyd Anderson	2006-

AFA National Treasurers

W. Deering Howe	1946-47
G. Warfield Hobbs	1947-49
Benjamin Brinton	1949-52
George H. Haddock	1952-53
Samuel M. Hecht	1953-57
Jack B. Gross	1957-62
Paul S. Zuckerman	1962-66
Jack B. Gross	1966-81
George H. Chabbott	1981-87
William N. Webb	1987-95
Charles H. Church Jr.	1995-2000
Charles A. Nelson	2000-05
Steven R. Lundgren	2005-

AFA National Secretaries

Sol A. Rosenblatt	1946-47
Julian B. Rosenthal	1947-59
George D. Hardy	1959-66
Joseph L. Hodges	1966-68
Glenn D. Mishler	1968-70
Nathan H. Mazer	1970-72
Martin H. Harris	1972-76
Jack C. Price	1976-79
Earl D. Clark Jr.	1979-82
Sherman W. Wilkins	1982-85
A.A. "Bud" West	1985-87
Thomas J. McKee	1987-90
Thomas W. Henderson	1990-91
Mary Ann Seibel	1991-94
Mary Anne Thompson	1994-97
William D. Croom Jr.	1997-2000
Daniel C. Hendrickson	2000-03
Thomas J. Kemp	2003-06
Judy K. Church	2006-

AFA Executive Directors/President-CEOs

Willis S. Fitch
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1946-47

James H. Straubel
Executive Director
1948-80

Russell E. Dougherty
Executive Director
1980-86

David L. Gray
Executive Director
1986-87

John O. Gray
Executive Director
1987-88

Charles L. Donnelly Jr.
Executive Director
1988-89

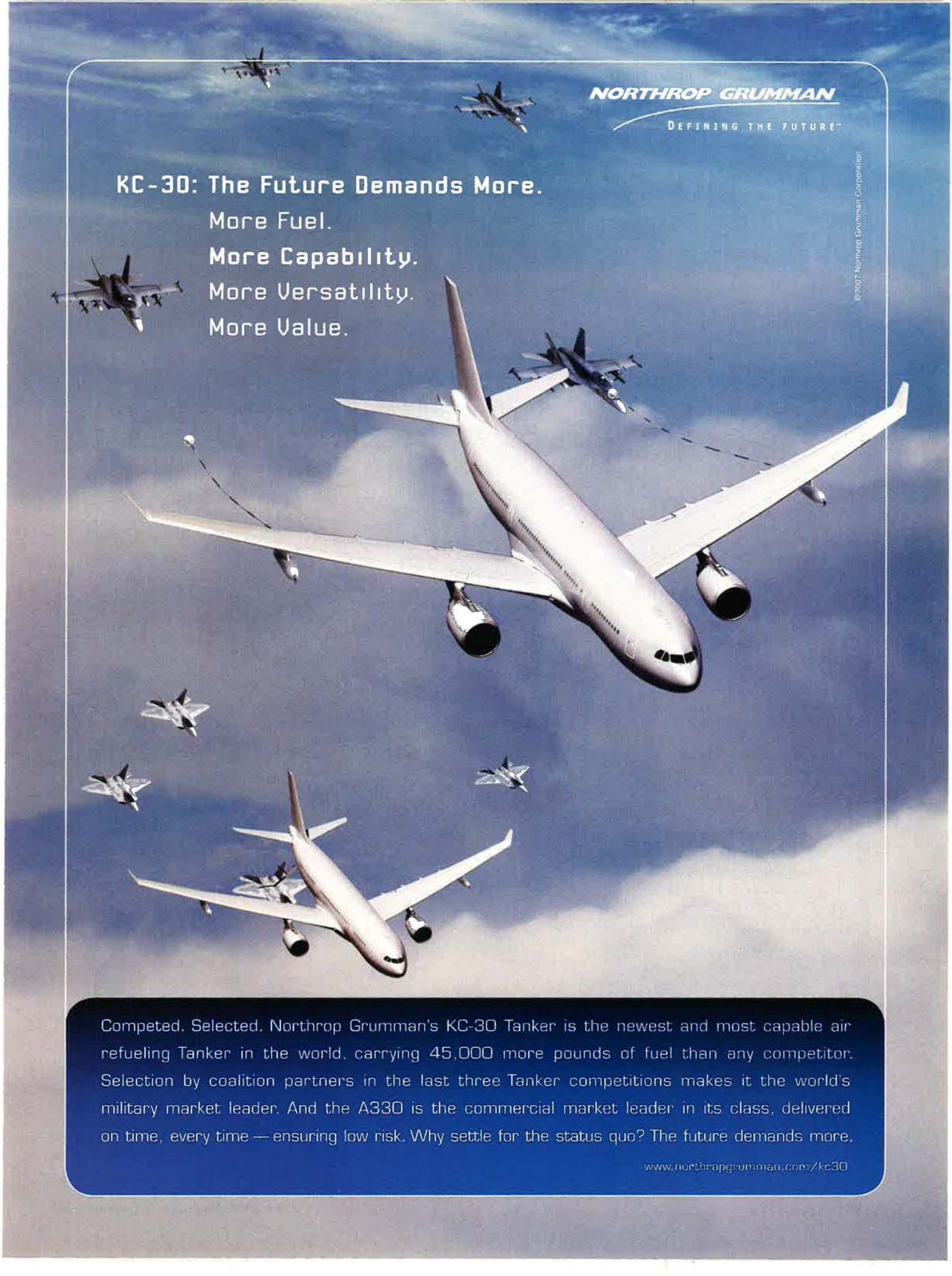
John O. Gray
Executive Director
1989-90

Monroe W. Hatch Jr.
Executive Director
1990-95

John A. Shaud
Executive Director
1995-2002

Donald L. Peterson
Executive Director, 2002-06[c]
President-CEO, 2006-07

Michael M. Dunn
President-CEO
2007-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Laurence S. Kuter	1964-66
Walter J. Hesse	1966-69
J. Gilbert Nettleton Jr.	1969-73
George D. Hardy	1973-75
Barry M. Goldwater	1975-86
George D. Hardy	1986-89
James M. Keck	1989-94
Walter E. Scott	1994-96
Thomas J. McKee	1996-98
Michael J. Dugan	1998-2000
Jack C. Price	2000-02
Richard B. Goetze Jr.	2002-03
L. Boyd Anderson	2003-06*

Aerospace Education Foundation Presidents

John B. Montgomery	1963-64
Lindley J. Stiles	1964-66
B. Frank Brown	1966-67
Leon M. Lessinger	1967-68
L.V. Rasmussen	1968-71
Leon M. Lessinger	1971-73
Wayne O. Reed	1973-74
William L. Ramsey	1975-81
Don C. Garrison	1981-84
George D. Hardy	1984-86
Eleanor P. Wynne	1986-87
James M. Keck	1988-89
Gerald V. Hasler	1989-94
Thomas J. McKee	1994-96
Walter E. Scott	1996-98
Jack C. Price	1998-2000
Richard B. Goetze Jr.	2000-02
L. Boyd Anderson	2002-03
Mary Anne Thompson	2003-06*

* On April 1, 2006, the Air Force Association and the Aerospace Education Foundation combined their activities under the title AFA. L. Boyd Anderson, the last AEF Chairman, became Vice Chairman of AFA for a transitional period.

