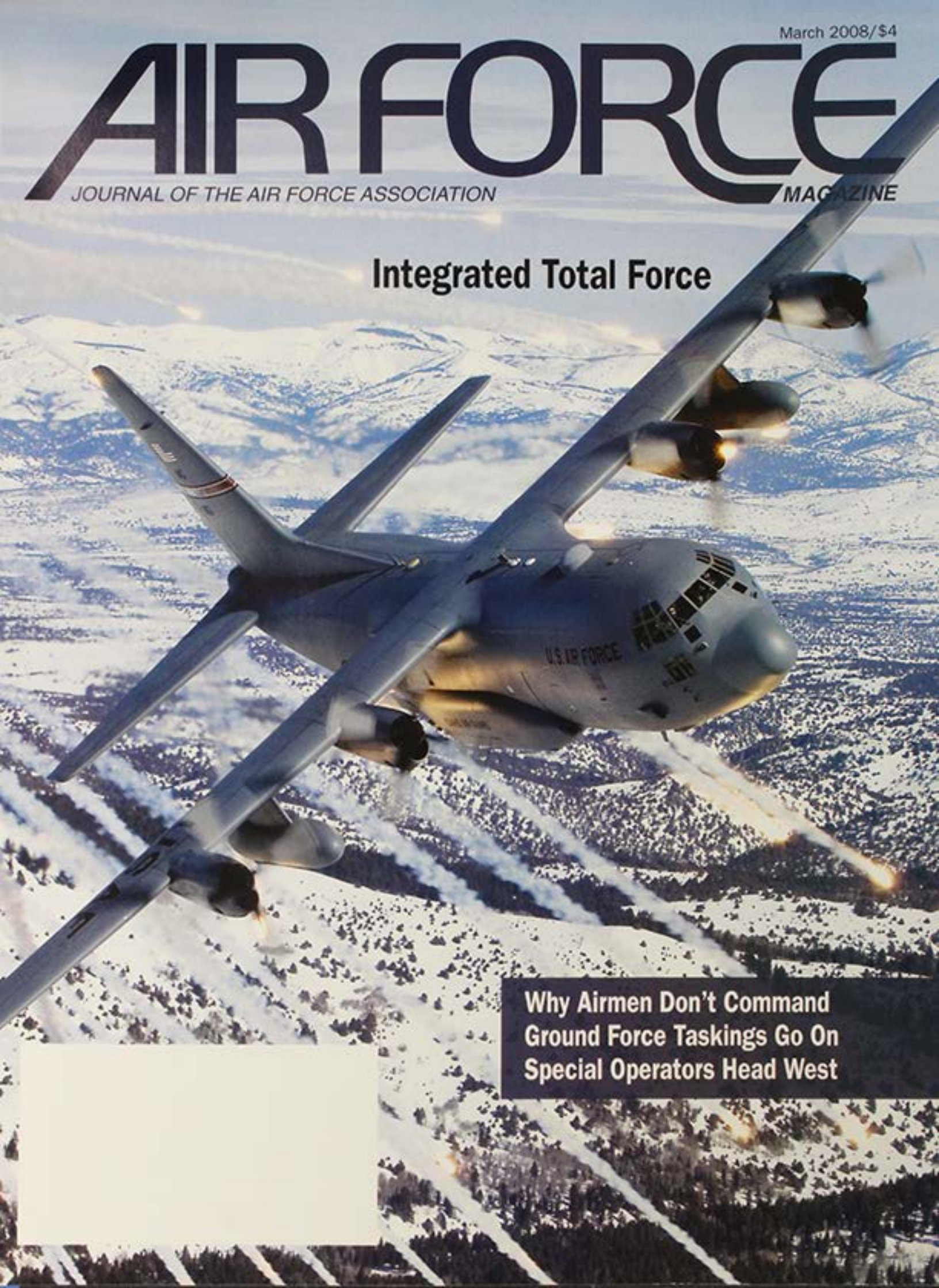
March 2008/$4

AIR FORCE MAGAZINE

JOURNAL OF THE AIR FORCE ASSOCIATION

Integrated Total Force



Why Airmen Don't Command
Ground Force Taskings Go On
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March 2008, Vol. 91, No. 3

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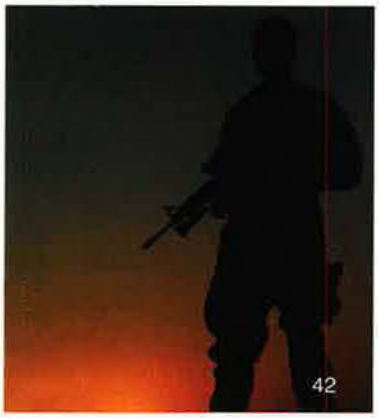

About the cover: A C-130 from the Idaho Air National Guard. See "Integrated Total Force," p. 24. Photo by Jim Haseltine.

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Editorial

By **Robert S. Dudney,** Editor in Chief

Beyond the F-22 Problem

ROBERT M. Gates, the Pentagon chief, recently declared, "We're fighting two wars, in Iraq and Afghanistan, and the F-22 has not performed a single mission in either theater." Even by the low standard of Raptor criticisms, this one was strange.

The F-22, as Gates knows, has not been around very long. Nor is it the only virgin weapon out there; in its wars with terrorists, the US has not employed ICBMs, attack submarines, or Patriot air defense batteries, either. Yet the Defense Secretary has not seen fit to mention that.

Unfortunately, though, we cannot easily dismiss Gates' remark. He and Deputy Defense Secretary Gordon England have drawn a line in the sand on the Raptor. (See "Washington Watch," p. 8.) And their actions suggest something deeper and more ominous than opposition to a fighter.

USAF says it needs 381 Raptors, but its 2009 budget, unveiled Feb. 4, makes no provision for any beyond an already approved 183. If there was any doubt about DOD's hostility, Gates and England erased it with this string of remarks to House and Senate panels:

- Gates, Feb. 6: "It [the F-22] is principally for use against a near peer. ... Looking at what I regard as the level of risk of conflict with one of those near peers over the next four or five years, ... something along the lines of 183 is a reasonable buy."
- Gates, Feb. 6: "My worry is that a significant expansion of the production of the F-22 in the out years will [limit] how many [F-35s] can be purchased."
- England, Feb. 12: "The Air Force [does] have older airplanes. Unfortunately, a lot of the money was spent on a relatively small number of F-22s that are very high cost."
- England, Feb. 13: "My strong feeling is that we have enough F-22s. They're designed for a specific mission, we have enough to do that mission."
- England, Feb. 13: "The [F-35] performance and the F-22 performance is extraordinarily close. ... [The F-35] is a much newer airplane, so it also has very similar, if not in some cases better, performance with other attributes."
- England, Feb. 13: "We have an aging fighter fleet, but, on the other hand, they've spent $65 billion, and we have 183 F-22s. I mean, at some point, we have to decide not to buy the very costly, high-end airplane, and buy the quantity."

Translation: The F-22 is of no value in irregular war. The Raptor is needed to fight China, Russia, or other "near-peers," but such war is unlikely. The fighters are competitive, not complementary. The focus on the F-22 has aggravated USAF's aging fleet problem. The F-22 is a one-trick pony. The two new fighters are comparable.

Why, on an issue of supreme importance to the Air Force, does the Pentagon find itself unable to agree with USAF's leadership?

Not to put too fine a point on it, senior Air Force officials dispute each and every one of these assertions.

Now is not the time for detailed rebuttals, which we and others have printed on many occasions. The bigger question at this point is this: Why, on an issue of supreme importance to the Air Force, does the Pentagon find itself unable to agree with USAF's leadership? Why does the Air Force lack clout?

The Air Force has been struggling with this one for a while. It was a subject of an unpublished point paper produced in 1998 by John T. Correll, a former Editor in Chief of this magazine and a respected commentator on airpower issues. The gist of Correll's paper was captured in its provocative title: "Is the Air Force No. 4?" Number 4, that is, in standing among the US armed services.

Correll observed that, in the seven years since USAF's triumph in the 1991 Gulf War, the Air Force had lost much ground relative to the other branches. By 1998, he noted, it had "become popular to disparage airpower, especially Air Force airpower."

As Correll told it, most of the anti-Air Force sentiment originated within the other services, but they had successfully exported it to the news media, think tanks, Congress, and DOD offices. Airpower routinely was undervalued and discounted in joint doctrine and budget deliberations.

"In the Joint World," Correll wrote, "the Air Force encounters the headwinds of tradition" and airpower was always made subordinate to the surface battle.

Ten years have passed, and the problem seems, if anything, to have gotten worse. The Army, Navy, and Marine Corps readily accept the Air Force in a support role—ISR and air mobility—but not as a force which can act in an independent combat fashion. This has had consequences.

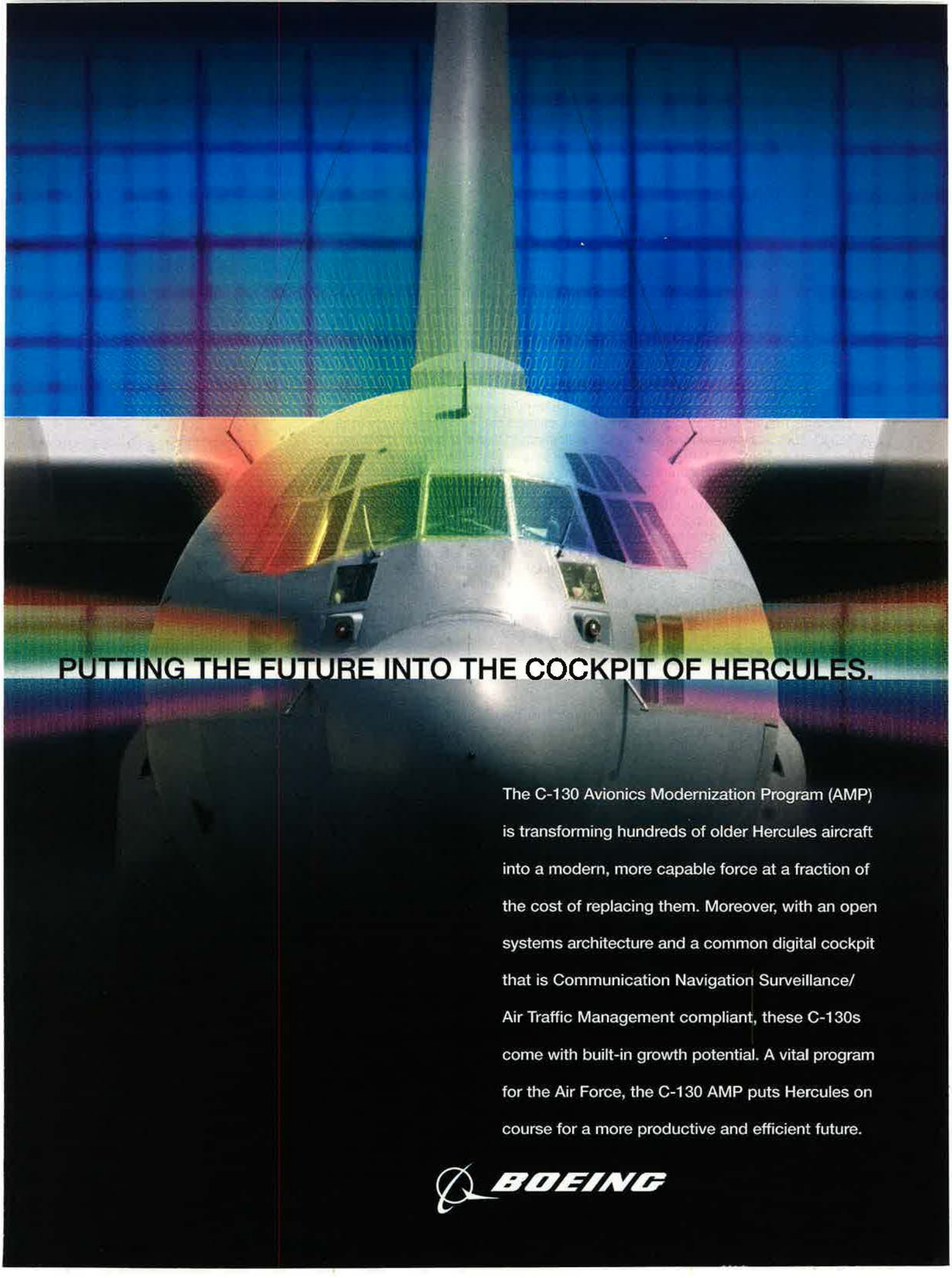
Five years of bloody ground combat in Afghanistan and Iraq indisputably have pushed the Army and Marine Corps to the head of the Washington line. The Navy clearly occupies a more favored position when it comes to command assignments.

Maybe the Air Force really has become No. 4. If so, that may explain why airmen have such difficulty making their F-22 case; it could be that nobody's really listening. It may well be one reason that USAF's unfunded requirements list this year exceeds $18 billion.

What is to be done? One school of thought holds that USAF is in bad odor because airmen have been cocky and arrogant, and that the proper response now is to lower the volume, become jointer-than-thou, and do the best one can. Others say the Air Force needs to speak up more forcefully for its position. This is what Correll, a decade ago, called "The Billy Mitchell Position."

The decision on how to approach the problem will influence more than just the outcome of the F-22 matter, which is still up in the air. (Rather than moving to shut down the line, DOD has opted to let a new Administration decide whether to seek more of the fighters.) It will also help determine the service's future size, shape, and mission.

For the Air Force, there won't always be a Gates. There won't always be an England. There will, however, be a new President and Secretary of Defense next year. We should all hope that they bring greater understanding to dealing with USAF's multiple problems. ■



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Letters

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More on AFSO 21

I enjoyed Adam Hebert's "Issue Brief" on AFSO 21 in the January 2008 edition of *Air Force* Magazine *[p. 20]*. When addressing the difficulty in clearly explaining AFSO 21, his following comment particularly caught my attention: "Part of the problem is that AFSO 21 and its descriptions are laden with jargon and buzzwords. Lean. Six Sigma. Theory of constraints. Business process re-engineering. Just-in-time inventory. Blah, blah, blah."

The tools mentioned above precede AFSO 21. They were important elements of the Total Quality Management (TQM) movement that was popular back in the 1980s and 1990s. We had great senior leader support in the early stages of TQM, but much of the support waned as time passed. A lot of what was going on then is what I think I see going on now in the Air Force. The real challenge is yet to be faced: What are AFSO 21 and the Air Force going to look like in years to come?

AFSO 21 requires "a passion for continuous improvement—a spirit and mind-set that we can always get better." TQM had an identical requirement, but we made it too hard for our workforce to sustain that passion. I hope we're not doing the same with AFSO 21. All the policies, procedures, objectives, tools, and guiding principles won't amount to much if we have managers and leaders who get in the way of good ideas. Getting out of the way is often hard to do, especially in defense organizations where formal chains of command are required to maintain discipline and good order, but it can be done. If we can convince managers and leaders at all levels to find ways to make it easier for Air Force employees to surface their good ideas, we will see greater efficiency.

Speaking of making things easier, it seems to me that we are assuming that the tools we are using or are planning to use with AFSO 21 are easy to understand and apply. The tools are valuable, but we should not assume that it will be easy to, "through the application of process improvement tools and philosophies such as Lean, Theory of Constraints, Six Sigma, and Enterprise Value Stream Mapping ... improve how we accomplish our daily tasks with the goal of making our processes more standardized, effective, and efficient," as I've seen in AFSO 21 purpose statements. The use of the tools needs to be studied on a case-by-case basis. They may be very effective in certain organizations and environments, but they may cause problems and rejection in others where they may be interpreted as "Blah, blah, blah."

Finally, I'm surprised to see how prevalent the Japanese influence still is. I thought that by now we would have changed that. I saw a statement that described a MAJCOM commander as "our sensei." I bet that the vast majority of the workforce will more easily identify the individual as their commander than as their sensei. "Muda" is "waste." I bet most employees would rather deal with "waste" than with "muda." They understand the concrete goals of AFSO 21 such as "Deep-six stupid, unnecessary tasks" rather than trying to employ "kaisen" to bring about continuous improvements.

I am a sincere advocate of AFSO 21's goal of greater efficiency. I wish the Air Force all the best in its efforts to sustain the momentum and bring further gains. As Mr. Hebert requested, I'll stay tuned.

Col. Bill Friel, USAF (Ret.)
Dayton, Ohio

Why Not Two Tankers?

[In reference to "Editorial: Catastrophic Failure," January, p. 2]: The underfunding of replacement aircraft to the tune of $20 billion per year threatens the ability of our Air Force to be effective for more than a short conflict. I see the estimate of need at $20 billion a year for six years, I see the request from Senators to continue C-17 production and F-22 production, I see an underused and languishing C-5 fleet hoping for modification, but I am not sure I see an actual effort to infuse $20 billion into USAF for needed combat capability.