Dottie Flanagan Staff Award of the Year

A donation from the late Jack B. Gross, national director emeritus, enables AFA to honor staff members each quarter. Those members become eligible for the staff award of the year.

1992	Doreatha Major
1993	Jancy Bell
1994	Gilbert Burgess
1995	David Huynh
1996	Sherry Coombs
1997	Katherine DuGarm
1998	Suzann Chapman
1999	Frances McKenney
2000	Ed Cook
2001	Katie Doyle
2002	Jeneathia Wright
2003	Jim Brown
2004	Pearlie Draughn
2005	Ursula Smith
2006	Susan Rubel

The Twelve Founders

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Everett R. Cook, Memphis, Tenn.

Edward P. Curtis, Rochester, N.Y.

Jimmy Doolittle, Los Angeles

W. Deering Howe, New York

Rufus Rand, Sarasota, Fla.

Sol A. Rosenblatt, New York

Julian B. Rosenthal, New York

James M. Stewart, Beverly Hills, Calif.

Lowell P. Weicker, New York

Cornelius Vanderbilt Whitney, New York

John Hay Whitney, New York

AFA's First National Officers and Board of Directors

This panel of officers and directors acted temporarily until a representative group was democratically elected by membership at the first national convention, in September 1947.

OFFICERS

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First Vice President Edward P. Curtis
Second Vice President Meryll Frost
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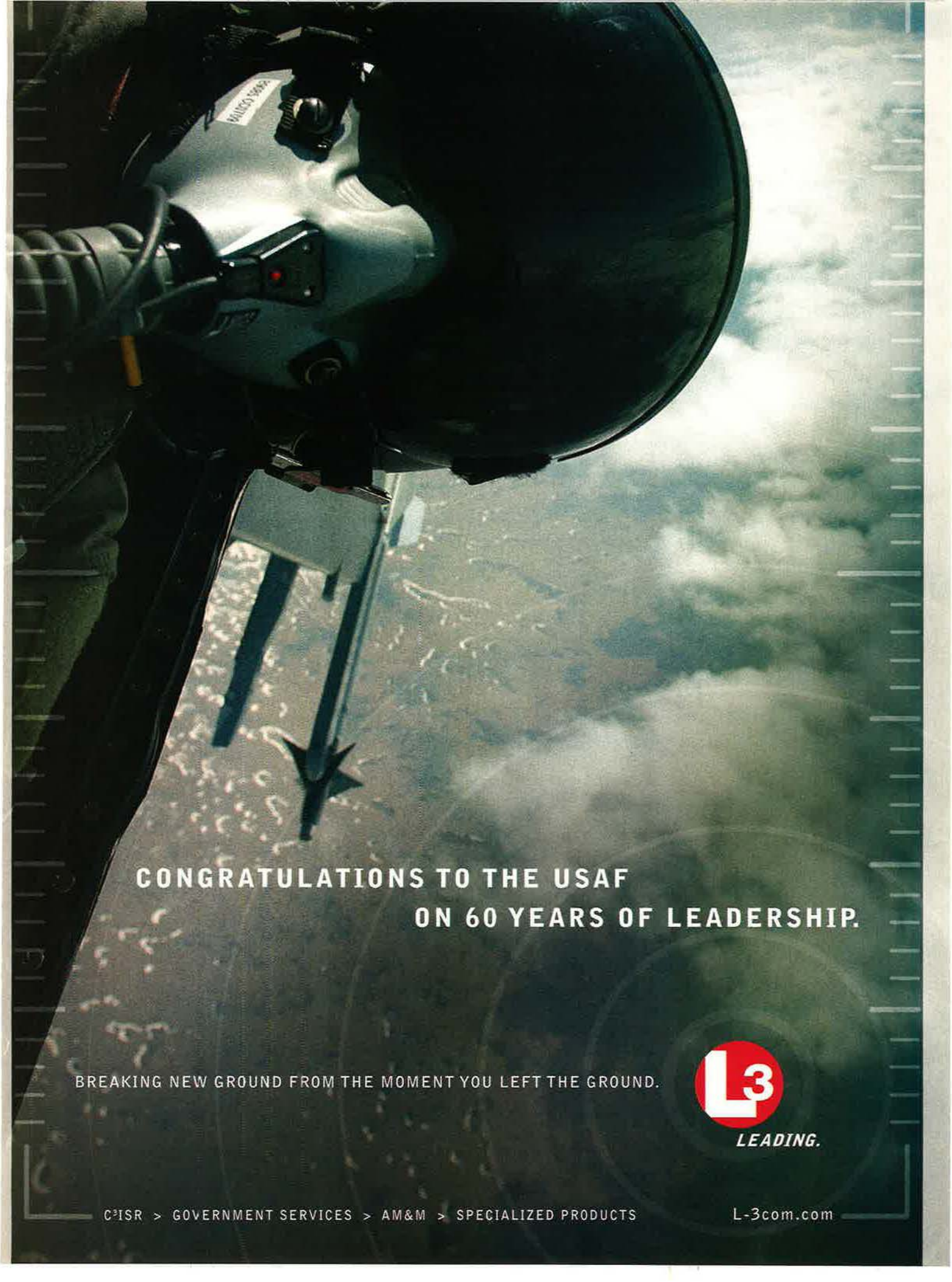
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AFA's Regions, States, and Chapters

These figures indicate the number of affiliated members as of June 30, 2007. Listed below the name of each region is the region president.

CENTRAL EAST REGION 11,618
William "Skip" Williams

Delaware 607
Brig. Gen. Bill Spruance 151
Delaware Galaxy 456

District of Columbia 537
Nation's Capital 537

Maryland 2,309
Baltimore* 722
Central Maryland 428
Thomas W. Anthony 1,159

Virginia 7,847
Danville 50
Donald W. Steele Sr. Memorial 3,143
Gen. Charles A. Gabriel 1,226
Langley 1,526
Leigh Wade 142
Northern Shenandoah Valley 250
Richmond 604
Roanoke 346
Tidewater 354
William A. Jones III 206

West Virginia 318
Brig. Gen. Pete Everest 60
Chuck Yeager 258

FAR WEST REGION 11,890
Michael J. Peters

California 11,101
Bob Hope 827
Brig. Gen. Robert F. Travis 805
C. Farinha Gold Rush 1,397
Charles Hudson 124
David J. Price/Beale 420
Fresno* 350
Gen. B.A. Schriever Los Angeles 560
General Doolittle Los Angeles Area* 1,241
Golden Gate* 631
High Desert 201
Maj. Gen. Charles I. Bennett Jr. 310
Monterey Bay Area 249
Orange County/Gen. Curtis E. LeMay 731
Palm Springs 411
Robert H. Goddard 655
San Diego 846
San Gabriel Valley 337
Tennessee Ernie Ford 616
William J. "Pete" Knight 390

Hawaii 789
Hawaii* 789

FLORIDA REGION 10,695
Em I Friedauer

Florida 10,695
Brig. Gen. James R. McCarthy 386
Cape Canaveral 1,099
Central Florida 1,466
Col. H.M. "Bud" West 333
Col. Loren D. Evenson 494
Eglin 1,458
Falcon 514
Florida Highlands 322
Gen. Nathan F. Twining 469
Gold Coast 778
Hurlburt 727
Jerry Waterman 1,140
John C. Meyer 343
John W. DeMilly Jr. 256
Miami 383
Pensacola 159
Red Tail Memorial 368

GREAT LAKES REGION 8,295
William A. Howard Jr.