Do you have a comment about a current article in the magazine? Write to "Letters," *Air Force* Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. (E-mail: letters@afa.org.) Letters should be concise and timely. We cannot acknowledge receipt of letters. We reserve the right to condense letters. Letters without name and city/base and state are not acceptable. Photographs cannot be used or returned.—THE EDITORS

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USAF should not choose between the two tanker candidates, but let two contracts and fund both at the same level—the replacement rate if one contractor is chosen is a joke. Why make the tanker replacement a big development-dollar sink? Both vendors say that they have product being delivered. Get them to perform. Put [the tankers] on the ramp meeting this spec, or no money. USAF must fund whatever quantity of F-22s is required for NORAD/US Northern Command/ANG, period. Lockheed must be brought to the big table and required to perform on the C-5 modernization/re-engining. C-17 Total Force numbers need to be increased by about 100 aircraft. And don't forget, the F-16 replacement bow wave is upon us, so Lockheed needs to get its act together for the F-35.

This doesn't even talk to AWACS updates/replacement or ISR!

I am not in favor of "throwing" money, but we can't just keep shoveling operations and maintenance money into old equipment and thinking we are going to be OK.

Maj. Gregory W. Gerdes,
USAF (Ret.)
Dallas

Guam Encore

Your article in the January 2008 issue, "Guam, All Over Again" *[p. 28],* brought back memories. In 1972, I was an electronics warfare officer (EWO) stationed with the 416th Bomb Wing (H) at Griffiss Air Force Base, Rome, N.Y. We were a SAC B-52G wing. In May of that year, we were one of the first G wings taking B-52Gs to Guam to take part in the B-52 Arc Light mission. Up till then, all the B-52s flying Arc Light missions from Guam and Thailand were B-52Ds. My crew began flying Arc Light missions out of Guam in May of 1972 and was there to fly Linebacker II missions into Route Pack VI, the Hanoi and Haiphong [North Vietnam] area, in December of that year.

As I read the article on Guam, I saw the photo, on p. 30, of two B-52s, one taking off and one holding. I noticed the error in the caption of that photo identifying the two aircraft as B-52Ds. They are not B-52Ds, they are B-52Gs. The D has a black underside and tall black vertical tail. The G has a white underside (noticeable in the photo) and a camouflage, shorter vertical tail. I have over 4,000 flying hours in the B-52G and got pretty attached to it.

Maj. R.M. Saxton,
USAF (Ret.)
Katy, Tex.

Remembering Tet

[Concerning John Correll's article "Tet," January, p. 50] I am hardly the first to suggest that one must view our involvement in Vietnam in the context of the Cold War. Unfortunately, we did not empathize enough with the North Vietnamese perspective as a war of independence from colonial powers, including the United States. In hindsight, from the earliest involvement of the US, North Vietnam leaders would have likely viewed a long-term independent relationship with the US more favorably than one with the Soviet Union or China. US policy-makers were clouded in their strategy by the Cold War.

Regardless, a weak President as Commander in Chief who did not effectively articulate the political and military goals to the American people, and military leadership that failed to effectively articulate victory on the battlefield, resulted in political and public surrender. This must never happen again.

We must forever extol US military battlefield accomplishments during our military involvement in Vietnam. It is tragic that we allowed so many with unsourced or biased views to shape much of the public's battlefield memory—at least to this point. I believe time will show how Vietnam was another line in the sand for democracy—one with a grotesque price in American lives.

Today, the Vietnamese people welcome our relationship independent of other nations—and the Cold War is over.

Bill Lawson
Livonia, Mich.

Wheelus Recalled

As one who pulled a great three-year tour there, I can attest to how wonderful an assignment that was *["The Years of Wheelus," January, p. 62].* That is, until June 1967—the day the Six Day War broke out. As good as the article was, it didn't mention the outstanding job done by the dependents who were there awaiting evacuation. Because we didn't know what the Libyans were going to do in retaliation, the commander put an F-100 up at the front gate headed down the highway.

That was deterrent enough. Meanwhile, all the Libyans who worked on the base left, in the hope that we could not exist without their help. How big a mistake that was. The dependents on base handled all the chores in the dining hall. The children washed and mopped floors, hauled out trash, and were really magnificent in all they did without complaining—proving once again that American know-how and togetherness can accomplish a great many things. Not all dependents left for the States during project "Safe Haven." Many opted to go to Spain and wait it out, my family being one of them. Ninety days later they came back to Wheelus, and we finished out our tour. Given the chance, we would have extended. But [Libyan leader Muammar] Qaddafi saw to it that was not going to happen.

MSgt. Philip L. Harrison,
USAF (Ret.)
Fayetteville, N.C.

I would just like to correct the spelling of the original Arabic/Libyan name of Wheelus Air Base.

It is Millaha, rather than Mehalla, which comes from the Arabic word Millah meaning salt. The base is built on an old seawater salt marsh where salt used to be [extracted] and exported. Salt used to be a big export earner for Libya in the Ottoman Turkish period and up to the Italian period.

Sami Zaptia
Tripoli, Libya

Walter Boyne's succinct article on Wheelus AB, Libya, certainly summed up the importance of the base and its controversial history in a fine manner. However, I wish to point out a minor discrepancy. Where he mentions SAC's use of the base, he states that SAC deployed tankers there, including KB-50s. SAC never had the KB-50 in its inventory—it was used only by Tactical Air Command (TAC), US Air Forces Europe (USAFE), and Pacific Air Forces (PACAF). I checked through my complete set of unit histories for the 420th Air Refueling Squadron (the only KB-50 outfit in USAFE), and found little mention of Wheelus. The 420th did refuel fighter units en route to and from Wheelus for their training on the extensive ranges there, but seldom operated from the base.

One interesting exception, however, involved the hunt in 1960 for the aircrew remains from the B-24D *Lady Be Good* which had crashed in the southeastern Libyan desert on April 5, 1943. The aircraft crash site had been found only in 1958, with no evidence of the crew nearby. Sporadic efforts to find crew remains ensued over the next several years, and eventually all were found and identified. The KB-50's contribution to this effort came in April 1960. USAFE directed that its 66th Tactical Reconnaissance Wing send four RF-101s to Wheelus, from where they would map the "Sand Sea" area around the crash site to aid in the search. Two 420th KB-50s air-refueled the six RF-101 recon missions flown that month, enabling them to provide photography to the ground search parties. Mission accomplished.

Lt. Col. John F. Bessette,
USAF (Ret.)
Historian, Tactical Tanker Association
Springfield, Va.

First Shirt

I retired as a first sergeant in October 1989, assigned to the 485th EIG at

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To educate the public about the critical role of aerospace power in the defense of our nation.

To advocate aerospace power and a strong national defense.

To support the United States Air Force and the Air Force family.

Griffiss AFB, N.Y. (The Air Force believes at the 30-year point in your career, your brain turns to mush and your experience diminishes.) I had the privilege of serving as a first shirt for nine years. I entered the first sergeant career field as an E-8 selectee assigned to the 96th OMS at Dyess AFB, Tex.

I wasn't aware that in 2003, the Air Force turned the first sergeant job into a separate special duty assignment. The idea of keeping an individual out of his or her specialty for three to six years is crazy. Not only do they lose proficiency in their specialty, they also may not have the incentive to excel as a first sergeant.

I fully support returning the first sergeant job to an Air Force Specialty Code. The first sergeant position is 24/7 from the start. Within the first 90 days of my arrival at Dyess, I had to contend with a suicide, drug busts in the bomber and tanker branches, and an ORI. Without the knowledge of career first sergeants stationed at Dyess, I would have been totally lost. The first person supporting agencies on any base call is the first shirt. I had more than my share of 0 dark 30 phone calls.

Returning the first sergeant job to an Air Force Specialty Code will mean the first sergeant will have the incentive to learn and apply the necessary knowledge to excel as a first sergeant. He or she will not have to have the date they are returning to their old career field always on their minds. First sergeants once again will compete only with first sergeants for promotions, be able to rebuild that important support structure of career first shirts who had been there and done that. Three years isn't long enough to gain the knowledge and experience needed to do the job.

CMSgt. Remo Moroni,
USAF (Ret.)
Bellmead, Tex.

The picture on p. 66 reminds me of a couple [of first sergeants] I met in the '50s. I was assigned to the 17th Medical Group at K-9 in 1952-53. Every morning, a senior first sergeant was on the wooden platform in front of the tent with the questions, "Are you getting mail? Have you written your mother?" I wish I could remember his name because those questions have been part of my life since. The second was a sergeant with the 40th Medical Group at Smokey Hill. The day I turned 21, I asked for a Class A pass. He sat me down and gave me the father lecture on being an adult. That too has been a lasting influence. Whatever they do, they do it well.

Deloy Spencer
Pleasant View, Utah

Sandbox Sentries

In the November 2007 *Air Force* Magazine article "The Sandbox Sentries" *[p. 46]*, Marc Schanz shortchanged the 552nd ACW deployment time to Southwest Asia by about a decade. They actually first deployed in late 1979 for 24/7 monitoring of the Iran-Iraq war. Their last flight was about six months to a year prior to Desert Shield. One wonders if Saddam Hussein would have gone into Kuwait if he knew we were still in Saudi Arabia monitoring the high ground.

Maj. David N. Griffiths,
USAF (Ret.)
Yorktown, Va.

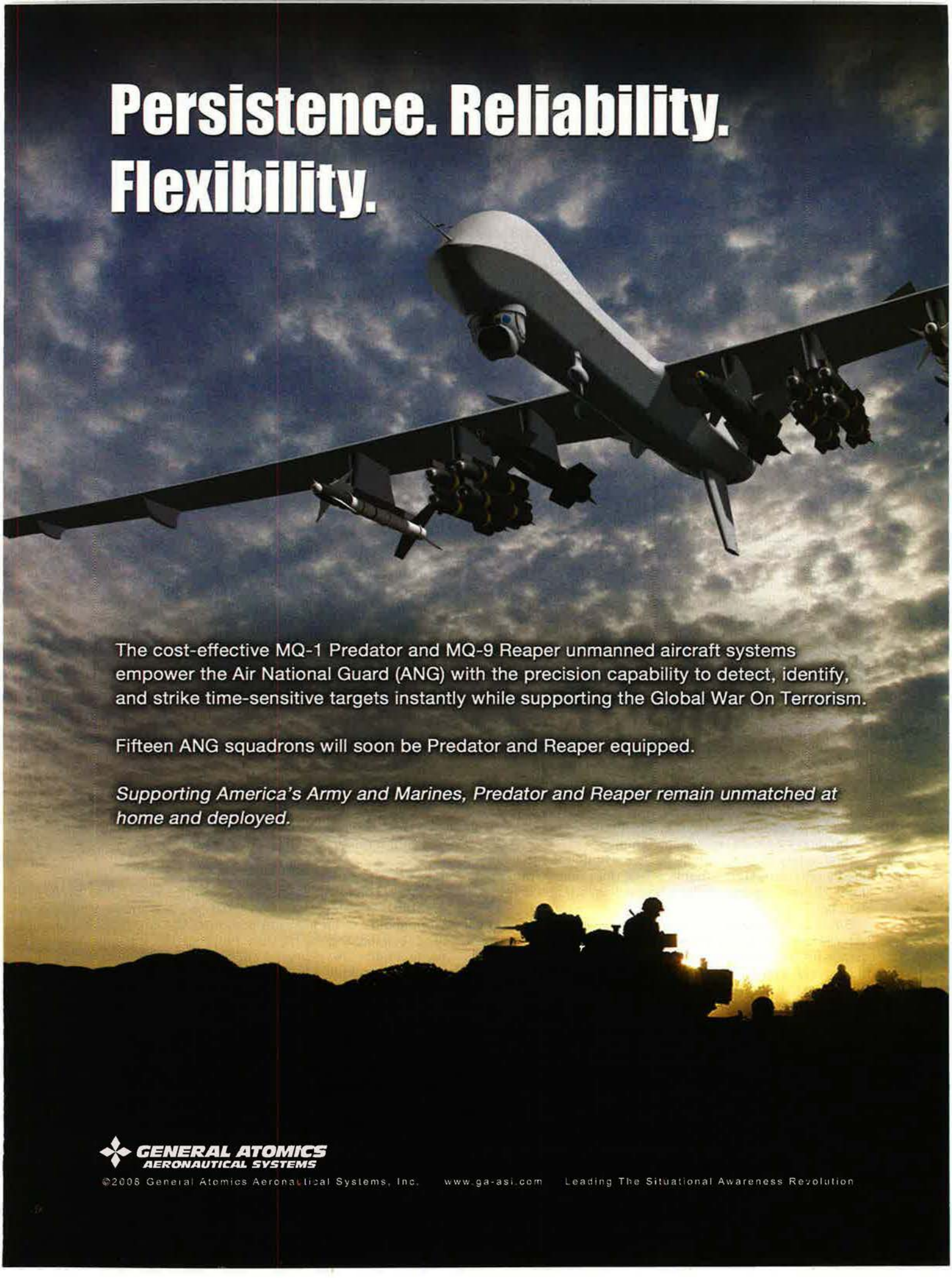
■ *Editor's Note: We knew of the previous Saudi deployment, but the fact is, it was not a part of the 13-year continuous deployment.*

Don't Blame the Fighter Pilots

Regarding Mr. Breidenbach's letter in the January 2008 magazine *["That Nuclear Safety Stand-down," p. 4]:* It is amazing how some still want to blame fighter pilots for everything under the sun that goes "wrong" in our Air Force. Having served on active duty from 1968 to 1991 and in civil service from 1992 to 2006, I can point to many factors that likely contributed to the apparent drop in standards—MAJCOMs losing assignment control over their people (resulting in constantly having to retrain people in special skills), placing ever younger officers and NCOs in charge of key operations without proper training/preparation, the holy grail of TQM that led us to scrap time-proven procedures in favor of "innovation." Remember when the edict came out of the Pentagon that "regulations" had to go away and their replacements were not to be more than a few pages in length? The plan was for "local" people to write procedures that worked best for their "processes." Unfortunately, many "old heads" said, "Don't put too much in local OIs or directives because the IG will hammer hard if you don't follow your own guidance." How right the old heads were about the IG part, but how shortsighted for the long-term training and effectiveness of the upcoming Air Force generation.

I remember as a young airman when I asked a question about a procedure or rule the crusty old master sergeant said, "Go look it up," and then would help me understand it once I found the guidance. By the 1990s most of the "procedural" directives were gone, so there was almost nowhere to go to "look it up." So don't blame the fighter pilot "mentality" for so much—there is plenty of fault to be found in other areas!

Maj. Rob Graves,
USAF (Ret.)
Aransas Pass, Tex.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Washington Watch

By John A. Tirpak, Executive Editor

The Raptor chronicles; F-22 questions; The F-15 mystery; Bomber prep ....

Congress vs. England on F-22s

The Air Force will be permitted to ask Congress for four more F-22 fighters in a future 2009 defense supplemental request, but that's it, and USAF won't be allowed to extend its multiyear buy of the Raptor on the Bush Administration's watch.

That was the import of a Jan. 14 letter from Deputy Secretary of Defense Gordon England to Rep. Phil Gingrey (R-Ga.), of the House Armed Services Committee.

England opined that the US military has all the F-22s that it needs. His letter went on to suggest, in so many words, that if Congress disagrees and wishes to add on a few more, then it can also find the funds to do so.

The Air Force was widely expected to request in its 2009 budget a fourth multiyear buy of F-22s. The expectation was based on comments last fall from Secretary of the Air Force Michael W. Wynne. However, the airplanes did not appear in the final USAF budget document that was released Feb. 4.

England argued that buying the F-35 fighter for three services (Air Force, Navy, and Marine Corps) "provides more effective capability to the joint force commander than concentrating investments in a single service by buying more F-22s." England didn't say why or when it had become an either-or choice between F-22s and F-35s.

The current multiyear procurement, he said, which tops out at 183 Raptors, "procures sufficient numbers of F-22s to deal with projected needs."

He said the Pentagon will request more F-22s in the supplemental "to replace war-related losses of current aircraft. If those funds are appropriated, then the F-22 line could be extended beyond the current multiyear."

England's gesture was doubly empty.

First, a buy of four airplanes would extend the production line by only about three months. That does little to preserve the F-22 line long enough for a new Administration to review the plan.

Second, Congress last year loudly protested using the supplemental to buy brand-new, advanced technology airplanes as replacements for "legacy" aircraft lost or worn out in Iraq and Afghanistan. The furor was so great that the Air Force had to withdraw F-35s from the supplemental request. England is well aware of that.

England's letter was a response to two letters from Congress.

One, signed out in November by six Senators, demanded an explanation from England as to why the Pentagon is only buying 183 F-22s when numerous classified studies show "a far larger number" is needed. The Senators wanted a briefing from England about his plans for tactical aviation by Jan. 15. The second, from Gingrey and 95 co-signers, demanded much the same thing.

According to legislative aides, England did send to Congress three studies about the need for the F-22. They said two of the three bore out the need for a number larger than the Pentagon is asking. However, England declined to declassify the reports for public release.

England, however, told *Defense News* on Jan. 26 that it was not true that some of the studies supported the 183 number. "The analysis by the Department of Defense supports the right number is 180-something airplanes," England said.

Four more—maybe.

The fate of the F-22 is now up to the next Administration to decide. The production line will begin to shut down within this year if no further orders are placed.

The F-15 Canary ... in a Coal Mine

An F-15 that crashed last November was felled by a cracked, life-of-the-aircraft part that had been made several thousandths of an inch too thin, investigators revealed on Jan. 10. In solving the mystery, however, the accident investigation team also offered a chilling warning that more such problems could at any time ground much of the Air Force's aging fleet of combat aircraft.

The investigation revealed that a longeron in the right rear of the canopy area buckled after 25 years of the repetitive heavy stress of air combat maneuvering. The part was originally specified to last 31,000 hours, so it was rarely scrutinized, and the extreme thinness of the defect made it hard to detect in normal inspections. The aircraft itself was only supposed to last a theoretical maximum of 8,000 hours, and had flown more than 5,000.

Armed with the information, Air Combat Command intensified the inspections of hundreds of grounded F-15A through D models. It discovered nine aircraft with similar cracks—all of them accidents waiting to happen. More troubling, the

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defective parts affected Eagles based around the world, and were not associated with any particular batch, run of aircraft, unit, or manufacturing year.

By late January, ACC was unable to return 162 grounded Eagles to service because they are known to have compromised parts in them.

The F-15 was made by McDonnell Douglas, which merged with Boeing in 1997. Boeing engineers, working with the Air Force, helped identify the likely cause of the crash from inspection of the wreckage and computer simulations.

Many such "permanent" parts, which bear enormous loads, are built into aircraft such as the F-15 and cannot easily be inspected without a destructive tear-down inspection. Without disassembling each one, it's impossible for ACC to guarantee that other types of aircraft don't have similar problems with different parts.

"I've got to tell you, 2 November, my world really changed," said ACC Commander Gen. John D.W. Corley at a press conference to explain the accident investigation results. "And it changed in a huge, unprecedented, and catastrophic way."

"This is not just about a bad part," Corley said. "This is not isolated." He called the situation "a crisis."

Corley said that 100 percent of the F-15 fleet "is fatigued" and of those, 40 percent "have bad longerons in them."

"This is systemic, and it's systemic not just in this fleet [but] ... beyond the F-15," Corley explained. He said he needs to rewing 248 A-10s because they date from the early 1980s and have been heavily used in five wars since then. "That's a billion-plus dollars because those structures are coming apart on me," he said.

Furthermore, "I've got service life extension programs on F-16s to try to keep that fleet of airplanes" from being grounded, Corley said. Even so, "I still have cracks in the bulkheads on F-16s." He predicted that his fourth successor at ACC would probably have to buy yet another service life extension program to keep flying F-16s, which were to start retiring in the early 2000s. They will have to stay in service long past retirement age because the service can't afford to replace them quickly enough with new aircraft.

Having only 60 percent of the F-15 fleet returned to flight status doesn't allow ACC to conduct air sovereignty alert missions as required, nor does it allow pilots to properly maintain landing currency or proficiency, Corley said. The shortage of airplanes will disrupt the flow of new F-15 pilots through their schoolhouse and create a hole in the needed number of weapons school instructors at Nellis AFB, Nev.

"We've lost classes, ... we've lost testing," as well as exercises and required missile shots, Corley explained. "We may never get back to full health with this fleet."

He added that air combat training hours are not like the hours accumulated by ordinary aircraft that don't maneuver violently, as fighter aircraft must.

"It's like dog years," Corley said. An hour of air combat maneuvering is more like one-and-a-half hours "because of the stresses and the strains and the cumulative effect of putting nine Gs on and off this aircraft over and over again."

The F-15 fleet, like all the legacy aircraft operated by ACC, has "brittle bones" Corley asserted.

The Air Force had planned to retain 177 F-15C/D models another 20 years, by infusing them with some new equipment. However, given what is now known about the fleet, it's a "big question mark," as to whether that will happen, Corley said.

Even if the service were given a blank check to replace its F-15s with new F-22s, as the Air Force wants to do, "that [production] line has a capacity," Corley noted. "So you'd have to ask yourself, can I buy F-22s ... at the rate that I need to buy F-22s?" The Air Force doesn't want to go back to buying F-15s, which are only being made in small handfuls for foreign customers, but if it can't replace absent aircraft quickly enough, even that option may have to be examined, Corley said.

Team Bomber

Boeing and Lockheed Martin, the Pentagon's two biggest airplane makers, announced in January that they have been secretly teamed for more than a year, preparing to compete for the Air Force's new bomber program. Company officials said they expect money in the Air Force's budget for the aircraft in Fiscal 2010, and wanted to have as much time as possible to prepare, since USAF needs to declare operational capability with the aircraft in 2018. That date was mandated in the Pentagon's 2006 Quadrennial Defense Review.

Frank Cappuccio, Lockheed Martin general manager of the Skunk Works and head of strategic planning, said in a teleconference with reporters that his company approached Boeing nearly three years ago about the project, and the two made a formal deal in early 2007. He said they had to "make sure" that they had "adequate time" to develop options for the Air Force that are technically "mature." The two are involved in a variety of trade-off studies and are verifying the art of the possible so that they can have high confidence in whatever they end up proposing for the USAF requirement.

Darryl Davis, Boeing's president of Advanced Systems, said there won't be enough time to develop a new engine for the 2018 bomber, so it will have to be off the shelf or a derivative of one flying today. However, he said that the team will try to keep the design flexible so a new engine could be an "incremental upgrade" on later models. Of specific interest for the follow-on engine are variable-cycle technologies that would allow an aircraft to fly efficiently both at supersonic speed or during long loiter missions.

The team is "agnostic" about whether the vehicle will be manned, unmanned, or "optionally manned," Davis said. Cappuccio added that making the vehicle unmanned is not as big a deal as it has been made out to be, since the technology to remotely pilot an aircraft is well understood.

Although the two spokesmen declined to describe the specifics of the relationship, saying they are "proprietary," industry officials said Boeing is the team leader. Cappuccio said expertise is being drawn from across both companies. He said Boeing was a good fit with Lockheed Martin because it possesses skills in producing both fighters and large aircraft, while Lockheed has unique capabilities in rapid prototyping and stealth.

Although the team subsequently released an artist's concept of a B-2-like flying wing design, Cappuccio said the team doesn't have a particular configuration in mind already, since the Air Force hasn't yet firmed up its requirements. It would be hard to get engineers and designers to "let go" of a "pet" configuration, Cappuccio said, even if it wound up not answering USAF's needs.

The two said that the FB-22 concept—a two-seat, large-wing variant of the F-22A flying today—will not meet USAF's stated goals for the bomber and won't be offered.

The team believes the 2018 goal is achievable, because the technologies are in hand and because the government has used terms like "time certain" and shown a willingness to freeze the design and curb add-on requirements, Cappuccio said. Improvements can be made along the way as "spirals" to later versions.

The 18-month run-up to the Air Force's expected request for proposals will "allow us to take the data ... and the concepts we have and then substantiate our claims [through] no-kidding, hard testing," Cappuccio said. He also said Lockheed Martin had held discussions with Northrop Grumman—a partner on the F-35 fighter—about teaming for the bomber, but felt Boeing's expertise made it an "overwhelming," better partner for the bomber program.

Davis said that in order to make the 2018 deadline, first flight will have to occur in 2015, and production in 2016. ■

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Air Force World

By **Michael Sirak,** Senior Editor, with **Marc Schanz,** Associate Editor

CSAR-X Bids Are In Again ...

Boeing, Lockheed Martin, and Sikorsky on Jan. 7 turned in their updated proposals for the CSAR-X combat search and rescue helicopter, giving the Air Force the chance yet again to decide on a winner by July.

The Air Force is eager to move forward on this recapitalization effort—its second highest procurement priority—as progress has already been stalled since November 2006 as a result of legal action by Lockheed and Sikorsky.

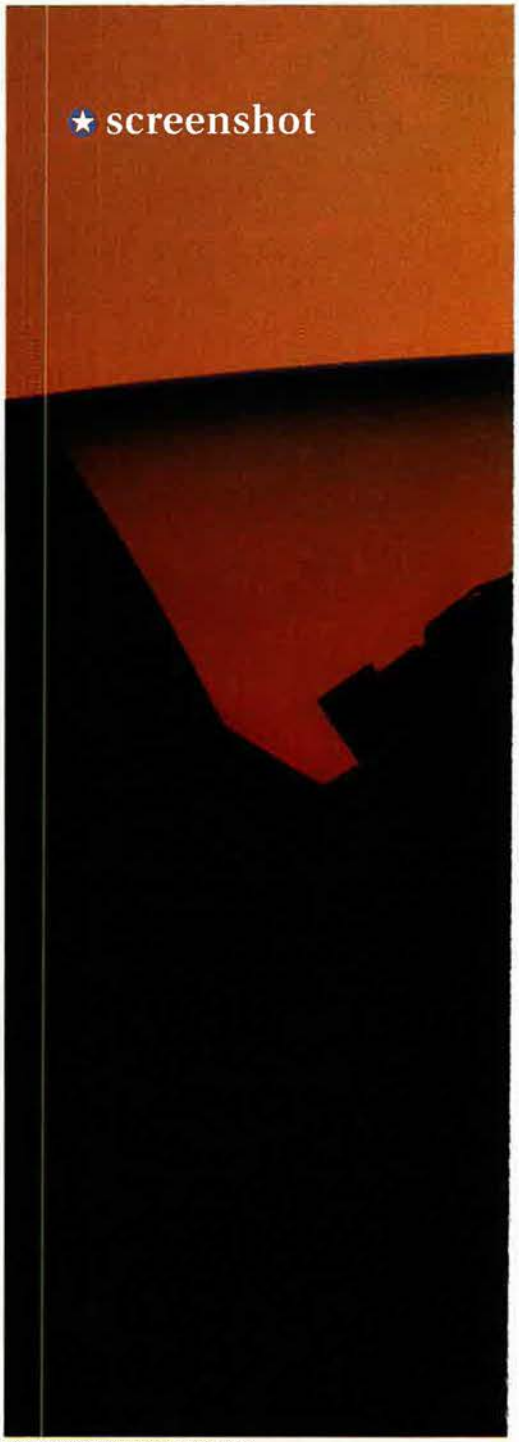
Boeing's HH-47, a Chinook derivative, won out in November 2006 over Lockheed Martin's US101 and Sikorsky's HH-92. However, two successful rounds of protests by the losing teams over the Air Force's evaluation methods caused USAF late last year to allow the companies to fully revise their bids as a means of resolving the impasse.

The eventual CSAR-X winner will build 141 new rescue helicopters by around the end of next decade to replace 104 HH-60Gs, work worth between an estimated $10 billion and $15 billion to the winning contractor.

... Amid New Cost and Delays

The impact of the CSAR-X delay already is being felt where it hurts—in the Air Force's budget.

In a move completely unanticipated by the service, USAF is having to pump many millions of dollars into



USAF photo by MSgt. Daniel Richardson

USAF Outlines Modernization Plan For Latin Nations

The Air Force has unveiled a plan to help Central American air forces acquire modern aircraft to replace their dilapidated Vietnam War-era airplanes, according to USAF's top general in the region.

The Regional Aircraft Modernization Program, or RAMP, would allow El Salvador, Guatemala, Honduras, and Nicaragua to acquire new transport aircraft, utility helicopters, and air sovereignty platforms in phases, Lt. Gen. Norman R. Seip, commander of 12th Air Force and Air Forces Southern, told reporters Jan. 16 during a meeting in the Pentagon.

US funding support would cover the lion's share of the costs. However, the plan would also require the commitment of the four participants to establish regional hubs for training, logistics, and maintenance to defray infrastructure and support costs that each nation could not shoulder on its own, he said.

"There is no disagreement by anyone that the Central American air forces need help," Seip said. By not helping these nations with recapitalization, he said, USAF runs the risk of "becoming their surrogate air force and doing their business, which is something we probably don't want to do."

Phase 1 of RAMP, pegged at up to $56 million, entails each nation acquiring up to four new medium airlift platforms, according to AFSOUTH. These aircraft notionally would be capable of short takeoff and landing and of carrying light weapons.

Seip said the C-27J Joint Cargo Aircraft is not considered an option here. Instead, less sophisticated and costly options are under review.

Phase 2 would cost about $96 million, according to AFSOUTH. During it, each of the four nations would acquire up to four medium-lift utility helicopters. Under RAMP's $128 million final phase, the nations would each acquire up to four medium interceptor platforms for air sovereignty, AFSOUTH said.

Five years of contractor logistics support would accompany each phase to give each nation the opportunity to train its airmen to maintain the fleets thereafter, Seip said.

AFSOUTH tentatively plans to conduct infrastructure site visits in the participating nations in April. The goal is to have memoranda of understanding signed with each nation in June to define and clarify "all aspects of regionalization."

the current HH-60G Pave Hawk CSAR helicopters to keep them flying until the new CSAR-X platforms arrive to replace them.

"The practical consequence of what is happening right now with the [CSAR-X] protests ... is the CSAR-X has now been delayed 18 months to two years," a senior Air Force official told *Air Force* Magazine.

He added that it is "the right of the companies to protest," and that the Air Force does not begrudge them the right. USAF anticipated having the first squadron of CSAR-X helicopters available in September 2012, but that fielding date may now slip into mid-2014.

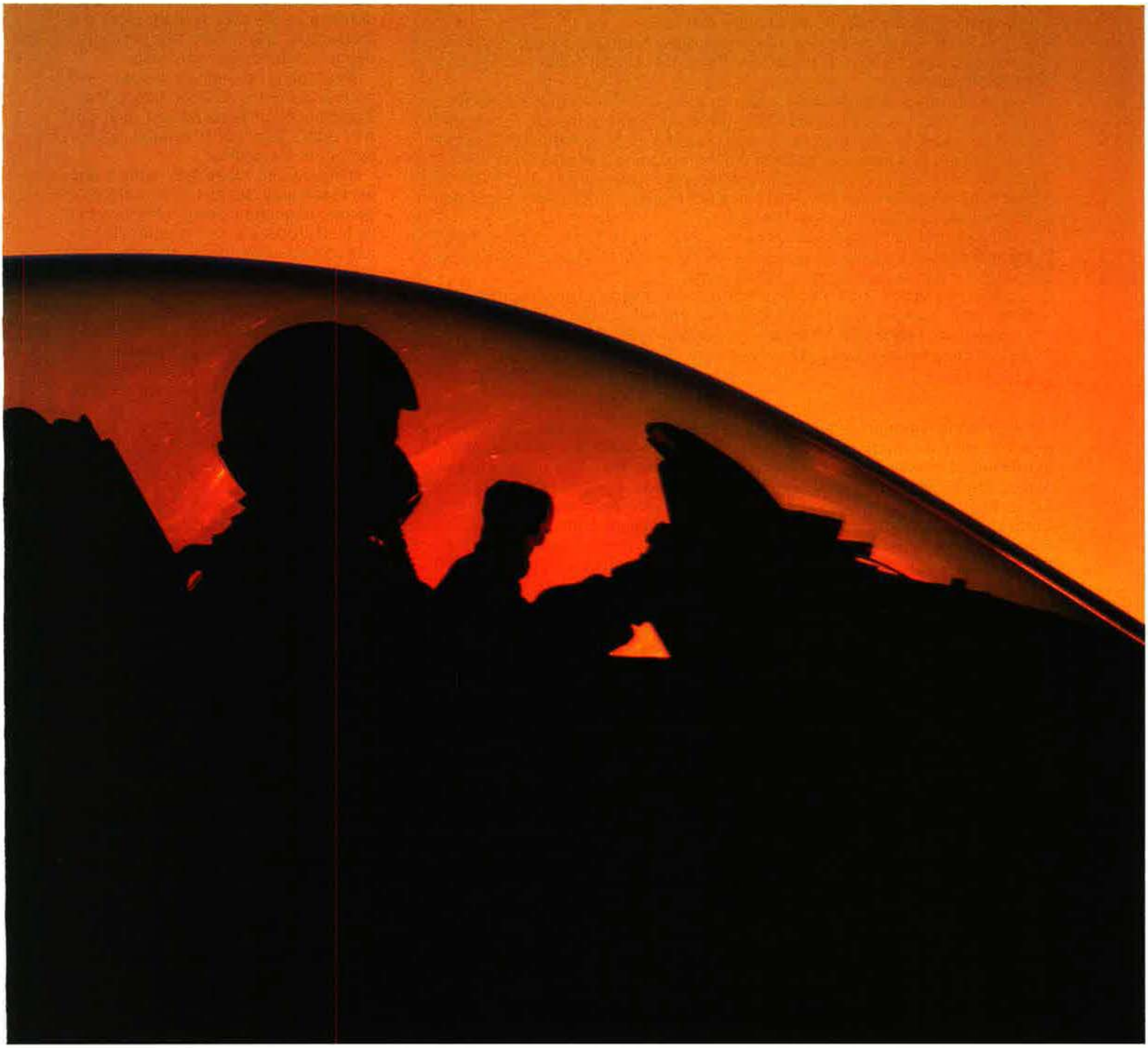
Airman's Death Remains Mystery

The noncombat death of SrA. Nicholas D. Eischen on Dec. 24 at Bagram AB, Afghanistan, remained a mystery as of mid-January, but an investigation was ongoing. Eischen, 24, of Sanger, Calif., apparently died in his sleep. He had deployed from the 60th Medical Operations Squadron at Travis AFB, Calif.