Indiana 1,496
Central Indiana 427
Columbus-Bakalar 109
Fort Wayne 252
Grissom Memorial 264
Lawrence D. Bell Museum 218
Southern Indiana 226

Kentucky 717
Gen. Russell E. Dougherty 437
Lexington 280

Michigan 1,853
Battle Creek 113
Kalamazoo 440
Lake Superior Northland 128
Lloyd R. Leavitt Jr. 159
Mount Clemens 911
PE-TO-SE-GA 102

Ohio 4,229
Capt. Eddie Rickenbacker Memorial* 667
Frank P. Lahm 504
Gen. Joseph W. Ralston 303
North Coast* 287
Steel Valley 177
Wright Memorial* 2,291

MIDWEST REGION 7,732
Marvin Tooman

Illinois 2,902
Chicagoland-O'Hare 1,200
Heart of Illinois 214
Land of Lincoln 337
Scott Memorial 1,151

Iowa 773
Fort Dodge 71
Gen. Charles A. Horner 307
Northeast Iowa 229
Richard D. Kisling 166

Kansas 782
Contrails 64
Lt. Erwin R. Bleckley 469
Maj. Gen. Edward R. Fry 249

Missouri 1,680
Earl D. Clark Jr. 315
Harry S. Truman 624
Spirit of St. Louis 741

Nebraska 1,595
Ak-Sar-Ben 1,295
Lincoln 300

NEW ENGLAND REGION 3,901
Joseph P. Bisognano Jr.

Connecticut 790
Flying Yankees/Gen. George C. Kenney 473
Lindbergh/Sikorsky 317

Massachusetts 1,846
Minuteman 334
Otis 167
Paul Revere 725
Pioneer Valley 282
Taunton 170
Worcester* 168

New Hampshire 768
Brig. Gen. Harrison R. Thyng 768

Rhode Island 268
Metro Rhode Island 211
Newport Blue & Gold 57

Vermont 229
Green Mountain 229

NORTH CENTRAL REGION 3,622
James W. Simons

Minnesota 1,199
Gen. E.W. Rawlings 971
Richard I. Bong 228

Montana 329
Big Sky 329

North Dakota 467
Gen. David C. Jones 200
Happy Hooligan 144
Red River Valley 123

South Dakota 510
Dacotah 252
Rushmore 258

Wisconsin 1,117
Billy Mitchell 505
Capt. William J. Henderson 317
Madison 295

NORTHEAST REGION 7,486
Maxine Rauch

New Jersey 2,017
Brig. Gen. E. Wade Hampton 161
Brig. Gen. Frederick W. Castle 162
Hangar One 149
Highpoint 125
John Currie Memorial 72
Mercer County 170
Sal Capriglione 293
Shooting Star 283
Thomas B. McGuire Jr. 602

New York 2,782
Albany-Hudson Valley* 388
Chautauqua 70
Forrest L. Vosler 465
Gen. Carl A. "Tooey" Spaatz 222
Gen. Daniel "Chappie" James Jr. Memorial 89
Genesee Valley 242
Iron Gate 128
L.D. Bell-Niagara Frontier 333
Long Island 845

Pennsylvania 2,687
Altoona 57
Eagle 53
Greater Pittsburgh* 336
Joe Walker-Mon Valley 121
Lehigh Valley 247
Liberty Bell 678
Lt. Col. B.D. "Buzz" Wagner 103
Mifflin County* 106
Olmsted 325
Pocono Northeast 204
Total Force 166
York-Lancaster 291

NORTHWEST REGION 5,063
Laird Hansen

Alaska 867
Edward J. Monaghan 594
Fairbanks Midnight Sun 273

Idaho 117
Snake River Valley 117

Oregon 1,162
Bill Harris 329
Columbia Gorge* 833

Washington 2,917
Greater Seattle 1,001
Inland Empire 687
McChord 1,229

ROCKY MOUNTAIN REGION 6,587
Karl McCleary

Colorado 4,720
Gen. Robert E. Huyser 152
Lance P. Sijan 2,825
Mel Harmon 154
Mile High 1,589

Utah 1,467
Northern Utah 609
Salt Lake 384
Ute-Rocky Mountain 474

Wyoming 400
Cheyenne Cowboy 400

SOUTH CENTRAL REGION 6,899
Leonard Vernamonti

Alabama 1,966
Birmingham 381
Montgomery 1,226
Tennessee Valley 359

Arkansas 1,055
David D. Terry Jr. 694
Ouachita 132
Razorback 229

Louisiana 1,070
Ark-La-Tex 706
Maj. Gen. Oris B. Johnson 364

*These chapters were chartered prior to Dec. 31, 1948, and are considered original charter chapters; the North Coast Chapter of Ohio was formerly the Cleveland Chapter; and the Columbia Gorge Chapter of Oregon was formerly the Portland Chapter.

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RESPONSIBILITY MATTERS

Mississippi	**1,013**
Golden Triangle	339
Jackson	155
John C. Stennis	395
Meridian	124
Tennessee	**1,795**
Chattanooga	139
Everett R. Cook	405
Gen. Bruce K. Holloway	600
H.H. Arnold Memorial	157
Maj. Gen. Dan F. Callahan	494
SOUTHEAST REGION	**7,836**
David T. "Bush" Hanson	
Georgia	**3,580**
Carl Vinson Memorial	1,373
Dobbins	1,610
Savannah	347
South Georgia	250
North Carolina	**2,203**
Blue Ridge	380
Cape Fear	263
Kitty Hawk	83
Pope	448
Scott Berkeley	411
Tarheel	618
South Carolina	**2,053**
Charleston	518
Columbia Palmetto	428
Ladewig-Shine Memorial	187
Strom Thurmond	456
Swamp Fox	464
SOUTHWEST REGION	**6,881**
Robert J. Herculson Jr.	
Arizona	**4,003**
Cochise	128
Frank Luke	2,146
Prescott/Goldwater	336
Tucson	1,393
Nevada	**1,349**
Thunderbird	1,349
New Mexico	**1,529**
Albuquerque	1,047
Fran Parker	327
Llano Estacado	155
TEXOMA REGION	**13,038**
Edward Garland	
Oklahoma	**2,562**
Altus	255
Central Oklahoma (Gerrity)	1,396
Enid	458
Tulsa	453
Texas	**10,476**
Abilene	444
Aggieland	237
Alamo	3,671
Austin	713
Concho	275
Dallas	904
Del Rio	115
Denton	437
Fort Worth	1,721
Gen. Charles L. Donnelly Jr.	324
Ghost Squadron	127
Northeast Texas	425
San Jacinto	1,083