Eischen was survived by his wife and a two-year-old son.

Commando Sling Shelved

Pacific Air Forces canceled Exercise Commando Sling 08-2, the second



Maj. Shawn West, an Air Force pilot deployed to Southwest Asia, returns to Balad AB, Iraq, in his F-16 fighter after a Feb. 1 combat mission. Air Force fighters in the war zone carry out not only close air support of troops on the ground but also non-traditional ISR and so-called "show of force" missions. West is one of about 27,000 airmen deployed to Southwest Asia.

02.01.2008

USAF Lays Out Basing Plan

The Air Force has released a new weapon system roadmap identifying the bases that may host future aircraft such as the C-27, F-35, KC-X, Next-Generation Bomber, and CSAR-X helicopter in coming decades.

The list of bases, crafted with input from all adjutants general, includes locations across the continental US, Alaska, Hawaii, and US territories that could become home to the new aircraft. Most of these sites already play host to airplanes such as the F-16 and KC-135 that the Air Force intends to start retiring as the new systems enter service.

The roadmap is based on the capabilities "required to fight and win America's wars," Gen. T. Michael Moseley, Chief of Staff, wrote in introducing the document.

Included are seven potential bases for the C-27, four for the new bomber, 27 for the KC-X and 41 for the F-35, although eight of the latter may end up hosting F-22s. But nothing is certain at this point since USAF, by law, must complete a thorough assessment for each site that measures the environmental impact of basing the new weapon system there. The F-35, for example, is noisier than the F-16 that it will replace, so it is not a given that it will go everywhere the F-16 is now.

Further, the Air Force actually has to acquire the equipment. For example, the roadmap includes basing sites for 381 potential F-22s. Yet USAF is authorized today to procure only 183 of them.

Although senior Air Force leaders are not saying it publicly, the beddown plan is also a map of constituencies and effectively puts members of Congress on notice that if they want a continuing Air Force mission in their district, they better support the new systems.

iteration of the joint annual air combat exercise with the Marine Corps and the Republic of Singapore Air Force, due to the limited availability of its F-15s for the exercise. Although Air Combat Command cleared F-15 A-D model fighters for flight on Jan. 9 after their fleetwide stand-down following the crash of an F-15C last November in Missouri, PACAF still had about 35 percent of its F-15s undergoing engineering analysis of inspection results. They were thus unavailable, 13th Air Force officials said.

PACAF participated in the first stage of Commando Sling 08 in October 2007, utilizing F-16s from the 51st Fighter Wing at Osan AB, South Korea.

The command said the third and fourth iterations of the exercise might proceed as scheduled beginning in May and June.

USAF Loses KC-135 Award Protest

The Government Accountability Office ruled on Dec. 27 that the Air Force did not properly assess risk in Boeing's proposal in USAF's $1 billion KC-135 depot maintenance competition.

The ruling sustained in part the protest of Pemco Aviation Group (now Alabama Aircraft Industries) over the Air Force's selection of Boeing in September in the contest.

"The record does not reflect any Air Force analysis as to the realism of certain changes Boeing introduced in its final proposals, or the potential risk associated with those changes; the solicitation required such analysis," Michael R. Golden, GAO's managing associate general counsel for procurement law, wrote in announcing the agency's decision. As a result, the GAO recommended that the Air Force go back and perform a more realistic cost-price assessment.

In mid-January, the Air Force asked the GAO to reconsider its decision. GAO has until mid-April to rule, but may do so sooner.

F-16 Crashes off Florida

An Air Force Reserve Command pilot safely ejected as his F-16 crashed into

USAF photo by Capt. Jason McCree

Making Tracks. *SrA. Travis Hummel (standing) and A1C Adam Giebitz take to their M-113 armored personnel carrier for a Feb. 10 patrol around the prison complex at Camp Bucca, Iraq. Hummel and Giebitz, of the 886th Expeditionary Security Forces Squadron's quick response force, are among thousands of USAF airmen carrying out taskings normally handled by soldiers.*

USAF photo by TSgt. Jeremy T. Lock

Full Service. *SrA. Daniel Sullivan (l) and SrA. Renea Zachary, both loadmasters on this USAF HC-130, communicate with a Marine Corps CH-53 Sea Stallion as it approaches for aerial refueling off the Horn of Africa. Sullivan and Zachary, assigned to the 71st Expeditionary Search and Rescue Squadron, are part of a small but important USAF presence in that corner of Africa.*

the Gulf of Mexico on Jan. 15 near Key West, Fla.

A Navy helicopter crew picked up the pilot, who was flying a training mission from Homestead ARB, Fla., as part of the 482nd Fighter Wing.

The Air Force launched an investigation into the cause of the mishap.

CENTAF Awaits New Capabilities

US Central Command Air Forces this spring anticipates the introduction of the Laser Joint Direct Attack Munition in the Middle East-Near East Theater, according to Lt. Gen. Gary L. North, USAF's top general in the region.

With it, US aircraft will have the means "to strike with precision something that is moving extremely fast," he said Jan. 15 during a speech on Capitol Hill.

North said he also expects to have B-1B bomber aircraft equipped with targeting pods in theater in May or June that will be able to stream live video down to air operations centers and ground-attack controllers.

New GPS Satellite Is Operational

The Global Positioning System satellite launched into orbit Dec. 20 became fully operational Jan. 2, according to prime contractor Lockheed Martin. Working with Air Force Space Command's 2nd Space Operations Squadron, Schriever AFB, Colo., Lockheed technicians put the modernized GPS Block IIR satellite, designated IIR-18M, through on-orbit checkout in a record-setting three days to clear it for use, the company said.

IIR-18M is the fifth Block IIR-M satellite that is now on orbit as part of the 30-spacecraft GPS constellation. There are three yet to be launched before the Air Force moves to the Boeing Block IIF variant.

Moseley White Paper Articulates USAF Vision

Dominance in air, space, and cyberspace remains vital for defending the United States and its interests, Gen. T. Michael Moseley, Chief of Staff, states in "The Nation's Guardians: America's 21st Century Air Force," a new CSAF white paper.

"No modern war has been won without air superiority. No future war will be won without air, space, and cyberspace superiority," he writes in the document, which charts Air Force strategy for the next two decades and defines USAF's "indispensable role in promoting and defending the national interest."

Moseley says the Air Force's ability to fulfill its missions "is already being tested" since it operates with the oldest inventory in its history and has been "battered by 17 years of continuous combat." Meanwhile, ascendant powers, "flush with new wealth and hungry for resources and status," are posturing to contest US superiority with capabilities such as sophisticated "generation 4-plus" fighter aircraft, modern integrated air defenses, offensive counterspace systems, and unmanned aerial vehicles.

Potential adversaries view cyberspace in particular as "a relatively inexpensive venue to offset our traditional advantages in air and space," he writes. To counter this, "we must position the Air Force to secure America's superiority in all domains," he continues. This includes "appropriate mixes of stand-off capabilities; penetrating manned aircraft; enhanced cyber capabilities; advanced unmanned combat systems; operationally responsive space; and breakthroughs in fields such as electromagnetic spectrum physics, directed energy, nanotechnology, bioengineering, super-stealth, and hypersonics—all wedded to innovative concepts and superior training."

The character, tempo, and velocity of modern warfare "already severely test our ability to adapt," Moseley states. "Therefore, redefining the Air Force for the 21st century is an urgent national security requirement—not a luxury we can defer."

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In related news, the 1st SOS at Schriever shut down operations of its legacy satellite control system called the Command and Control Segment on Dec. 28, eight days after it assisted in the launch of IIR-18M. The squadron is preparing to use new control systems.

USAF Seeks To Expand C-130 AMP

The Air Force would like to reinsert 166 special-mission and older combat-delivery C-130 aircraft in its C-130 Avionics Modernization Program to give them new digital cockpits.

USAF spokeswoman Lt. Col. Jennifer Cassidy told *Air Force* Magazine that "the funding requirements to modernize these 166 aircraft" would be considered as the Air Force prepares its Fiscal 2010 budget.

Originally these 166 aircraft were a part of the C-130 AMP, but were removed in 2007 as USAF restructured the program to reduce risk and cost after significant cost growth breached Congressional Nunn-McCurdy monitoring thresholds.

About three-quarters of these 166 aircraft are Air Force Special Operations Command gunships and Combat Talon covert insertion-extraction airplanes that are considered comparatively complex to upgrade because they are in unique configurations and carry specialized electronics.

The current C-130 AMP encompasses 222 combat-delivery C-130H2, C-130H2.5, and C-130H3 models.

USAF Shows Off New B-2 Powers

Thanks to communications gear, a B-2 bomber was able to receive updated orders electronically in flight for the first time ever and divert to attack a different target during a 20-hour "global power" training sortie from Guam late last year, the Air Force announced.

During the Dec. 18 mission, the diverted B-2, which left Guam as part of a two-ship package, hit a target in Hawaii, while its B-2 mate struck a site in Alaska.

Another B-2 first came that same day when weapons specialists at Whiteman AFB, Mo., the B-2's home, successfully fit a mock-up of the Massive Ordnance Penetrator, a 30,000-pound munition to take out reinforced bunkers and underground facilities, in a mock-up of the aircraft's internal weapons bay.

The B-2 will be able to carry one MOP in each of its two bays. Northrop Grumman began integrating the Boeing-built Massive Ordnance Penetrator with the bomber last July.

USAF photo by TSgt. James Law

For Dear Life. *SrA. Sarah Burrill holds onto a rusted round of unexploded ordnance on a Feb. 2 mission in Afghanistan. Burrill and other USAF members of the explosive ordnance disposal team loaded the UXOs onto a special rapid response vehicle for final destruction. Afghanistan, embroiled in war for nearly 30 years, is a world leader in unexploded ordnance.*

Operation Iraqi Freedom—Iraq

Casualties

By Feb. 14, a total of 3,958 Americans had died in Operation Iraqi Freedom. The total includes 3,950 troops and eight Department of Defense civilians. Of these deaths, 3,224 were killed in action with the enemy while 734 died in noncombat incidents.

There have been 29,133 troops wounded in action during Operation Iraqi Freedom. This number includes 16,120 who were wounded and returned to duty within 72 hours and 13,013 who were unable to return to duty quickly.

Massive Air Strikes Hit Arab Jabour

In a coordinated operation with coalition ground forces, two Air Force B-1B bombers and four F-16s carried out precision air strikes on more than 40 targets on Jan. 10 in the Arab Jabour area of Iraq near Baghdad. They dropped 38 bombs within the first 10 minutes of the strike. The tonnage of munitions released in those initial minutes was a pulverizing 40,000 pounds.

The strike supported Operation Phantom Phoenix, an overarching action that included Operation Marne Thunderbolt—an effort aimed at flushing out remaining al Qaeda extremists operating in the southern Arab Jabour area.

Lt. Gen. Gary L. North, 9th Air Force and US Central Command Air Forces commander, told a seminar in Washington shortly afterward not to confuse the operation for an indiscriminate carpet-bombing run. "Tonnage is not the answer, folks," North said. "We surgically hit the exact targets the division commanders needed." He added that GPS-INS munitions laid waste to three separate target zones and that, after the initial 10 minutes, the operation continued, hitting 107 desired "mean points of impact" very surgically.

Air strikes supporting Phantom Phoenix continued, with USAF B-1Bs and Navy and Marine Corps F-18s on Jan. 20 delivering another round of 34,500 bombs against 40 targets in the defensive belt al Qaeda had rigged around Arab Jabour.

Soldiers with the Army's 2nd Brigade Combat Team, 3rd Infantry Division, joined Iraqi security forces and local civilian militias to follow up on the strikes to improve security in the area.

Operation Enduring Freedom—Afghanistan

Casualties

By Feb. 9, a total of 479 Americans had died in Operation Enduring Freedom. The total includes 478 troops and one Department of Defense civilian. Of these deaths, 286 were killed in action with the enemy while 193 died in noncombat incidents.

There have been 1,864 troops wounded in action during OEF. This number includes 735 who were wounded and returned to duty within 72 hours and 1,129 who were unable to return to duty quickly.

Key Taliban Commander Targeted in Strike

Coalition aircraft assisted International Security Assistance Force troops in Kapisa Province on Jan. 12 by carrying out a strike with precision guided munitions on a top Taliban commander. He was a key facilitator for getting improvised explosive devices to insurgent forces operating in the area and organized attacks against ISAF and coalition forces.

The attack, on a compound in the Pasha Qari village, was the site of a large Taliban meeting, at which intelligence placed the commander with other Taliban elements. ISAF troops ensured the site was clear of civilians before calling in the strike.

Afghan National Army units and ISAF troops conducted an assessment of the site after the strike.

C-12 Pilots Support SOF Deployment

A group of C-12J transports assigned to the 459th Airlift Squadron, Yokota AB, Japan, completed a deployment for Operation Enduring Freedom-Philippines, transporting cargo and personnel for the special operations mission aiding the Philippine military's anti-terror efforts.

The aircraft and crews frequently operated from rural runways, many no more than 4,000 feet long and lacking navigational aids and control towers. During the course of the four-month deployment, the team from Yokota flew nearly 265 hours, transporting 552 passengers and more than 57,000 pounds of cargo.

The deployment was the first for Yokota's prop-driven C-12s, which had arrived in July 2007 to replace the unit's C-21s.

PACAF Seeks C-17 Training at Kona

The Air Force has completed an environmental impact assessment covering the potential use of Kona Airport on the island of Hawaii for C-17 assault-landing training, Gen. Carrol H. Chandler, commander of Pacific Air Forces, said.

PACAF is interested in gaining use of the airport to have a practice "short austere airfield" so that its C-17s can train closer to home rather than having to fly to the US mainland, he said during a Jan. 3 speech at the 2008 Hawaii Military Partnership Conference in Honolulu.

There are two eight-ship squadrons of C-17s within PACAF: one at Hickam AFB, Hawaii, and one at Elmendorf AFB, Alaska.

First PC-12 Arrives at Cannon

The 27th Special Operations Wing at Cannon AFB, N.M., has taken delivery of the first of its PC-12 Pilatus light intratheater transport aircraft.

The wing's new 318th Special Operations Squadron will fly the single-engine airplane, which special operators call the nonstandard aircraft.

Cannon tentatively expects to receive a total of 10 PC-12s within the next four years, with two more airplanes scheduled to arrive this year.

The PC-12s at Cannon will not have the classified modifications employed on Air Force Special Operations Command's U-28, a version of the PC-12.

AFSOC also plans to create an MQ-9 Reaper unmanned aerial vehicle unit at Cannon. (See "Special Operators Head West," p. 30.)

Raptor Training Moves Higher

The first four Air Force pilots picked to fly the F-22 without previous fighter experience entered the 63rd Fighter Squadron at Luke AFB, Ariz., on Jan. 14 to start the five-week Raptor lead-in course. During it, they will fly in two-seat

With KC-X Bids In, Eyes on Air Force

Boeing and Northrop Grumman on Jan. 3 submitted their final proposals in the Air Force's KC-X tanker-recapitalization contest, leaving it in USAF's hands to choose the winner in the multibillion-dollar program.

February was the expected contract award month. But senior Air Force officials said throughout the course of the competition that they would not rush a decision, since they intended to complete the extensive source-selection process properly, given the enormous stakes. Indeed KC-X is USAF's top procurement priority.

The Air Force intends to acquire up to 179 KC-X aircraft to replace the oldest of its Eisenhower-era KC-135s. The new tankers will be designated KC-45s.

The total value of this work is estimated at $40 billion over the next 15 years. Since the Air Force intends eventually to replace its entire 500-aircraft-plus KC-135 fleet, the winning contractor could have the inside track on providing hundreds of new aircraft in decades to come under work reaching $100 billion in total value.

Boeing's KC-767 is pitted against the Northrop Grumman-EADS KC-30, a militarized tanker version of the Airbus A330 commercial airliner.

"We believe the KC-767 Advanced Tanker will be evaluated as the most capable, technologically advanced, and affordable tanker for America," James F. Albaugh, president and chief executive officer of Boeing Integrated Defense Systems, said on Jan. 3.

Conversely, Ronald D. Sugar, Northrop Grumman chairman and CEO, said on the same day that the KC-30 "not only offers greater capabilities and versatility than any tanker available today, it offers the lowest entry risk" and "meets all of the Air Force's key requirements."

The two rivals continued to wage publicity campaigns even after the final bids were in. EADS North America announced on Jan. 14 that it would build Airbus A330 civilian freighter aircraft in Mobile, Ala., in addition to the KC-30, if its team prevailed. The company thus held out the added incentive of additional high-skilled jobs and long-term economic growth for the state and the American South.

Not to be outdone, Boeing, on the same day, released a company-funded study showing that a fleet of 179 KC-767s would burn 24 percent less fuel than a fleet of 179 KC-30s, thereby saving the Air Force $14.6 billion in fuel costs over the projected 40-year service life of the KC-X fleet.