AFA Membership

Year	Total	Life Members	Year	Total	Life Members
1946	51,243	32	1977	155,850	1,218
1947	104,750	55	1978	148,711	1,541
1948	56,464	68	1979	147,136	1,869
1949	43,801	70	1980	156,394	2,477
1950	38,948	79	1981	170,240	3,515
1951	34,393	81	1982	179,149	7,381
1952	30,716	356	1983	198,563	13,763
1953	30,392	431	1984	218,512	18,012
1954	34,486	435	1985	228,621	23,234
1955	40,812	442	1986	232,722	27,985
1956	46,250	446	1987	237,279	30,099
1957	51,328	453	1988	219,195	32,234
1958	48,026	456	1989	204,309	34,182
1959	50,538	458	1990	199,851	35,952
1960	54,923	464	1991	194,312	37,561
1961	60,506	466	1992	191,588	37,869
1962	64,336	485	1993	181,624	38,604
1963	78,034	488	1994	175,122	39,593
1964	80,295	504	1995	170,881	39,286
1965	82,464	514	1996	161,384	39,896
1966	85,013	523	1997	157,862	41,179
1967	88,995	548	1998	152,330	41,673
1968	97,959	583	1999	148,534	42,237
1969	104,886	604	2000	147,336	42,434
1970	104,878	636	2001	143,407	42,865
1971	97,639	674	2002	141,117	43,389
1972	109,776	765	2003	137,035	42,730
1973	114,894	804	2004	133,812	42,767
1974	128,995	837	2005	131,481	43,094
1975	139,168	898	2006	127,749	43,266
1976	148,202	975	2007	125,076	43,256

AFA's Overseas Chapters

CHAPTER	LOCATION
	United States Air Forces in Europe (USAFE)
Charlemagne	Geilenkirchen, Germany
Dolomiti	Aviano AB, Italy
Lufbery-Campbell	Ramstein AB, Germany
Spangdahlem	Spangdahlem AB, Germany
United Kingdom	Lakenheath, UK
	Pacific Air Forces (PACAF)
Keystone	Kadena AB, Japan
MiG Alley	Osan AB, South Korea
Tokyo	Tokyo, Japan
	Supreme Headquarters Allied Powers Europe (SHAPE)
Gen. Lauris G. Norstad	Mons, Belgium

Profiles of AFA Membership

As of June 2007 (Total 125,076)

50%	One-year members
15%	Three-year members
35%	Life members
15%	Active duty military
51%	Retired military
16%	Former service
6%	Guard and Reserve
7%	No military service
3%	Cadet
2%	Spouse/widow(er)

Of AFA's service members:

72% are officers

28% are enlisted

Of AFA's retired military members:

71% are retired officers

29% are retired enlisted

FLORIDA'S AVIATION & AEROSPACE CLUSTER SNAPSHOT

Aviation Florida is the air transportation hub of the Western Hemisphere with more than 3.2 million aircraft takeoffs and landings each year. The state is a leading gateway for both passengers and cargo.	**Size:** Over 1,400 aviation companies **Areas of Excellence:** Flight training, maintenance, repair & overhaul (MRO), air cargo. **Fast Fact:** Florida has the third largest MRO cluster in the United States.
Aerospace Virtually every major aerospace company from around the world has operations in Florida. In the past five years, Florida companies and individuals have received over 650 patents in aerospace related fields.	**Size:** Over 370 aerospace companies **Areas of Excellence:** Aircraft, aircraft parts, propulsion systems, avionics, modeling and simulation. **Fast Fact:** Florida is the No. 3 state in manufacturing aircraft engines and parts.
Space For over 50 years, Florida's Cape Canaveral has been the world's premier "gateway to space." Today, the state hosts nearly a third of all worldwide commercial space activity, as well.	**Size:** Over 180 space technology companies **Areas of Excellence:** Aeronautical instruments, rockets, spacecraft, satellite communications. **Fast Fact:** Florida is home to one of only five commercially licensed spaceports in the United States.

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AFA National Report

natrep@afa.org

By Frances McKenney, Assistant Managing Editor

Focus on GWOT

This is what we are doing, and this is what we need.

In a nutshell, this is the information exchanged each year, when the Air Force at Hill AFB, Utah, defense industry representatives, and civilian community leaders gather for the "Focus on Defense" symposium. The three-day event is sponsored by AFA Utah—the **Northern Utah Chapter, Salt Lake Chapter,** and **Ute-Rocky Mountain Chapter.**

More than 300 people attended this year's 28th annual symposium, held at a conference center in Layton and built around the theme of USAF's role in the Global War on Terror.

In her symposium remarks, Lt. Gen. Terry L. Gabreski, Air Force Materiel Command vice commander, covered AFMC's progress in technology, acquisition, testing, and sustainment. Guest speaker Maj. Gen. David E. Clary, Air Combat Command's vice commander, presented facts about airmen in the war on terror: 28,000 of them are deployed worldwide, and one in six fills in for a soldier, for example.

Other guest speakers included Brig. Gen. Kathleen D. Close, the Ogden Air Logistics Center commander, and Robert P. Haffa Jr. from Northrop Grumman's Analysis Center.

Robert H. Ekstrom and Chris Russo served as chairmen for the symposium and associated events. This included a golf tournament to raise funds for AFA Utah's aerospace education endeavors. The base newspaper reported that in the last 27 years, those funds have topped $640,000 and have been used for spouse scholarships, AFROTC programs statewide, aerospace and science programs in local schools, and similar projects.

Brunch With the Eagles

When the Air Command and Staff College hosts its annual Gathering of Eagles at Maxwell AFB, Ala., the "Eagles" who address its students and faculty represent all eras of aviation history. They come from the US, as well as foreign countries, and from all services. And when the **Montgomery Chapter** hosts its annual brunch for these Eagles, the AFAers have an opportunity to meet these makers of aviation history.

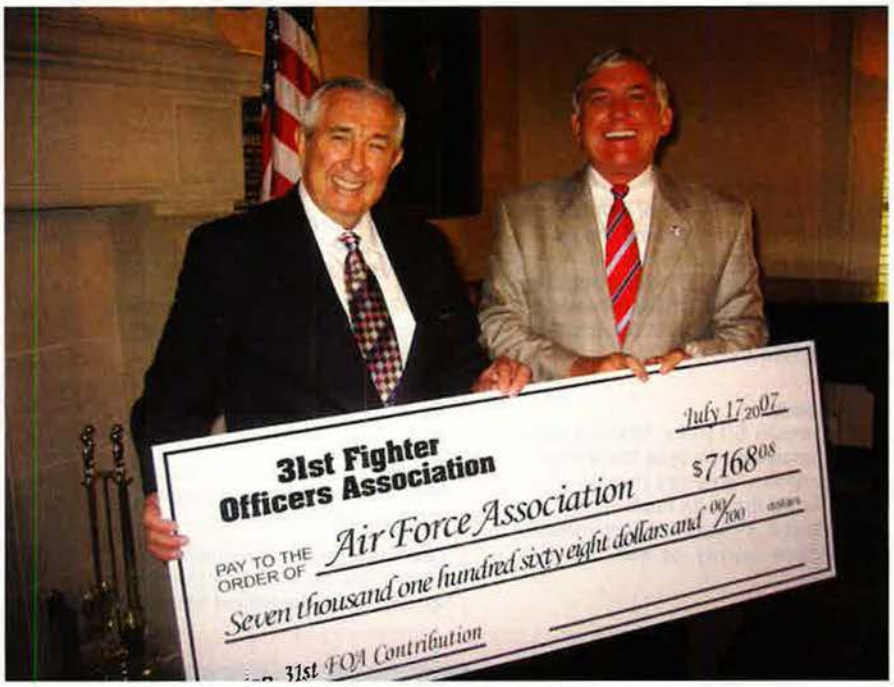
The chapter's brunch took place this June at a country club, with more than 200 guests on hand. The chapter had personalized medallions made for the Eagles, as well as handmade models of the Wright Flyer.

Sixteen notables received honors, including two Medal of Honor recipients from the Vietnam War: retired Col. George E. "Bud" Day and retired Col. Leo K. Thorsness.

Other Vietnam War-era Eagles were: retired CMSgt. Michael I. Lampe, special operations combat controller; retired Army Lt. Col. Lawrence E. McKay, a tank-killing Cobra helicopter pilot; and retired Army Lt. Gen. Harold G. Moore Jr., who led the air assault into the Ia Drang Valley and directed the subsequent battle.

The World War II Eagles were: retired Lt. Col. Lee A. Archer Jr., a Tuskegee Airman; retired British Roya Navy Capt. Eric M. Brown, test pilot; retired Col. John A. Carey, a fighter pilot who also served in the Korean War; Gottfried P. Dulias, a Luftwaffe fighter pilot and ace; retired Maj. Thomas C. Griffin, Doolittle Raider; retired Lt. Col. James P. Muri, B-26 pilot and Midway Marauder; and Margaret J. Ringenberg, a WASP.

Rounding out the Eagles were retired USMC Maj. Gen. Charles F. Bolden Jr., test pilot and astronaut; Robert J. Gilliland, SR-71 test pilot; retired Brig. Gen. William T. Meredith, "father" of USAF's RED HORSE and PRIME



AFA Board Chairman Bob Largent (right) accepts a donation from Bill Rippy, president of the 31st Fighter Officers Association. The organization disbanded and turned over to AFA its remaining funds during a farewell luncheon hosted in July by Largent in Montgomery, Ala.

AFA Conventions

Sept. 22-23	**AFA National Convention,** Washington, D.C.
Sept. 24-26	**Air and Space Conference,** Washington, D.C.

BEEF civil engineers; and retired Gen. Lloyd W. "Fig" Newton, fighter pilot, Thunderbird, and head of Air Education and Training Command (1997-2000).

The Gathering of Eagles began in 1980, when retired Brig. Gen. Paul W. Tibbets Jr. addressed the ACSC students. The gathering became an official, annual event two years later, with 15 Eagles invited, including Jimmy Doolittle, Curtis E. LeMay, Joe Foss, Chuck Yeager, Gail Halvorsen, Francis Gabreski, Robin Olds, and Neil Armstrong.

Taking Flight in Illinois

Supporting aerospace education is nothing new to the **Chicagoland-O'Hare Chapter.** It has provided manpower and helped fund two Civil Air Patrol summertime flight schools for more than a decade, according to Chapter President Ronald Westholm.

The week-long CAP programs of classroom work and flight instruction run consecutively in June at Coles County Memorial Airport near Mattoon, Ill.

The first week is for CAP cadets in Illinois and covers balloons, gliders, and powered aircraft. Chapter member Stephen W. Peters is the safety officer for this encampment, while chapter member Michael J. Rafferty flies as a tow pilot.

The second week is a national-level CAP glider encampment. Thomas J. O'Shea, Illinois state president, heads this effort, with Westholm as assistant director. Rafferty is a tow pilot for this program, too.

The chapter awards $1,000 in scholarships to help students attend the encampments, but these are only partial grants, Westholm said. That's by design. "We want the cadet to have an investment in this activity," he explained. He added that some cadets have shown their appreciation for the help by repaying the grant later on, through a donation so another cadet can attend flight school.

Hometown: The Bronx

As the official Air Force biography for Lt. Gen. Arthur J. Lichte, assistant vice chief of staff, states, "General Lichte hails from The Bronx, N.Y."

The Bronx—and a host of other New Yorkers—hailed him back when Lichte returned to his hometown as the **Iron Gate Chapter's** guest speaker in July. In the audience were the Reverend Trevor Nicholls, president of Lichte's alma mater, Cardinal Spellman High

John O. Gray, 1917-2007

John O. Gray, a retired Air Force brigadier general who twice served as AFA's executive director, died July 22 in Arlington, Va., from congestive heart failure. He was 90 years old.

Born in Boston, he was raised in Silver Valley, a lumber and mining area of northern Idaho. He graduated from the University of Idaho and later was named to its Alumni Hall of Fame.

In 1941, he was commissioned from the university's ROTC program as a second lieutenant in the Army Air Forces. He served on the headquarters staff of Lt. Gen. Jimmy Doolittle's Eighth Air Force headquarters in England during World War II. He left active duty in 1946 but was recalled for the Korean War. During that time and also during the Vietnam War, he served at USAF headquarters in the Pentagon. He retired from the Air Force Reserve in 1977, having been information director for the Secretary of the Air Force and a member of the Air Force Headquarters Command Air Reserve Policy Council.

He joined the AFA staff in 1957 and on retirement in 1978 was assistant executive director. He came out of retirement twice to become AFA's executive director—a position now called president and chief executive officer—serving from 1987 to 1988 and from 1989 to 1990. At the time of his passing, General Gray was an executive director emeritus, national director emeritus, and a permanent member of the Air Force Memorial's Board of Trustees.

Doyle E. Larson, 1930-2007

Retired USAF Maj. Gen. Doyle E. Larson, who served as AFA's Chairman of the Board (1998-2000) and National President (1996-98), died Aug. 13. He was 76 years old and a resident of Burnsville, Minn.

Born in Madelia, Minn., he interrupted his college studies to enlist in the Air Force in 1951. He studied Russian at the Army Language School in Monterey, Calif., then trained as an aviation cadet, earning his wings and a commmission in 1953. He graduated from the Communications Intelligence Course in 1957 and went on to earn a bachelor's degree at Hardin-Simmons University. He later received a master's degree from Auburn University.

General Larson completed 71 combat support missions during the Vietnam War. Later, he was director of intelligence for US Pacific Command and deputy chief of staff for intelligence at Strategic Air Command before assuming command of the Air Force Security Service in 1979. In August of that year, Electronic Security Command was established as a major command, with General Larson as its first commander. He also activated the Joint Electronic Warfare Center, becoming its first director. This July, Air Intelligence Agency renamed a building at Lackland AFB, Tex., to honor his leadership in the field.

General Larson was an AFA elected leader at all levels. Even after serving in the top elected positions, he continued to be active in the association and was named AFA Member of the Year in 2004.