F-16s with an instructor pilot to familiarize themselves with flying a high-performance, high-G aircraft.

On completion of the course, the pilots will head to Tyndall AFB, Fla., and join the 43rd Fighter Squadron for hands-on training with actual F-22s.

The four pilots were selected from a pool of eight candidates who had undergone undergraduate pilot training and taken the Introduction to Fighter Fundamentals course.

USAF also has announced that the Air Force Weapons School at Nellis, AFB, Nev., received the first of its F-22s. The school is scheduled to have its allotment of five Raptors in place in June for use in training Ph.D.-level instructor pilots.

F-16s Rotate to South Korea

The Air Force in January deployed 24 F-16s of the 79th Fighter Squadron, Shaw AFB, S.C., to Kunsan AB, South Korea, as part of a normal rotation of combat forces into the theater.

USAF said the unit's move was an "Air and Space Expeditionary Force deployment" meant "to maintain a credible deterrent posture and presence in the Pacific region."

During its time on the peninsula, the squadron will be integrated into all aspects of Kunsan's host 8th Fighter Wing, including training with the Republic of Korea Air Force, the Air Force said.

Acquisition Center Goes Online

The first of USAF's new regional acquisition centers has gone online, according to Air Combat Command.

The San Antonio-based center will handle contracting actions for the southwest region, one of five regional centers the Air Force intends to establish.

These changes will reduce the size of individual contracting squadrons at bases by half or more, said ACC contracting chief Col. David Glowacki.

Those wing-level contracting forces that remain will "provide business advisory support for the installation and help them develop requirements and get those requirements into that [regional] system," he said.

BATMAV Production Ramps Up

The Air Force has approved the Battlefield Air Targeting Micro Air Vehicle for full-rate production, according to AeroVironment, maker of the mini-unmanned platform.

USAF selected AeroVironment's Wasp III aircraft, which weighs only one pound and has a wingspan of just 29 inches, to be the BATMAV in December 2006. It plans to acquire at least 221 BATMAV systems to equip its battlefield airmen, such as those who call in close air support.

The hand-launchable BATMAV carries infrared and color cameras, giving the battlefield airmen the means to observe from overhead activities that are within their line-of-sight, or beyond, in real time, using a monitor that they carry.

Karzai Asks for Modern Fighters

Afghan President Hamid Karzai would like the United States to include modern fighter airplanes in the package of aircraft that it is supplying to help rebuild the fledgling Afghan Air Force.

Of the "120 planes and helicopters of different kinds" that the US has pledged, Karzai says he hopes it will "hand over the best ones, including [the] F-16 and F-18," the Chinese news service *Xinhua* reported Jan. 17, citing comments the Afghan leader made on that day during a ceremony inaugurating a new aircraft hangar at Kabul Air Base.

Dodging Chinese Debris

Two US satellites had to be maneuvered last year to avoid colliding with debris left in space after China's anti-satellite test on Jan. 11, 2007, according to *The Washington Times.*

Ground controllers repositioned the Orbcomm FM 36 commercial communication satellite in April 2007 so that it would not pass "within about 123 feet" of the debris field, the newspaper reported on Jan. 11, the one-year anniversary of the Chinese test. The newspaper cited information provided by the Joint Space Operations Center at Vandenberg AFB, Calif.

Similarly, the NASA Earth observation satellite Terra was moved in June 2007 "to avoid coming within about 90 feet of the debris," the newspaper said.

A New Way To Recharge UAVs?

The Air Force Research Laboratory is investigating how to utilize power lines as a source of energy to extend the amount of time that micro-unmanned aerial vehicles can stay aloft during a mission, *New Scientist* reported in its January issue.

Tiny sensor aircraft in need of a recharge would attach themselves to a power line to restore their batteries

Airmen Are Awarded Silver, Bronze Stars

TSgt. Scott Innis, a combat controller of the 22nd Special Tactics Squadron, has received the Silver Star, the Air Force's third highest award for valor.

The award recognizes Innis for his actions during a firefight in Afghanistan in 2006. The 22nd STS is an Air Force Special Operations Command unit, based at McChord AFB, Wash.

Innis, who served with an Army Special Forces unit, spent 24 hours lying atop an observation tower at a forward operating base under heavy attack, calling in close air support and medical evacuation flights. He repeatedly braved enemy fire as he sat up to check coordinates and gauge CAS effectiveness.

Innis also received a Bronze Star with Valor for action in a 2007 deployment.

Fellow 22nd STS combat controller TSgt. Jason Dryer, received a Bronze Star with Valor for directing CAS strikes by an AC-130 gunship to within 77 yards of his Special Forces teammates during a firefight in Afghanistan.

TSgt. Jose C. Valentin, a joint terminal attack controller, received a Bronze Star with Valor for his actions during a 2006 insurgent attack in Afghanistan. When his combat reconnaissance patrol came under attack by a larger enemy force, Valentin ran through a barrage of fire to locate the enemy position and call in CAS, and he helped return fire as medical evacuation helicopters lifted off with the wounded. Valentin directed additional CAS from the back of a truck when attacks continued as the patrol traveled back to a coalition post.

Among airmen recently receiving Bronze Stars for meritorious service are: Col. Brian Neal, Maryland Air National Guard; Lt. Col. Paul Scholl, Schriever AFB, Colo.; 2nd Lt. Jack D. McGonegal, McConnell AFB, Kan.; SMSgt. Ken Pettibone, Spangdahlem AB, Germany; and TSgt. Lorenzo Zapata, Ramstein AB, Germany.

and then fly away to continue their mission, the magazine said.

Challenges abound, such as enabling the nimble aircraft to couple with the line without damage to itself or the line and creating a morphing airframe that can hang on the lines inconspicuously without arousing suspicion.

AFRL anticipates testing latching mechanisms this year, the magazine said.

Special Ops Tanker Researched

The Air Force is advancing plans to field a new combat rescue tanker next decade to refuel special mission aircraft such as Air Force Special Operations Command's CV-22 Osprey. The Aeronautical Systems Center at Wright-Patterson AFB, Ohio, announced that it would issue a request for proposals early this year for one component of this aircraft—a variable speed-variable drag drogue.

The drogue system would allow next generation AFSOC tankers "to support simultaneous helicopter and single CV-22 refueling capability on the same mission without landing to reconfigure." ASC wants the drogue capable of operating at speeds of 120 mph to 247 mph.

USAF photo by MSgt. Robert W. Valenca

Midnight Oil. *Well after nightfall, A1C Anthony Prewitt on Jan. 23 performs a post-flight inspection on an F-15E. The multirole fighter had just returned to Nellis AFB, Nev., from a mission in the latest Red Flag exercise there. Red Flag is a two-week-long event featuring highly realistic combat scenarios.*

Senior Staff Changes

CHANGES: Brig. Gen. Burton M. **Field,** from Cmdr., 332nd Air Expeditionary Wg., ACC, Balad AB, Iraq, to Cmdr., Air Force District of Washington, Andrews AFB, Md. ... Lt. Gen. Douglas M. **Fraser,** from Cmdr., 11th Air Force, PACAF, Elmendorf AFB, Alaska, to Dep. Cmdr., PACOM, Camp H.M. Smith, Hawaii ... Brig. Gen. Jonathan D. **George,** from Dep. Commanding Gen., Combined Security Transition Command-Afghanistan, CENTCOM, Kabul, Afghanistan, to Principal Asst. Dep. Administrator for Military Application, Natl. Nuclear Security Administration, Department of Energy, Washington, D.C. ... Maj. Gen. Frank **Gorenc,** from Cmdr., AF District of Washington, Andrews AFB, Md., to Dir., Air & Space Ops., ACC, Langley AFB, Va. ... Brig. Gen. Peter F. **Hoene,** from Cmdr., 350th Electronic Systems Wg., ESC, AFMC, Hanscom AFB, Mass., to Dir., C2, DISA, Arlington, Va. ... Brig. Gen. Everett H. **Thomas,** from Vice Cmdr., USAF Warfare Ctr., ACC, Nellis AFB, Nev., to Cmdr., Nuclear Weapons Ctr., AFMC, Kirtland AFB, N.M. ... Brig. Gen. Tod D. **Wolters,** from Cmdr., 325th FW, AETC, Tyndall AFB, Fla., to Dep. Cmdr., Political-Military Affairs, Combined Security Transition Command-Afghanistan, CENTCOM, Kabul, Afghanistan.

SENIOR EXECUTIVE SERVICE CHANGES: Gordon O. **Tanner,** to Dep. General Counsel (Env. & Instl.), OSAF, General Counsel, Pentagon ... John F. **Wagner,** to Chief Technical Advisor, Launch & Range Sys. Wg., SMC, AFSPC, Los Angeles AFB, Calif. ... Steven D. **Wert,** to Dir. of Engineering, ESC, AFMC, Hanscom AFB, Mass. ... Joy M. **White,** to Dir., Contracting, SMC, AFSPC, Los Angeles AFB. Calif. ■

Overall, USAF wants up to 115 new tankers to replace its current HC-130 combat rescue and MC-130 special operations refueling aircraft.

Canada Buys C-130J

The government of Canada has signed a $1.4 billion contract with Lockheed Martin for the purchase of 17 C-130J transport aircraft. They will replace aged C-130Es and C-130Hs used today by Canadian Forces.

Delivery of the first airplane is scheduled for early 2010. The parties expect to add a 20-year maintenance contract in 2009.

The Canadian government announced its intent to purchase the C-130Js in 2006, but the decision became mired in controversy as critics argued that rival Airbus' A400M military transport aircraft had not been fairly considered.

However, the A400M is not expected to make its maiden flight until this summer and it reportedly faces additional schedule slips beyond the six-month delay previously announced by Airbus, according to the *Wall Street Journal.*

USAF photo by SSgt. Vanessa Valentine

Look Out. *SSgt. Brooks Steinbacher peers from his concealment during a Jan. 31 exercise at Andersen AFB, Guam. Steinbacher, a survival-evasion-resistance-escape specialist, participated in the training of a group of B-2 pilots assigned to the 393rd Expeditionary Bomb Squadron on the island. The pilots learned basic survival tactics during a two-day SERE refresher course.*

JASSM Flight Test Goes Well

The Air Force said the second of three product upgrade verification flight tests of a Joint Air-to-Surface Standoff Missile cruise missile at White Sands Missile Range, N.M., "appears to be an unqualified success."

The service said in January that the Dec. 20, 2007 mission was used to validate improvements to the stealthy missile after a series of problems last year led to concerns that the service might terminate the program. Subsequent hardware and software changes were meant to overcome the loss of the Global Positioning System navigation signal in flight, an anomaly that plagued the missile in the three flight tests in April 2007.

"Missile separation, control surface deployment, transition to stable flight, and engine start occurred nominally," USAF acquisition officials said in mid-January. "GPS acquisition occurred on the expected timelines, overall navigation performance appeared nominal, and no GPS dropouts were noted."

Further, they said, "Accuracy against the target appears to have been spot on, and the impact resulted in a high order detonation."

The missile must pass additional flight tests this spring before the service presents the data to Pentagon acquisition chief John J. Young for certification to continue.

Aussies Seek Raptors

Australia intends to press US lawmakers for the right to acquire the F-22 Raptor stealth fighter, reports that country's *Herald Sun,* citing comments by Defense Minister Joel A. Fitzgibbon. "I intend to pursue American politicians for access to the Raptor," said Fitzgibbon, who is planning to review the nation's air combat capability.

US law currently bars export of the Lockheed Martin-built F-22. But Fitzgibbon said: "We are well-placed to talk to Democrats on the Hill about it, and I want it to be part of the mix." He is part of the new Labor Party-led government of Prime Minister Kevin Rudd that unseated John Howard's Liberal Party-headed coalition in the country's national election last November.

The aforementioned review will re-examine the Howard government's plans to replace the Royal Australian Air Force's aging F-111s and F/A-18s with 24 new Boeing F/A-18 Super Hornets and about 100 Lockheed Martin F-35 Joint Strike Fighters.

In 2006, House appropriators had approved foreign sales, but conferees

"Mick 2's Airplane Just Broke in Half"

It could have happened to any pilot in any of hundreds of F-15s. Fate, however, picked Maj. Stephen W. Stilwell, and the seeming randomness of the Nov. 2, 2007 accident was one thing that made it so dramatic.

Without warning, Stilwell's Missouri Air National Guard F-15C—#80-0034—broke in half while in flight. In January, the Air Force released details of the fighter's last moments.

At 9:50 a.m. that November day, Stilwell took off from the Lambert-St. Louis Airport in Missouri for a standard air-to-air training mission. The mishap aircraft was an average F-15C flown by a typical pilot for basic fighter maneuver training.

Stilwell was joined by three other pilots flying F-15s. About 90 miles from St. Louis, the four pilots prepared for some head-to-head air combat. On this day, the flight lead was Mick 1 and Stilwell was Mick 2. The other two pilots, Mick 3 and Mick 4, split off to train separately.

The flight lead and Stilwell performed a pair of four- to five-G warm-up turns to prepare for their upcoming dogfight. Their first engagement was uneventful. The second engagement would be the opposite.

At 18,000 feet altitude and with the fighters nearly two miles apart, Stilwell radioed to Mick 1, "Fight's on." The flight lead made an eight G turn to the right, with Stilwell in pursuit.

The first sign of trouble occurred as Stilwell's F-15 approached 7.8 Gs in a turn. He heard a strange "whoosh" sound, as if his Eagle had suffered a rapid decompression, and the aircraft began shaking violently side to side. Stilwell quickly radioed, "Knock it off!"—signaling the engagement needed to immediately end.

He returned to level flight, and the aircraft's G-load dropped to 1.5 Gs. Two seconds after the knock-it-off call, however, his flight lead saw Stilwell's F-15 split into two large pieces.

With obvious distress, the flight lead radioed to Mick 2: "Eject! Eject!" A pause. "Two, eject!"

Stilwell was "in the forward fuselage, separated from the rest of the aircraft," said Col. William Wignall, who led the accident investigation. He never heard that radio call.

As the Eagle snapped apart, its canopy broke off and smashed into Stilwell's left arm, breaking it and dislocating his shoulder. The event was so sudden and violent, said Stilwell, that he at first thought his canopy had flipped back and hit one of the Eagle's stabilizers.

He was able to pull his ejection seat handle with his right hand and punched out nearly inverted.

Once he saw a parachute, Mick 1's training kicked in and he called the other pilots. "Three and Four, safe it up, climb high," Mick 1 said, his voice now noticeably calmer. "Mick 2's airplane just broke in half."

Wignall said it was "probably the most chilling call that I'd ever heard."

Stilwell took 11 minutes to descend. He knew he was injured, but not how badly, so he stayed put until a Life Flight helicopter arrived and transported him to a local hospital for treatment.

The accident investigation found that the fighter had suffered a broken longeron, which had accumulated 25 years of stress and strain. Once the longeron snapped, other structural components were unable to hold the F-15 together.

This problem appeared out of the blue; Stilwell reported that the F-15 was flying flawlessly until seconds before it broke apart.

—By Adam J. Hebert

stripped the provision from the 2007 defense appropriations bill. There was interest at the time in potential sales to Pacific region ally Japan, which a Congressional Research Service report noted would benefit the US aerospace industry. CRS acknowledged that Japan traditionally has safeguarded imported technology, but that the potential exists for an "inadvertent leak." Selling to Japan, said CRS, might also prompt other allies to expect the same consideration. ■

News Notes

■ Gen. Roger A. Brady formally took command of US Air Forces in Europe on Jan. 9. He received his fourth star on that same day. Brady took over for Gen. William T. Hobbins, who retired. Brady had been USAF's deputy chief of staff for personnel.

■ President Bush in January named USAF Lt. Gen. William M. Fraser III to oversee compliance with the US-backed Israeli-Palestinian peace "roadmap." Fraser is assistant to the Chairman of the Joint Chiefs of Staff.

■ Recipients of the 2007 Lance P. Sijan Air Force Leadership Award are: Lt. Col. Laura A. Soule, Lackland AFB, Tex.; Capt. Stewart J. Parker, Pope AFB, N.C.; MSgt. William F. Facio, Nellis AFB, Nev.; and TSgt. Joshua D. King, Mountain Home AFB, Idaho.

■ MSgt. Anthony Roy, an instructor flight engineer with the 43rd Electronic Combat Squadron, an EC-130H Compass Call unit at Davis-Monthan AFB, Ariz., flew his 200th combat sortie in late 2007 during a deployment to Southwest Asia.

■ Lt. Gen. William L. Shelton, commander of 14th Air Force and US Strategic Command's Joint Functional Component Command for Space, received his third star on Jan. 8. He has led 14th Air Force since May 2005; his duties expanded when he took charge of the JFCC-S.

■ Maj. Paul Moga, the Air Force's sole F-22 aerial demonstration pilot, so wowed the air show circuit last year that AirShowBuzz.com in January named him its Person of the Year for 2007.

■ The 80th Flying Training Wing at Sheppard AFB, Tex., received the first two of its T-6 Texan II trainers in January, marking the start of its conversion from the T-37 Tweet. The wing's full complement of Texans is expected by December 2009.