Harold C. Stuart, 1912-2007

Former Air Force Association Chairman of the Board Harold C. Stuart died June 25. He was a resident of Jensen Beach, Fla., and was 94 years old. He had been AFA's Board Chairman from 1952 to 1953 and, before that, its National President, 1951-52.

Born in Oklahoma City on July 4, 1912, Stuart earned a bachelor's degree and law degree at the University of Virginia in Charlottesville, Va., graduating in 1936. He then joined a law firm in Tulsa and became a judge before being commissioned a first lieutenant in the Army Air Corps for World War II service.

He was an intelligence staff officer for Ninth Air Force Advance Headquarters and moved from England to France, Luxembourg, Belgium, and Germany. After the war, he was named an assistant secretary of the Air Force, with responsibility for research and development, the reserve components, and installations.

He then became AFA's top elected leader and later returned to his law practice. He was also an executive in First Stuart Corp., a family investment company based in Tulsa.

Although Stuart left active duty in 1946, he remained in the Reserve until 1972.

School, and Lt. Col. John Wilkerson, the ROTC Det. 560 commander at Lichte's undergraduate school, Manhattan College. Wilkerson is a member of the **Gen. Carl A. "Tooey" Spaatz Chapter (N.Y.).**

The luncheon attendees also included Maxine Rauch, the Northeast Region President and a **Long Island Chapter** member; retired Army Col. Jack H. Jacobs, a Vietnam War Medal of Honor recipient; Brig. Gen. Verle L. Johnston Jr., commander of the 105th Airlift Wing (ANG) at Stewart ANGB, N.Y.; Col. Michael F. Canders, commander of the 106th Rescue Wing at Francis S. Gabreski Arpt., N.Y.

Lichte spoke about the importance of air superiority and the role of the F-22 and F-35 Joint Strike Fighter in maintaining it. He pointed out how unmanned aerial vehicles and satellites contribute to USAF's global vigilance capability, and how global reach is gained through its air mobility assets.

Happy Birthday, AWACS

On the last weekend in June, the **Central Oklahoma (Gerrity) Chapter** joined the 552nd Air Control Wing at Tinker AFB, Okla., in celebrating the 30th anniversary of the E-3 AWACS' arrival at the base.

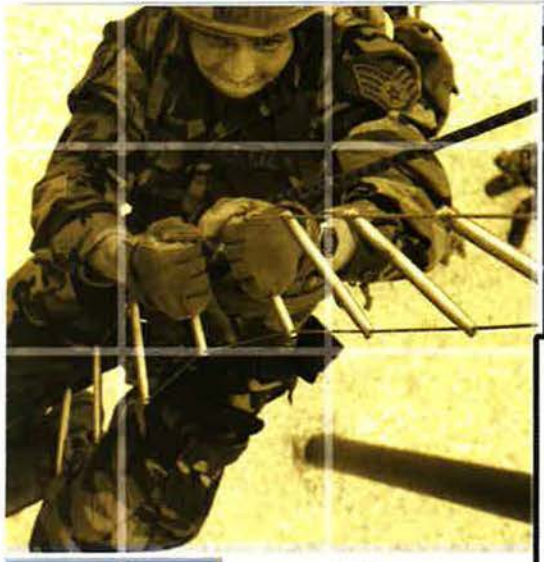
The Airborne Warning and Control System made its first flight Oct. 31, 1975, and it first arrived at Tinker on March 23, 1977.

Thirtieth anniversary activities at the base included squadron tours, open houses, and "re-blue briefings" to bring former AWACS crew members up to date on future technology for the Sentry.

Through donations from corporate sponsors, Community Partners, and others, the Gerrity Chapter raised some $40,000 to support these anniversary activities. First Lt. Frank A. Urbanic III served as the chapter's liaison to the celebration's organizers on base, and Chapter Treasurer Steven Auchter kept the books.

Chapter President James F. Diehl said leftover funds from the donations went to an endowment for an air battle manager award that the chapter presents to a distinguished graduate of the AWACS schoolhouse at Tinker.

The chapter also earmarked some of the funds for an ongoing project: completing a memorial at Tinker to the Tuskegee Airmen. The memorial honors Charles B. Hall, a Tuskegee Airman who moved to Oklahoma after World War II, serving at Tinker and working for the FAA until his death in 1971.



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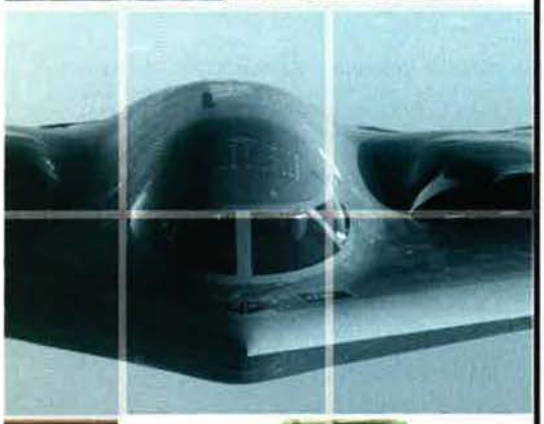

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Attracting New Members

In western Massachusetts, the **Pioneer Valley Chapter** can call its annual spring golf tournament a success: At the end of the day, the chapter collected six new membership applications, reported Patrick J. Eagan, who was then chapter vice president.

Some 400 guests turned out for golf at the course on Westover ARB, Mass. Joseph P. Bisognano Jr., the New England Region president, and Ronald M. Adams, the state president—both from the **Paul Revere Chapter** at Hanscom Air Force Base—were among those at the shotgun start. They drove more than 100 miles one way to get to the tournament, but such enthusiasm is nothing new, Eagan said.

The chapter holds two tournaments a year to raise funds for aerospace education projects, and Eagan credited efforts by chapter members for big turnouts: For example, John Dearness, chapter Community Partners VP, collected raffle prizes this year. In the past, chapter members who belong to private golf clubs have arranged for the AFA tournament to take place on their exclusive venues. Eagan pointed out that in 2006, the chapter held a tournament at the Orchards, a course that hosted the 2004 US Women's Open. Eagan said such a course attracts players who sign up for a chance to golf on greens they might not otherwise use.

More AFA News

■ At Hanscom AFB, Mass., in May, New England Region President Joseph P. Bisognano Jr., a **Paul Revere Chapter (Mass.)** member, presented two New England Region teacher appreciation awards to Howard Worona and Tina Duffy. Worona teaches music to grades four through eight at Hanscom's Middle School and directs the grade-level choruses and concert choirs, as well as the orchestra. Duffy is a fourth-grade teacher who has taught at Hanscom's Primary and Middle Schools for 36 years.

■ Some stories claim souvenir or "challenge" coins originated in World War I; some claim they date to the Korean and Vietnam Wars. Whatever the origins of the coins, North Carolina's **Tarheel Chapter** is among the latest AFA chapters to create one. Chapter President Lewis Feuerstein came up with the idea, and supporters placed orders for 115 even before the North Carolina AFA coin was stamped. State President Joyce Feuerstein reported that AFROTC cadets from North Carolina State University in Raleigh asked to be notified as soon as the coins were available.The brass coin has the image of the state on one side, with the names and locations of the state's AFA chapters noted. The flip side sports the AFA name and "wee wings" logo. ■

Unit Reunions

reunions@afa.org

13th FIS, Glasgow/Sioux City. Oct. 10-14 in San Antonio. **Contact:** Dick Martin (210-496-2914) (dickmartin13@yahoo.com).