■ An Air Force laptop computer containing Social Security numbers and other sensitive personal information on some 10,000 current or former airmen went missing at Bolling AFB, D.C., late last year. As of late January, it had not been found.

■ The Air Force inactivated the 755th Expeditionary Security Forces Squadron on Jan. 11. USAF formed the unit in December 2005 to support the Army in handling detainees in Southwest Asia.

■ Boeing has opened an F-15E Mission Training Center at Seymour Johnson AFB, N.C. It joins an existing F-15E MTC at Mountain Home AFB, Idaho. USAF plans five F-15E centers—two each at Seymour Johnson and Mountain Home, and one at RAF Lakenheath, Britain. ■

Issue Brief

By Adam J. Hebert, Executive Editor

The "2018 Bomber" Controversy

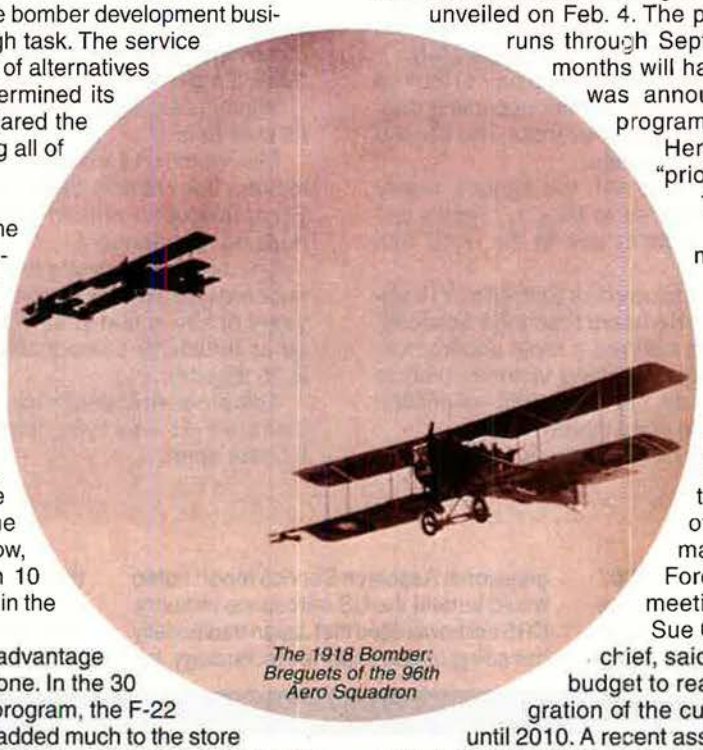
In its 1999 "Bomber Roadmap," the Air Force famously declared that it had no need for a new long-range strike aircraft until 2037. It soon wavered but did not change course by much. Then, early in 2006, the Pentagon's Quadrennial Defense Review set a new goal: USAF, the QDR decreed, will have a new bomber ready for combat in 2018. That marked the birth of the "2018 Bomber."

After nearly 20 years out of the bomber development business, the Air Force faced a tough task. The service last year completed an analysis of alternatives for the projected aircraft. It determined its preferred characteristics. It declared the 2018 Bomber to be No. 5 among all of its modernization priorities.

And then ... silence.

Deep, deep silence. Over the past year, the Air Force has released no final system requirements, issued no request for proposals to industry, offered no detailed timeline, and—most ominously—inserted no development money in its 2009 budget.

Because of these factors, the 2018 target date may be fundamentally unserious. Time was short from the outset. Now, the deadline will be reached in 10 years—a relative blink of the eye in the world of aircraft development.



The 1918 Bomber: Breguets of the 96th Aero Squadron

True, the Air Force can take advantage of work that already has been done. In the 30 years since the start of the B-2 program, the F-22 and F-35 fighter programs have added much to the store of knowledge about stealth, propulsion, and sensors. The new bomber should feature "durable" stealth, advanced avionics, and greater range and payload than comes from fighters.

Moreover, USAF plans to stick with proven technology and avoid delays caused by pursuing high-risk, high-payoff items. The service claims it will incorporate only those technologies that have been modeled or prototyped by January 2009.

Still, that target date looks shaky, if history is any guide. In assessing the realism of the project, it is instructive to review USAF's experience with the two most recent bombers.

■ B-1. Rockwell won the B-1A contract in 1970 and made the first flight of the aircraft in 1974. President Carter halted the program in 1977, President Reagan revived it in 1981, and the Air Force declared the B-1B operational in 1986. Thus, even if one factors out the Carter delay, it took 12 years from contract to IOC, and eight years between first flight and IOC.

■ B-2. Though the stealth program dates to the 1970s, Northrop won a development contract in 1981 and carried out first flight in 1989. IOC came in 1997. Elapsed time from B-2 contract award to operational status: 16 years. The interval between first flight and IOC was eight years.

More recently, the Bomber Roadmap of 1999 postulated an 18-year acquisition effort to bring in the "2037 Bomber."

Today, the Air Force has published no date for a contract award, let alone a date to fly an airplane. Unless the Air Force plans to pull something out of the black world—and that could well happen—we most likely won't see a new bomber by 2018.

This conclusion was solidified in the minds of many by the absence of bomber funding in USAF's Fiscal 2009 budget, unveiled on Feb. 4. The period covered by this budget runs through Sept. 30, 2009. By that time, 43 months will have passed since the bomber was announced in the QDR, but the program will remain unfunded.

Here is the budget story for the "priority" programs in 2009:

1. KC-X tanker, $900 million.
2. CSAR-X helicopter, $320 million.
3. Satellites, $8.6 billion.
4. F-35 Joint Strike Fighter, $3.4 billion.
5. New bomber, $0.

No one is challenging the worth of the top four Air Force procurement priorities, each of which is critically important. But, for many, the lack of money for the 2018 Bomber makes it hard to believe the Air Force is seriously committed to meeting the target date.

Sue C. Payton, USAF's acquisition chief, said last year, "We will not have a budget to really move forward with ... integration of the currently existing technologies" until 2010. A recent assessment by industry analysts, published by the Center for Strategic and International Studies, concluded that the new bomber has lukewarm support and little advocacy within the Air Force. Further, lack of support from unified commanders makes a speedy development all the more difficult, said CSIS.

"It was operational pull from the field that had led to the rapid fielding of UAVs," CSIS noted, and not efforts "to jam UAVs into the force in the 1996 vision and long-range plan."

The ability of an aircraft to strike over long ranges, deliver a large payload, and survive against modern air defenses in hostile airspace can only grow in importance. The differences between IOC in 2018, 2020, or 2022 may not be all that critical, but commitment to the program is vital if the Air Force hopes to field the new bomber in a reasonable amount of time.

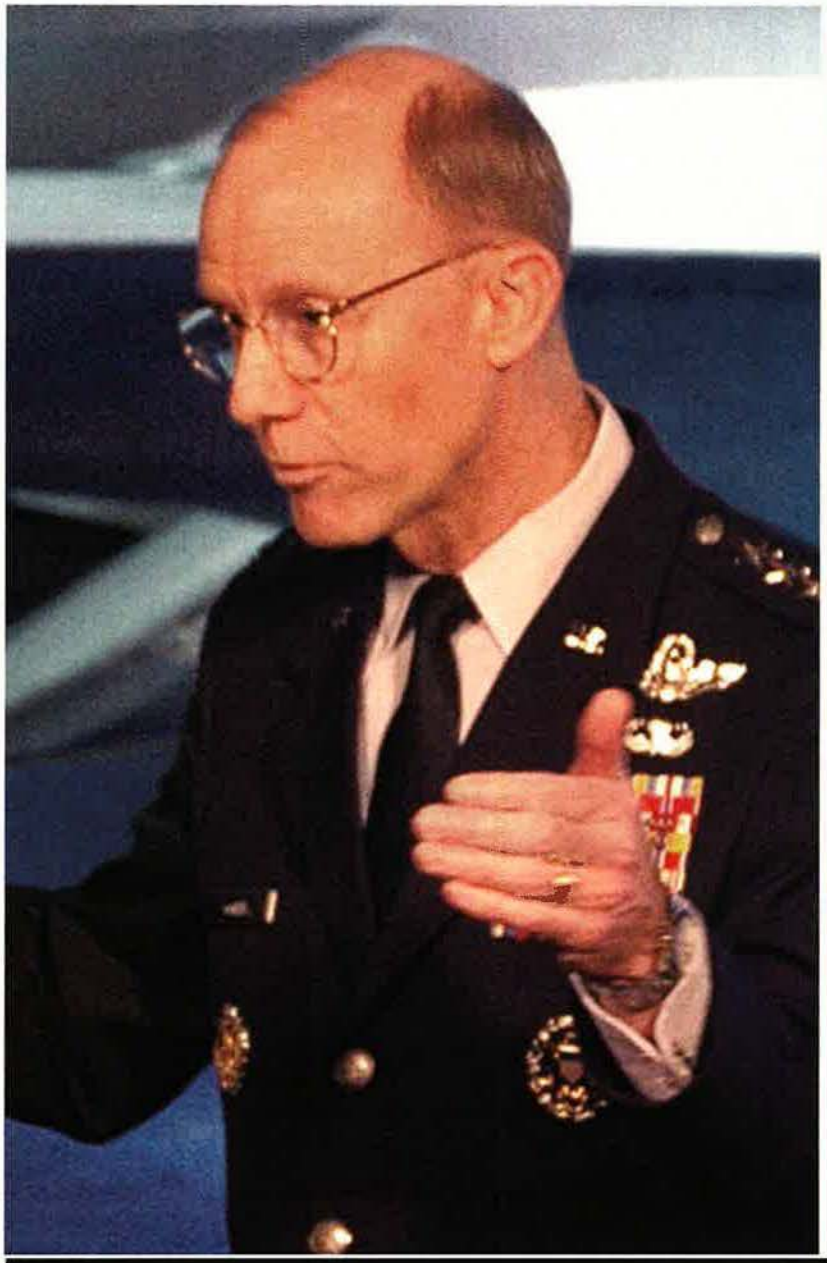
It would be easy to declare the schedule too hard, allow the program to slip, and fall back on what is now the "2035 Bomber"—USAF's long-term plan to field a revolutionary system. However, if it did so, the Air Force would be right back where it was in 1999. ■

More information: http://www.afa.org/Media/Reports/Bomber0207c.pdf

What senior leaders say about *AIR FORCE* Magazine. . .

"If AIR FORCE *Magazine didn't exist, someone would have to invent it. That's because nobody else tells the whole story of the United States Air Force. Certainly, nobody else tells that story with the accuracy, depth, commitment, and style of the folks at* AIR FORCE *Magazine."*

Gen. John D.W. Corley, Commander, Air Combat Command



AIR FORCE
JOURNAL OF THE AIR FORCE ASSOCIATION MAGAZINE

More USAF decision-makers read* AIR FORCE *Magazine. Period.

USAF has abandoned the term "Future Total Force." The transition can't be put off any longer.

Integrated Total

The Air Force has long boasted an exemplary relationship between its active duty, Air National Guard, and Air Force Reserve Command elements. A variety of blue-ribbon commissions have lauded the rapport among the USAF components as a model for the other armed services to emulate.

However, USAF is not satisfied with "seamlessness" in relations between the three. It is now moving quickly toward what it calls an Integrated Total Force. It would bring about this change by blending the activities of the three elements in order to obtain even greater overall effectiveness, while still preserving their separate cultures.

To emphasize the urgency of doing so, it has even abandoned the buzz-phrase "Future Total Force," because it's not something that can be put off.

In January, the Air Force took a big step toward the integration of its active force and Air Reserve Components (a term that denotes both ANG and AFRC) when it unveiled a new "roadmap" of all the locations in which new aircraft could be permanently based over the next 30 years. Central to the announcement was the fact that the Guard and Reserve will be full partners on all the new gear.

The announcement—unprecedented in USAF history—listed assets ranging from F-22 and F-35 fighters to systems whose builders hadn't even been chosen yet, such as the CSAR-X rescue helicopter, C-27 Joint Cargo Aircraft, and the KC-X tanker.

The Guard and Reserve will partner with USAF on the new systems either as "owners" or as joint users, through associate relationships. If the roadmap bears out, Guard and Reserve personnel and units will operate the latest USAF equipment, often as soon as it is available.

The new default concept is that the Guard and Reserve will be thoroughly integrated in all aspects of the Air Force mission, even those in which they have not previously played a role. The Air Force Chief of Staff, Gen. T. Michael Moseley, has instructed his staff to identify any missions lacking Guard and Reserve participation and then explore the quickest way to open such missions to them.

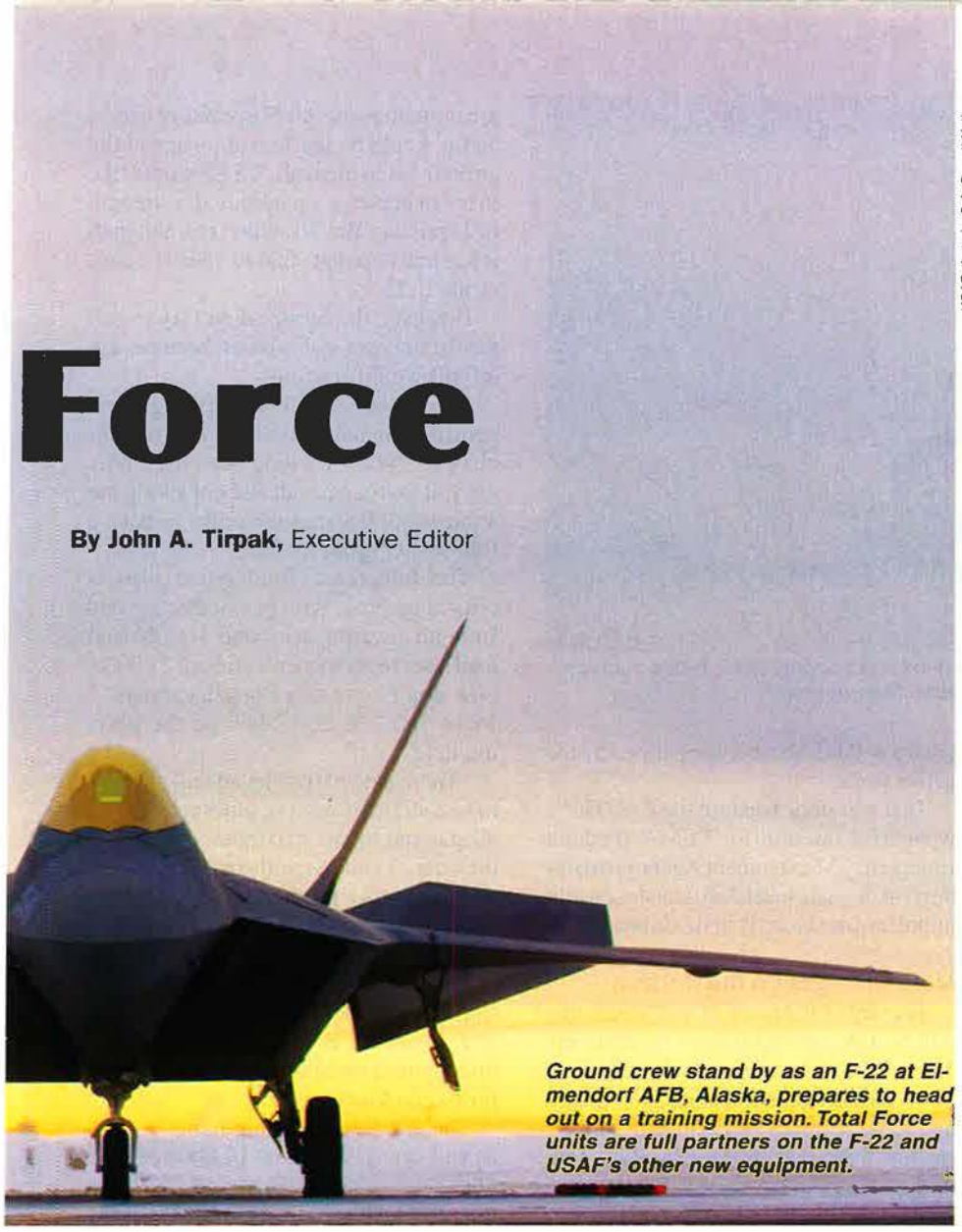
The choice of bases for the new systems was made with extensive input of the Guard and Reserve and came only after meetings last December in which each of the Air National Guard's state and territory adjutants general, as well as leaders from Air Force Reserve Command, were consulted on the plan.

In making the announcement, the Air Force noted that new systems will be fewer in number than those they replace, but will offer greater capability.

"In numerous instances, the poten-

Force

By **John A. Tirpak,** Executive Editor



USAF photo by SrA. Garrett Hothan

Ground crew stand by as an F-22 at Elmendorf AFB, Alaska, prepares to head out on a training mission. Total Force units are full partners on the F-22 and USAF's other new equipment.

USAF photo by MSgt. Scott Wagers

A Rhode Island Air National Guard C-130 takes on cargo at Aviano AB, Italy. The Guardsmen will deliver the materiel to Zaragoza AB, Spain.

tial locations will capitalize on Total Force Integration efforts," according to the USAF announcement, "creating innovative organizational arrangements among regular Air Force, Air National Guard, and Air Force Reserve components. This effort takes advantage of the inherent strengths of each of the three components."

Safeguard the Heritage

The new aircraft, which in many cases can fly more frequently than the ones they replace, will benefit from having a larger ratio of air and ground crews than has been the case with legacy systems, notes Lt. Gen. Raymond E. Johns Jr., deputy chief of staff for strategic plans and programs. The Guard and Reserve will also participate in the operation of unmanned air systems and in new, nonflying missions such as cyber warfare.

The roadmap is provisional, in that it assumes that everything for which the Air Force has stated a requirement will be bought, and that environmental impact assessments won't create obstacles. Neither is a certainty. The service has long stated a requirement for 381 F-22 fighters, for example, but has only been given authority to buy 183. The F-22 and F-35 also have bigger engines than the F-15 and F-16 they replace, and are noisier, meaning environmental approvals aren't a slam-dunk, either. The plan also does not delve into basing options on foreign soil.

"There is a rich heritage in the culture of our Total Force," Johns said, adding that the Air Force needs to preserve that heritage.

The announcement "gives us a much longer-range view of what will be in our future than we have ever had in my memory," added Lt. Gen. John A. Bradley, chief of the Air Force Reserve. "It also was built pretty much in the open—very much in the open—as opposed to 'behind closed doors.'" He added that AFRC was "included in the process ... which has not always been done."

Lt. Gen. Craig R. McKinley, director of the Air National Guard, emphasized the shift away from the term "Future Total Force," noting "it isn't *future;* it's now."

In the last few years, many Air Force moves have highlighted the fact that the reserve components are full partners on new systems, and are taking a leading role on some older ones. A few examples:

■ The Missouri ANG's 131st Fighter Wing in St. Louis, scheduled to give up its F-15s under the 2005 Base Realignment and Closure (BRAC) commission

Photo by Rick Llinares

Two Raptors from Langley AFB, Va., peel away from a Langley F-15. F-22s such as these are flown by Total Force teams to increase their use-rate.

recommendations, will now partner with the 509th Bomb Wing at Whiteman AFB, Mo., in flying the B-2 bomber, which has a nuclear mission.

- New C-17 transports at Hickam AFB, Hawaii, are flown and maintained by about 60 percent active duty personnel and 40 percent ANG. The Guard's 199th Fighter Squadron at Hickam, which is losing its F-15As due to BRAC, will receive F-22s, and an active unit, the 531st FS, will associate with it.
- The 477th Fighter Group, a Reserve unit, is flying the F-22 fighter at Elmendorf AFB, Alaska, in association with the base's active units.
- The Tennessee Air Guard's 118th Airlift Wing at Nashville Airport will be in charge of training allied nations to fly and maintain older model C-130 transports.
- The first Guard-Reserve associate relationship involving a combat delivery system is standing up at Niagara Falls Arpt./Air Reserve Station. The New York Air Guard's 107th Airlift Wing will partner with the Reserve's 914th Airlift Wing in flying the C-130.
- Active duty units will associate with existing Reserve and Guard units in Florida, South Carolina, Texas, and Vermont. Previously called "reverse associate" programs, these relationships assign active personnel to Guard and Reserve units.

Included in the roadmap was the announcement that of the first 50 or so of the C-27J Joint Cargo Aircraft that the Air Force will operate, 100 percent will be flown by the Air National Guard. This is the first time in decades that a brand-new aircraft will go straight to the Guard without also being operated by the active force.

That was done because the C-27J is "a wonderful mission for FEMA [Federal Emergency Management Agency] to support" at the state level, "so it made sense to populate [the Guard] first," Johns said.

More Changes on the Horizon

The announcement of the bases that will host the new equipment is a first step, Johns said, but along with it will come more announcements about how Guard and Reserve forces will associate with the regular force and with each other. That part of the plan has "yet to be written," Johns said, but it will come soon.

Johns said the bases in the roadmap are more than the Air Force really needs, and it would be inefficient to spread the aircraft out to them all. USAF would like to try to preserve squadrons at a strength of 24 primary aircraft authorized, although it has had to reduce that to 18 in the case of the F-22.

However, the service didn't try to cull the list of bases at this point, because any left off would cry foul.

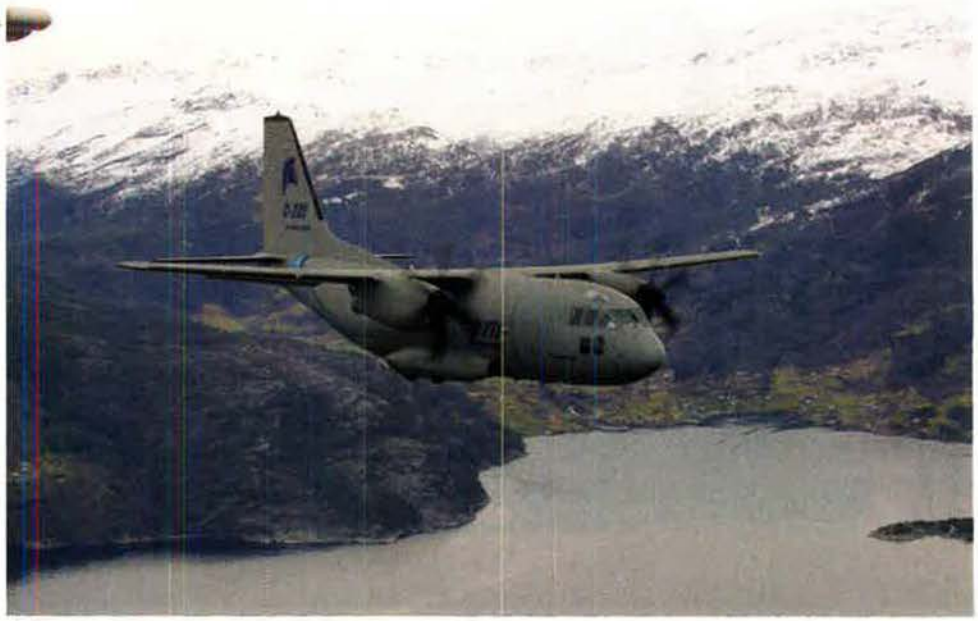
Johns observed, "The first thing you'd get [from an unmentioned base community] is, 'What's wrong with me? Why are you tossing me out and not giving me a fair shot? Because we'd like to have a follow-on capability.'"

The Integrated Total Force plan is critical because, with planned active end strength hovering at around 316,000 and total reserve components at about 227,000, "we don't have any 'benchwarmers,'" Johns said. "Everybody's on the playing field."

"There's no extra," he added. "I don't have a strategic reserve of force. They're all playing to the maximum extent that they can. I can surge them when I need to, and I also need them for the long duration." The ITF plan is "how ... we make that work."

The new roadmap marks yet another step in a long evolution of both the Guard and Reserve. Both components have undergone a substantive evolution in the post-Cold War era.

The Air National Guard checks in at an end strength of about 107,000 people, after a slimming of about 10 percent since the early 1990s. McKinley said the ANG is "very comfortable" with its size in that



C-27J Team photo

A C-27J, the Pentagon's pick for the Joint Cargo Aircraft. The Air National Guard will operate the first 50 or so C-27Js that the Air Force acquires.

A Four-Star Guardsman

In a controversial move, Congress in the 2008 defense bill approved the elevation of the chief of the National Guard Bureau to the rank of four-star general. The current head is Army Lt. Gen. H. Steven Blum.

The director of the Air National Guard, Lt. Gen. Craig R. McKinley, offering a "personal opinion," sees the move as a good thing. The elevation of the Guard Bureau director provides an opportunity "for the National Guard to structure itself to be a more vital aspect of the defense of the United States and contribute more in the worldwide fight against terror. I think the fourth star ... enables that," McKinley said.

"Now, it's fraught with issues of how you structure this new organization," in terms of how the service Guard chiefs relate to their services, "but those are things that I think will be worked out." McKinley also said he's comfortable with the access and "open line of communication" he has with the Chief of Staff of the Air Force.

"I'm invited to all the major planning sessions. ... I'm never excluded, and so I think that will continue and be enhanced by the empowerment act." The head of the Guard bureau rightfully should be the main advisor to the Secretary of Defense on Guard issues, he said.

McKinley said he is not worried that one of the Guard organizations will be overpowered by the other.

"The adjutants general understand that there has to be a bureau in Washington that allocates resources. We can't have haves and have-nots out there." If one state's Guard is heavily mobilized for overseas deployments, "a sister state should be able to fill in and help that governor in times of crisis. That's what we've learned, is that we have to cooperate to graduate. ... A Katrina-like event is so big and so massive that we have to call in the strengths of all the National Guards and the active component, and the reserves, to make sure we do the American citizens justice."

it can both perform domestic missions and participate in the Air and Space Expeditionary Force without undue stress.

He acknowledged that Air Force Smart Operations for the 21st Century—known as AFSO 21—is looking for efficiencies and ways to reduce activities and billets where it makes sense to do so. However, while he thinks the Guard can probably absorb some new missions, he doesn't see it shrinking any further.

"There's probably things we can do better, cheaper, faster," he said, and the Guard will "take that on big time." However, he also believes that numbers are important, especially to deal with the unforeseen, such as domestic natural or man-made disasters. He noted that in the spring of 2007, a tornado hit Greensburg, Kans., and the first responders were not Army Guard, but Air Guard from nearby McConnell Air Force Base.

"You want to have robust ... community-based capability to do that 'other' mission, which at times we don't think about enough in the Air Force," McKinley observed.

Noting that top USAF leaders have said that an overall active end strength of 316,000 may be too small, he said the Guard is willing to help fill some of the missions that may be "missing" between the budgeted level and a notional 330,000-strong active force.

"I don't want to get any smaller," McKinley said. "I think we're right where we need to be."

Recruitment on the Upswing

Guard recruiting, which has fallen below target for a few years, is now back to providing proper end strength. McKinley chalks up the misses in recruiting to the fact that the Base Realignment and Closure process of 2005 caused extreme turbulence for the Guard, given the dislocation of many units in that ordeal.

"I think a lot of members of our units that had been affiliated with flying missions were really perplexed [about] 'Will I have a job after this? What will they let me do?'" said McKinley. He noted that USAF leadership has made a dedicated effort to maintain "transparency" about its plans in the post-BRAC Guard era. The roadmap is a key element in reassuring members and recruits that "there is a mission out there; there is a future." He added that "it may not be flying airplanes, ... but there are new things for all of us to do, and we're able to retrain ourselves to do those."

He said that in mid-2007, "we started seeing people coming in to the recruiters again, as we had before, and starting to get that enthusiasm again." McKinley said he is "cautiously optimistic" that the Guard has turned the corner on recruiting, adding, "I think the post-BRAC malaise is over."

As an organization, the Air National Guard is far different from what it used to be, McKinley said. The demands of multiple overseas operations caused the nation to call on the Guard as never before. "I will tell you that the 'weekend warrior' analogy was pretty much gone" by the late 1990s, McKinley said.

In "all but just a few" specialties, Guardsmen who participate in AEFs are doing so as volunteers, while still meeting the needs of the governors and domestic missions. McKinley pointed

USAF photo by SSgt. Joshua Jasper

In Afghanistan, Lt. Gen. John Bradley (r), chief of Air Force Reserve Command, talks about operations with CMSgt. Stanley Burrows.

USAF photo by MSgt. Scott Wagers

At Ramstein AB, Germany, SSgt. Joseph Maker, a loadmaster with the Rhode Island Air Guard, prepares a C-130 for flight.

out that the Air Guard deployed 1,000 people along the southern border of the US during 2006, to give the US Customs and Border Protection agency a boost in capability.

McKinley warned that it's important to find balance between the domestic and AEF missions levied on the Guard. Otherwise, it could "break." What would cause the Air Guard to break?

"If we had to substantially change the way we deploy, and stay longer in theater, for longer tours, without ... letting Guard commanders run the flexibility of their people, that could push us over the edge," McKinley said.

He cited, as an example, airline pilots who lose their landing currency in big airliners if they don't fly within 90 days. If a Guard pilot had to stay in theater longer than that, it would force the airline to spend money retraining him, which in turn would make both the member and the employer less inclined to have him participate in the Guard. Having the flexibility to let people volunteer for the amount of time they can reasonably give "has served us exceedingly well," McKinley said.

There are some other dangers, as well. The means by which Guard members rack up points for retirement is still "pretty much of a Cold War model," McKinley said, and hasn't caught up to modern realities. For example, Guard members supporting the Noble Eagle airsovereignty mission don't get credited with serving in a contingency operation as those who go overseas do.

While there is new legislation in the works that would allow reservists to retire earlier based on the number of days they've served on active duty, the Guard personnel system is "basically the same" as it was "when I joined the Guard in 1980," said McKinley.

Key to the Future

However, he sees the roadmap as a big boost to Guard retention, given that all the Air Force's newest systems will be open to Guard participation.

"The post-BRAC era for us is now an era of opportunity, an era of challenge." The Air Force's top priority at the moment is recapitalization of aging systems, and "if the Guard can participate in that recapitalization, that's going to be our key to the future."

Because of the experience level of its members, the Guard has been able to handle an aging force of aircraft, but McKinley said the Nov. 2, 2007 crash of a Guard F-15C—followed by an extended grounding of most USAF F-15A-Ds—shows that no matter how well old iron is maintained, "there's a lifetime on an aircraft that you just can't overcome."

Despite the fact that the Guard will now be a full partner on all new systems, the "hand-me-down era" probably won't end overnight, "just because we can't dig out of this recapitalization hole immediately," McKinley said, adding that he expects it will be another 10 to 15 years before the Guard's aircraft are more closely comparable in age to those in the active force, and that will happen because the Guard will in many cases be using the same aircraft as the active component.

"We know there's not going to be a one-for-one replacement in the fighter force," McKinley acknowledged, and "more than likely, we're not going to have a great number more [airlifters], our C-17s, so we're going to have to use the ones we have exceedingly wisely." The associate relationships "won't happen everywhere, but it can happen in a lot of places."

USAF photo by A1C Nadine Y. Barclay

A security forces airman participates in a training exercise at Creech Air Force Base in Indian Springs, Nev. The force-on-force expeditionary readiness exercise included active duty, Guard, and Reserve airmen.

USAF photo by SrA. Joshua Strang

USAF plans call for Missouri Air Guardsmen to join the B-2 mission at Whiteman AFB, Mo. Here, the bomber is deployed to Guam.

The next big push in integration, he said, will be to find the places where further association "makes sense."

The E-8C Joint STARS wing at Robins AFB, Ga., is a "blended" wing with a unique overlapping of Guard and active leadership and personnel. McKinley said the unit has performed flawlessly as "the most heavily mobilized unit in the Air National Guard" since 9/11.

The unit has experienced "growing pains with the cultures and the ... tempo," but has been "one of the most efficient organizations we've got in theater." It is not going to be copied elsewhere for now—associate units work better with less ambiguity of command—but will be "something we learn from," McKinley said.

Where are the new missions for the Guard?

The Cyber Command "mission attracts me because it's more of a traditional Guard mission," McKinley said, "where a kid who's working at Microsoft or Cisco comes and becomes part of a cyber unit, and brings his or her civilian talents from his day job into a world where you don't deploy very much."

For the same reason, he likes the unmanned aircraft mission—Predator or Reaper—because the operators can perform their duties at home station without deploying to theater, and expand the number of operators available for a limited amount of equipment. He also is optimistic that the Guard can do more training of allied operators of equipment that is of the same vintage as that being operated by the Guard.

Bradley, head of Air Force Reserve Command, said in his 40-plus years in the Air Force, he's never seen anything quite like the new roadmap.

"I've never seen this kind of openness. I've never seen the entirety of it, the strategic view. ... This is the best I've ever seen us do. So, this is a big deal."

Associate Relationships

Bradley noted that the idea of associate units started with the Reserve in 1968, for the C-141. It was picked up by Strategic Air Command in 1978, when SAC started getting the KC-10 and realized that there was an untapped resource in the pool of civilian pilots flying the DC-10. Missions continued to be added until the Reserve was flying practically all types in the USAF inventory.

Today, Bradley noted, the Reserve provides "about 20 percent" of Air Education and Training Command's undergraduate pilot instructors, and provides a good chunk of the training in the F-16, C-130, C-5, and A-10. Recently, Air Force Special Operations Command formed an associate relationship with a Reserve unit, owing to its experience and knowledge.

Such active associate relationships will increase in number. AFRC runs the C-130 business at Pope AFB, N.C., where "we will own the airplanes and [Air Mobility Command] will provide people to fly them and work on them as well." In the fighter world, the active force will soon associate with a Reserve unit in Fort Worth, Tex.

The push for greater associate units "provides more airmen for airplanes that are more capable. We'll have much more capable airplanes in the future that we'll need more manpower for." Moreover, it will pair younger, less experienced air and ground crews with more seasoned people to "mentor them and get them more experienced."

Bradley said that "nothing is off-limits" in terms of missions that the Reserve can take on. He said AFRC is the "most diverse" command in the Air Force, with a greater variety of missions than any other.