19th BW, 19th ARW, and **19th ARG.** Oct. 18-20. **Contact:** Michael King (478-327-3099) (michael.king@robins.af.mil).

35th TFS, Myrtle Beach AFB, SC. Oct. 18-21 at the Sandestin Beach Golf Resort in Destin, FL 32550. **Contact:** Bill Rial (404-259-3358) (rialwgfp@earthlink.net) (panther07reunion@cox.net).

40th Fighter/Flight Test Sq Assn. Oct. 10-14 at the Ramada Plaza Beach Resort in Fort Walton Beach, FL. **Contact:** Frank Hettlinger (812-877-4039) (mghett@verizon.net).

366th Fighter Assn (WWII-present). Oct. 11-15 in Dallas-Fort Worth, TX. **Contact:** John France (817-860-2780) (luv_2_fly@sbcglobal.net).

433rd TCG (WWII), Pacific. Nov. 11-15 at the Hampton Inn in Savannah, GA. **Contact:** Frank Nash (251-660-2921).

483rd BG Assn, Fifteenth AF, Italy. Oct. 15-21 at the Radisson Cincinnati Riverview Hotel in Covington, KY. **Contact:** Leon Waldman (818-905-9466).

966th AEW&C Sq. Sept. 7 in Dayton, OH. **Contact:** Phil Szymkowicz (503-645-3917) (philszy@verizon.net).

ABCCC Veterans, Vietnam (1967-75). Oct. 17-21 at the Riviera Hotel & Casino in Las Vegas. **Contact:** Ken Witkin (301-758-8365) (abcccreunion@verizon.net).

Army Air Corps Enlisted Pilots Classes 42-C through **43-C.** Oct. 25-28 at Wright-Patterson AFB, OH. **Contact:** Ed Wenglar (361-872-2189) (edwenglar@laward.net).

Clark AB, Philippines, Hospital personnel (1964-75). Oct. 26-28 at the DFW Grand Hyatt Hotel in Dallas. **Contacts:** Bonnie Cooper (210-520-5580) (bonniec@flash.net) or Donna deWildt (603-512-9324) (dmatics@aol.com).

Pilot Classes 57-O, 57-P, 57-R, and **57-S.** Oct. 10-14 at Wright-Patterson AFB, OH. **Contacts:** Ken Wikle (wikle@usa.net) or Bob Olsen (352-324-0145) (olsen121@comcast.net) or Owen Garner (910-457-4402) (k1af@bellsouth.net).

USAF Pilot Training Class 59-A. Oct. 9-12, 2008, at the National Museum of the United States Air Force in Dayton, OH. **Contact:** Don Schmenk (419-523-4251) (dschmenk@bright.net).

USAF National REDHORSE Assn. Oct. 28-Nov. 1 in Fort Walton Beach, FL. **Contact:** Greg MacDougal (912-884-7273) (president@redhorseassociation.org).

USAF Military Training Instructor Assn. Oct. 17-19 at Lackland AFB, TX. **Contact:** Jay Pavey (828-631-0461) (j.pavey@mchsi.com).

Seeking members of **Pilot Training Class 68-F,** Reese AFB, TX, for a reunion. **Contacts:** Russ Crawford, 39539 Krantz Dr., Deer River, MN 56636 (218-246-9949) (tofd@aol.com) or Kurt Anderson, 4808 Overton Hollow, Fort Worth, TX 76109 (817-569-7409) (kbaspa@charter.net). ■

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For more information, call Katherine Ryan at (703) 247-5838 or e-mail kryan@afa.org.

In 2006, more than 1,800 registered attendees heard experts on air- and space power present 34 different conference addresses, workshops, and forums, including a Four-Star Forum and Command Chief Master Sergeants Forum. The Technology Exposition boasted 125 different exhibits featuring the cutting-edge technology of the future. The overall event drew an unprecedented 9,000 people. Come join us for yet another first-class professional development experience.

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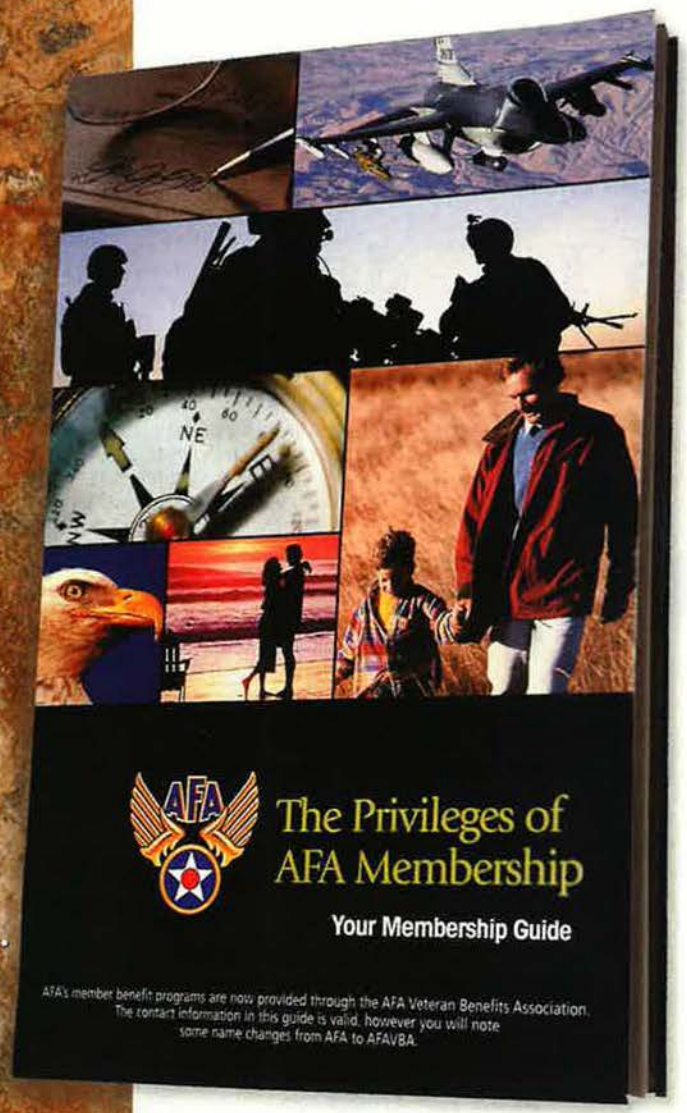

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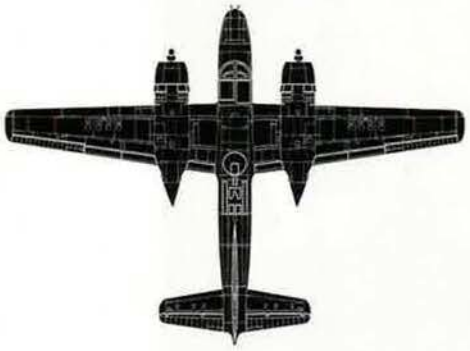
A-26 Invader



The A-26 Invader served America well in three official wars and quite a few unofficial clandestine ones. Fast and able to carry a heavy bomb load, the Invader was easily the best US light bomber of World War II. It was later, though, that it made its bones as one of the best of all time. The Invader went on to serve extensively in Korea and Vietnam, and was also a favorite of CIA-backed forces in small wars around the world.

The Invader was designed to replace the A-20, B-25, and B-26 bombers. It was a major advance, featuring a laminar flow airfoil, electrically operated double-slotted flaps, and two remotely operated power turrets. The "solid-nose" B model could be converted to a "glass nose" C model (and vice versa) just by changing the nose section. It had growing pains, requiring 28 months of post-first-flight development. Still, it entered combat in 1944 and compiled an admirable record in Europe and Asia. In Korea, the sturdy Invader (now named B-26) saw heavy action, flying 55,000 bomb sorties. It is credited with destroying 38,500 road vehicles, 3,700 railcars, 406 locomotives, and seven aircraft.

As jet powered aircraft became available, the B-26 was taken out of service, only to be recalled to duty in 1960 with the 1st Air Commando Group in Vietnam. It was used in Operation Farm Gate. Then, USAF had some 40 rebuilt into B-26Ks, called "Counter Invader" to highlight the counterinsurgency role. Not long after that, the Invader was redesignated A-26A. The last was withdrawn in 1969, after chalking up successes not only in a world war but also in the hottest conflicts of the Cold War—a claim that can be made for few, if any, other aircraft.

—Walter J. Boyne

This aircraft: USAAF A-26B-51-DL Invader—*# 44-34323*—as it looked in the late 1940s in the Far East.

In Brief

Designed, built by Douglas Aircraft Co. ★ first flight July 10, 1942 ★ crew of three (pilot, nav/bombardier, gunner) ★ two P&W R-2800 engines ★ number built 2,452 ★ **Specific to A-26B:** max speed 355 mph ★ cruise speed 284 mph ★ max range 1,400 miles (loaded) ★ armament (typical), 10 .50 cal. machine guns, up to 16 rockets ★ bomb load, up to 6,000 lb ★ weight (max) 35,000 lb ★ span 70 ft ★ length 50 ft ★ height 18 ft 6 in.

Famous Fliers

Medal of Honor: Capt. John S. Walmsley Jr. (Korean War) **Other notables:** Maj. Gen. Reginald J. Clizbe, Brig. Gen. James D. Kemp, Col. Joseph Kittinger, Lt. Gen. Eugene B. LeBailly, Maj. Gen. William C. Lindley Jr., Maj. Gen. Nils O. Ohman, Brig. Gen. Luther W. Sweetser, Brig. Gen. Virgil L. Zoller.

Interesting Facts

Fastest piston-engine bomber of WWII ★ redesignated B-26 (1948) and re-redesignated A-26A (1962) ★ last airplane designated "attack-bomber" ★ flew first (June 28, 1950) and last (June 27, 1953) US bombing missions in Korea ★ seen in 1989 Steven Spielberg film "Always" ★ used by Cuban exiles in 1961 Bay of Pigs invasion ★ flown by CIA-backed mercenaries in the Congo in early 1960s ★ operated by 17 foreign air forces ★ SAC RB-26 recce aircraft for two years.

A World War II A-26C on the ramp.

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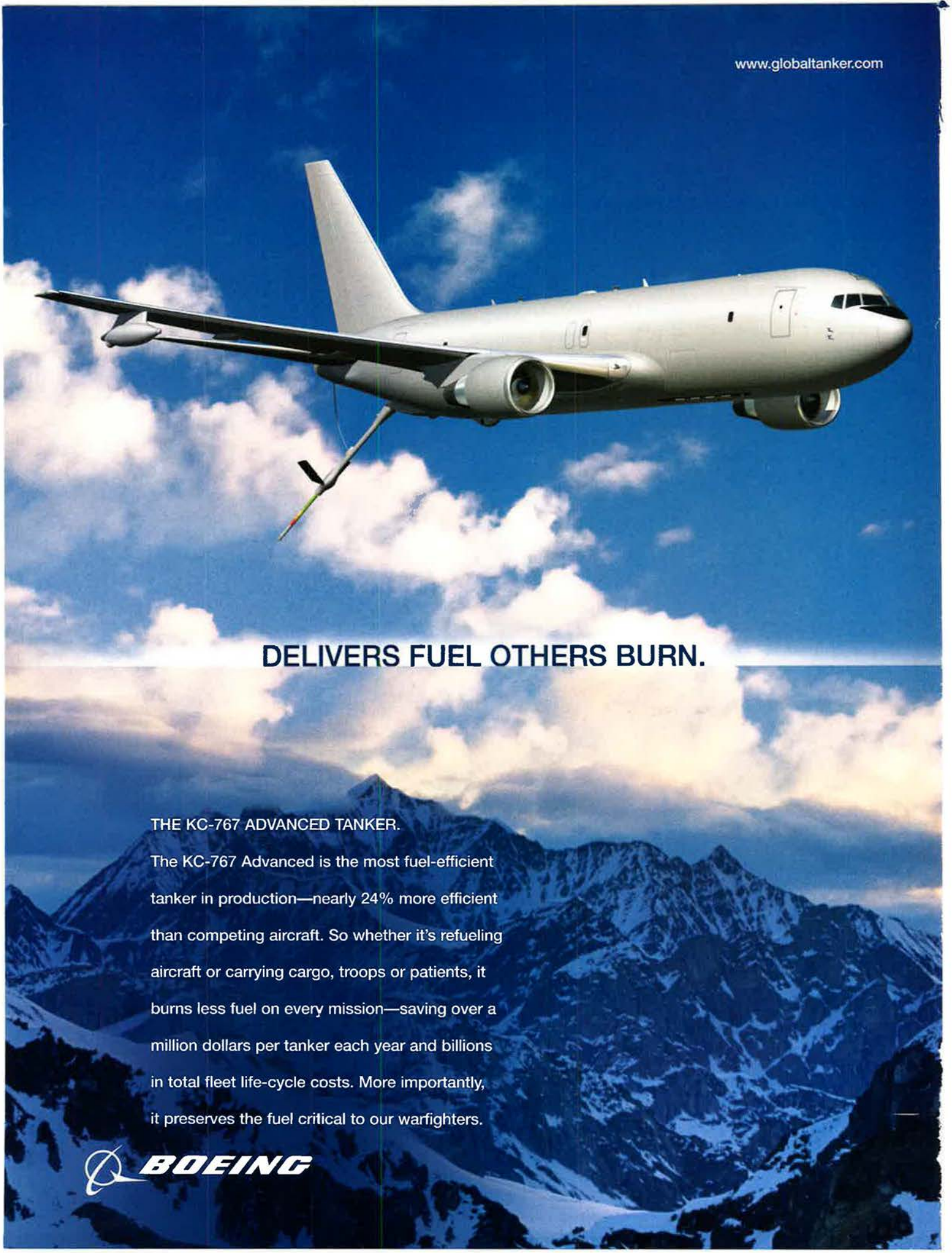
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