"We do everything AMC does, a lot of what AETC does, we do all the flight-test business except at Edwards [AFB, Calif.], and we do a little piece of that for Air Force Materiel Command. We do all their flight-test at the depot. We do a good bit of what [Air Combat Command] does, we do a fair amount of what AFSOC does, we do a heck of a lot of Air Force Space Command."

Bradley said that he sees the Air Force Reserve staying put at about 75,000 people, after a decline of about 10 percent in recent years, and they have been very busy.

"More than half of our unit people have been mobilized, 34,000 Reservists, ... since Sept. 11, 2001. We've had tens of thousands of people who volunteered" who were not mobilized, McKinley said.

Although you can't tell a Reservist ... from an active or Guard member in the field, the Air Force is moving to send all its recruits, both officers and enlisted, through basic schools together.

"More people will grow up knowing each other and having a common set of experiences from going through OTS [Officer Training School] and pilot training and all our [other] training programs together," Bradley noted. In the associate programs, "we will be better because of those shared experiences."

The new roadmap shows that the Air Force is serious about bringing its components closer together, by putting new equipment in the Guard and Reserve from the start. "We don't need to wait," Bradley said.

However, he sees another value in the roadmap.

"You generate more public support, actually, when you do that," he said.

"We have to have a lot of public support for what we do. We have to have support on Capitol Hill. The Guard brings a lot of that along, the Reserve brings some of that along. Any member of Congress who helps get us appropriations for what we do is sensitive to what they have in their states and districts and bases. And so, it's kind of smart to think in those terms. I think it's a very good idea." ■

Special Operators Head West

Over the next six years, Cannon will acquire nine squadrons of special operations forces and aircraft.

By Marc V. Schanz, Associate Editor

USAF photos by Amn Elliott Sprehe

Here: An AC-130H Spectre gunship fires cannon rounds onto the Melrose Training Range in New Mexico. Right: A plume of smoke rises from a direct hit on an ammunition carrier at one of the range's two gunship targets.

The wind-blown plains and mesas of New Mexico's Melrose bombing and gunnery range are dotted with targets, from the hulls of tanks to ammunition carriers, from gun emplacements to mock SA-6 anti-aircraft batteries. Over the years, fighter pilots had taken aim at them and fired countless rounds.

In December, however, the Air Force's New Mexico-based F-16 fighters roared out on their last mission from Cannon Air Force Base. The forces of Air Force Special Operations Command began moving in.

The change was ordered up by decision-makers in the 2005 Base Realignment and Closure process. Out at Cannon, AFSOC is building its new 27th Special Operations Wing, which will be the first of its kind outside of Hurlburt Field, Fla., and only the second special operations wing in the United States.

Over the next six years, Cannon will experience a massive makeover. It will see the addition of up to nine squadrons of special operations forces and aircraft, the introduction of the CV-22 Osprey and the MQ-9 Reaper to AFSOC operations, and an expansion of Air Force special tactics training into the desert upland of eastern New Mexico.

In those wide-open spaces, air commandos, gunships, and tilt-rotor aircraft will be able to train with a broad collection of Air Force assets and other SOF elements. Dedicated areas on the range are being set aside for the practice of assault landings and special tactics. The participants will include pararescue jumpers, combat controllers, and combat weathermen, all Air Force specialities.

Near the Melrose Training Range's dirt landing strips, one finds a motley collection of target ammunition carriers. It is a tableau of outsize holes and disturbed earth—not from bombs, but from the impact of cannon rounds fired from an AC-130H Spectre gunship during training late last fall.

Col. Timothy J. Leahy, 27th SOW commander, said the gunship flight was a key step in proving the concept of a live fire range in the area.

Johnny Rogers, the civilian Melrose area range chief, points out that the eastern New Mexico high plains boast one big asset that the air commandos hold in high regard—clear flying weather for more than 300 days of the year. This will prove to be a boon in the training of battlefield airmen, especially for combat controllers—who will have primary access to vital training on the ranges.

No specific unit has yet been tagged for immediate transfer to Cannon. However, AFSOC officials said a squadron of special tactics airmen will be relocating to the base fairly soon. In the meantime, combat controllers, combat weathermen, PJs, and other types of battlefield airmen will visiting Cannon on temporary duty assignments. The TDYs will be for training and for determining the possibilities and limitations of the range space.

The range's dirt strips will also become primary staging areas for AFSOC's new PC-12 nonstandard aircraft (NSA). The NSAs are light airlifters designed for operation on rugged and austere airstrips, such as those found in Africa, the Middle East, and Central Asia. A squadron of the PC-12s, the 318th SOS, will activate this month.

still wears an Air Force patch. We've all grown up in the same culture. The difference is on the edges, how we execute the mission."

Moving the low-density, high-demand special tactics airmen and airframes is no easy task. For example, AFSOC has decided to relocate the Vietnam-era AC-130H fleet—in its entirety—to Cannon beginning in late 2009. The shift will occur as the gunship fleet is in heavy rotation to and from Southwest Asia, and the newer AC-130Us will keep Hurlburt Field as their home station.

Appearances Can Be Deceiving

"All aircraft that we shift out here across the force will have to do so in a phased approach as we continue deploying them and fighting in combat," Leahy said.

When the 2005 BRAC findings were released, Cannon was targeted for closure but was offered a stay of execution. If the Defense Department could find a suitable mission for the base, the BRAC commissioners declared, the Air Force could keep the base open and operating. AFSOC, which had long desired a base in the West to complement Hurlburt in the East, jumped at the chance to pluck off Cannon and the nearby Melrose range.

The facility and surrounding ranges will see an enormous amount of construction and re-engineering over the next few years as facilities are adapted to the SOF mission.

Sleek fighters with one or two crew members are being replaced with hulking C-130 airlifters, tilt-rotor CV-22 aircraft,

Lt. Col. Toby Corey, director of operations for the 27th Special Operations Support Squadron, said Cannon personnel in December hosted several Navy SEALs from San Diego. They came out to the facility to evaluate possible ways that Navy personnel could train with the Air Force's special operators. "We are in discussions ... to see how we can get the most use out of this place," he said.

For the airmen in charge of maintaining and equipping the new mission and aircraft, the transition is anything but simple.

"There's a little bit of a cultural change, but not a remarkable change," Leahy said of the transition. "Everyone

In early December, a visitor to Cannon found that much of the activity needed to beddown the air commandos and their gear was taking place behind the scenes. A lone MC-130W sat on the base's ramp, surrounded by a few maintainers, while construction workers carried out relatively small projects near a patch of maintenance buildings.

However, appearances can be deceiving, said Leahy.

"The great majority of the work that is occurring is not obvious to the casual observer who would drive onto Cannon Air Force Base today," Leahy said. He noted that, beyond the flight line, subtle changes were occurring.

and AC-130 gunships. The specialized weapons systems have larger aircrews and demand far more ramp and hangar space.

When the conversion to the AFSOC mission is complete, there will be about 5,600 AFSOC personnel permanently stationed at Cannon. Even in its heyday, shortly before the 2005 BRAC round, Cannon was home only to about 3,500 uniformed personnel.

As a result, careful space planning is required. Lt. Col. Stephen D. Wood, commander of the 27th Special Operations Civil Engineer Squadron, noted that some older base facilities will be temporarily converted to new uses while the con-

USAF photo by TSgt. Cecilio M. Ricardo, Jr.

A CV-22 Osprey flies over New Mexico.

struction of more permanent structures goes on.

"We aren't going to knock down every F-16 hangar because [C-130s] don't fit," he said.

Wood's engineers will try to find key spots in which airmen can carry out missions involving the incoming gunships and MC-130W Combat Spears until military construction funds kick in during 2011.

In the long term, Cannon's landscape will shift significantly. The base's only permanent hangar that can handle a C-130 needs a tail enclosure and some other improvements before it can be used for that purpose. The project is slated for completion by November, while two temporary C-130 hangars will be constructed on the present ramp this summer.

All the new C-130 traffic will require improvements to taxiways, Wood points out.

"An F-16 is known as a FOD sucker," he quipped, referring to the risk that a powerful jet engine will "inhale" rocks and other items that cause foreign object damage. The incoming C-130, conversely, is a "FOD generator" for everyone else. "Those props on the outside of your taxiways will push stones up," he explained, because a C-130's two large outboard engines can overhang the edges of the runway.

As the 73rd SOS and its new MC-130W Combat Spears grow to full capacity in the coming year, the 3rd SOS—AFSOC's Predator unit—will transition down from Creech AFB, Nev., beginning in the summer.

Construction is already under way to prepare for the 3rd SOS arrival. Corey pointed out space behind one of Cannon's old maintenance buildings near the flight line where Predator ground control station pads are under construction.

Freeing Up Space

Simulation facilities are planned nearby for MC-130 crews, gunship crews, and the CV-22 Osprey. All 12 of the 73rd SOS Combat Spears are expected on the ramp by 2010.

With AC-130H gunships slated to begin arrival in FY 2009, space will become a problem very quickly, Corey conceded. Maintenance and operations facilities are among the most critical to the build-up, Corey added. "We're not getting a lot of that [military construction] money until 2011, so it makes it difficult to beddown these units," he said.

Beginning in FY 2013, a new ramp is planned on the base's southeast side—giving MC-130s and gunships a permanent home. The ramp will also free up the north side for the beddown of CV-22s, Predators, and nonstandard aircraft—such as the command's new PC-12 light airlifter.

Several AFSOC officials noted efforts are under way to accelerate the construction of the southeast ramp, and pointed out that if the current time frame holds steady the ramp space will get very constrained. With little modification, facilities which once housed F-16s will host CV-22s and even Predator aircraft in the near future.

"This is more than a transition," said Maj. Roderick Webb, commander of the 27th Special Operations Aircraft Maintenance Squadron. "This is really a

USAF photo by SrA. Ali E. Filsek

An Osprey swoops over the Hurlburt Field, Fla., flight line. In the foreground is an MC-130H Combat Talon. Both the CV-22 and the MC-130 will soon set up shop at Cannon as well.

USAF photo by TSgt. Parker Gyokeres

Pararescuemen rappel from an HH-60G helicopter at Moody AFB, Ga. PJs and other SOF personnel will have a range area at Cannon set aside for them.

brand-new stand-up if you think about it from the maintenance standpoint."

SMSgt. Steven Hettinger, lead production superintendent for the 73rd SOAMXS, can verify the complexity of shuffling around vital maintenance personnel. Inside one of Cannon's old F-16 hangars, Hettinger said only his avionics airmen were transitioned in place from the F-16 operation to the new C-130 mission.

At least 30 additional maintainers are expected to arrive at Cannon by the end of March—valuable crew chiefs, hydraulics airmen, and engine mechanics to service the influx of MC-130 "Whiskeys."

"This will get us above water. ... We can keep the birds flying," Hettinger added.

The move by AFSOC to expand operations to Cannon comes at a time of unprecedented buildup for the air commandos—all while called upon extensively in the Global War on Terror.

Col. J.D. Clem, AFSOC deputy director of plans, programs, requirements, and assessments, said the command hopes to effectively duplicate the combat capability based in northwest Florida. "The vision is that we will end up a near mirror image of what we have at Hurlburt. ... It won't be identical, but we will have a similar type unit at both bases."

While AFSOC has been searching for a western base since at least the early 1990s, Hurlburt Field—and the surrounding ranges—has slowly filled up. At Eglin, if "everyone came home, we wouldn't have room to park it all," Clem noted. In 2005, Hurlburt was also hit with two successive hurricanes that put a bit more urgency into the planned force expansion.

Split the Assets

Having all of AFSOC's assets in one place was a liability, Clem noted, and a weather event that seriously impacted Hurlburt could "devastate" AFSOC's capabilities.

The military airspace on the Eglin Range and the areas around Fort Walton Beach are quickly becoming saturated with flights from nearby Eglin Air Force Base and NAS Pensacola.

"The big thing was the range," said Corey of the Melrose range. "We can own this range and run the access. We'll have top priority, which we don't necessarily have out near Hurlburt and Eglin."

Part of the appeal of the sparsely populated eastern plains of New Mexico is revealed with a look at a topographical map of the area surrounding the cities of Clovis, Portales, and the town of Melrose. It has not gone unnoticed that the altitude and some of the environmental conditions around Cannon and Melrose are similar to what special ops forces experience in Central Asia and the Middle East.

The Melrose range measures about 60,000 acres around the small town of Melrose, about 25 miles west of Cannon. About 8,800 acres are designated "impact acres"—space where actual strafing and bombing occur. In addition to a complete absence of urban encroachment, the space is well-equipped for advanced combat training. Dirt landing strips, bunkers, IR targets, and electronic jamming towers are spread out over the range's impact areas.

"You'll have air and ground pieces working in unison and that means a variety of folks will come out [here]," said Maj. Brian Thompson, 27th SOSS chief of current operations.

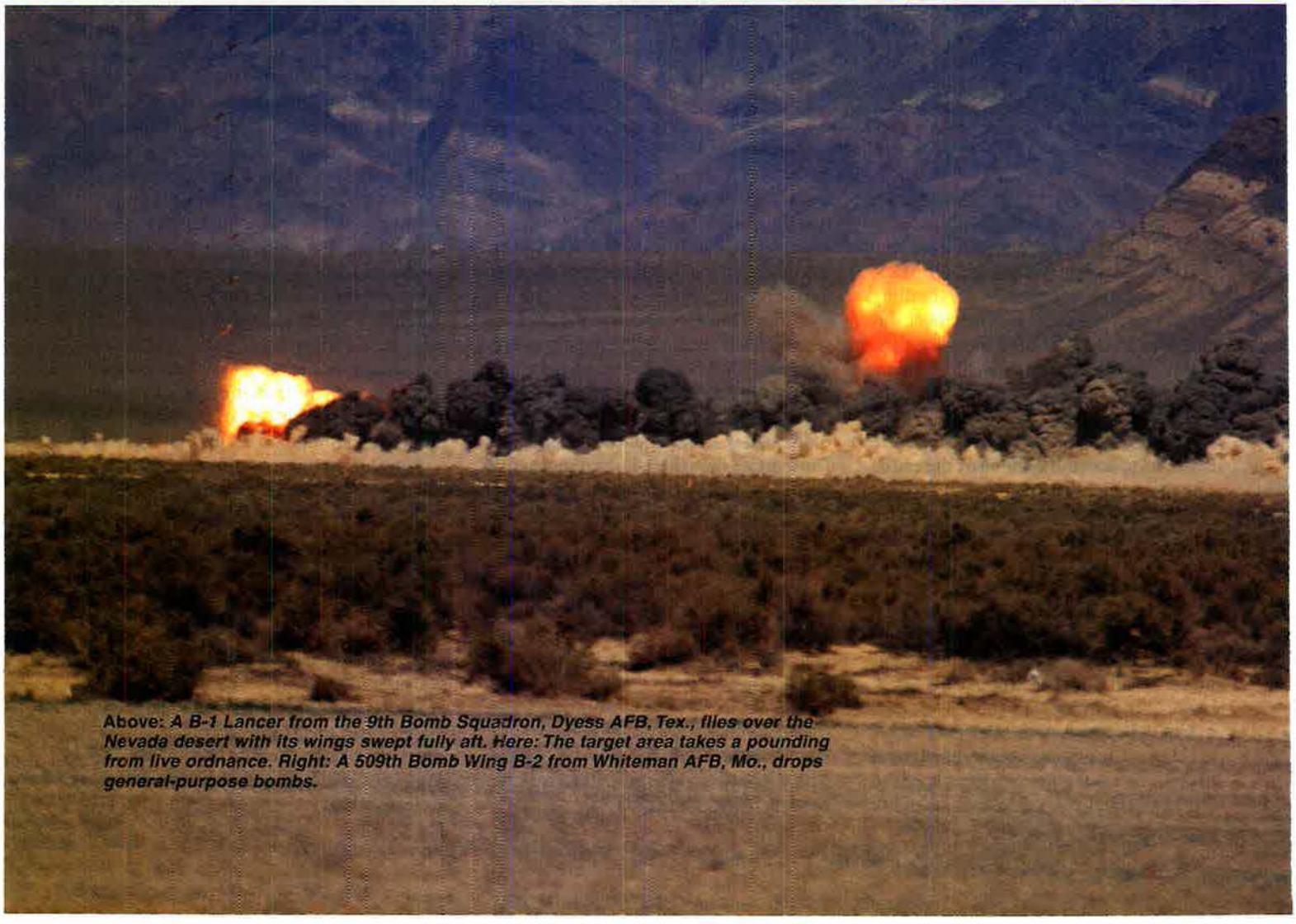
The range is currently equipped with 101 scoreable targets, as well as mobile electronic warfare training capabilities. It is "a phenomenal asset," said Thompson. The range can host a wide variety of aircraft and units—from airdrop exercises involving MC-130s, to close air support training with combat controllers, to unmanned aerial vehicle missions.

The ability to simulate numerous threats at the push of a button is a fantastic SOF training tool, wing officials said. Lt. Col. Dan Wolf, the 27th SOSS commander and a former F-16 pilot who stayed on with the transition, said a dedicated SOF range will have huge implications for training and readiness.

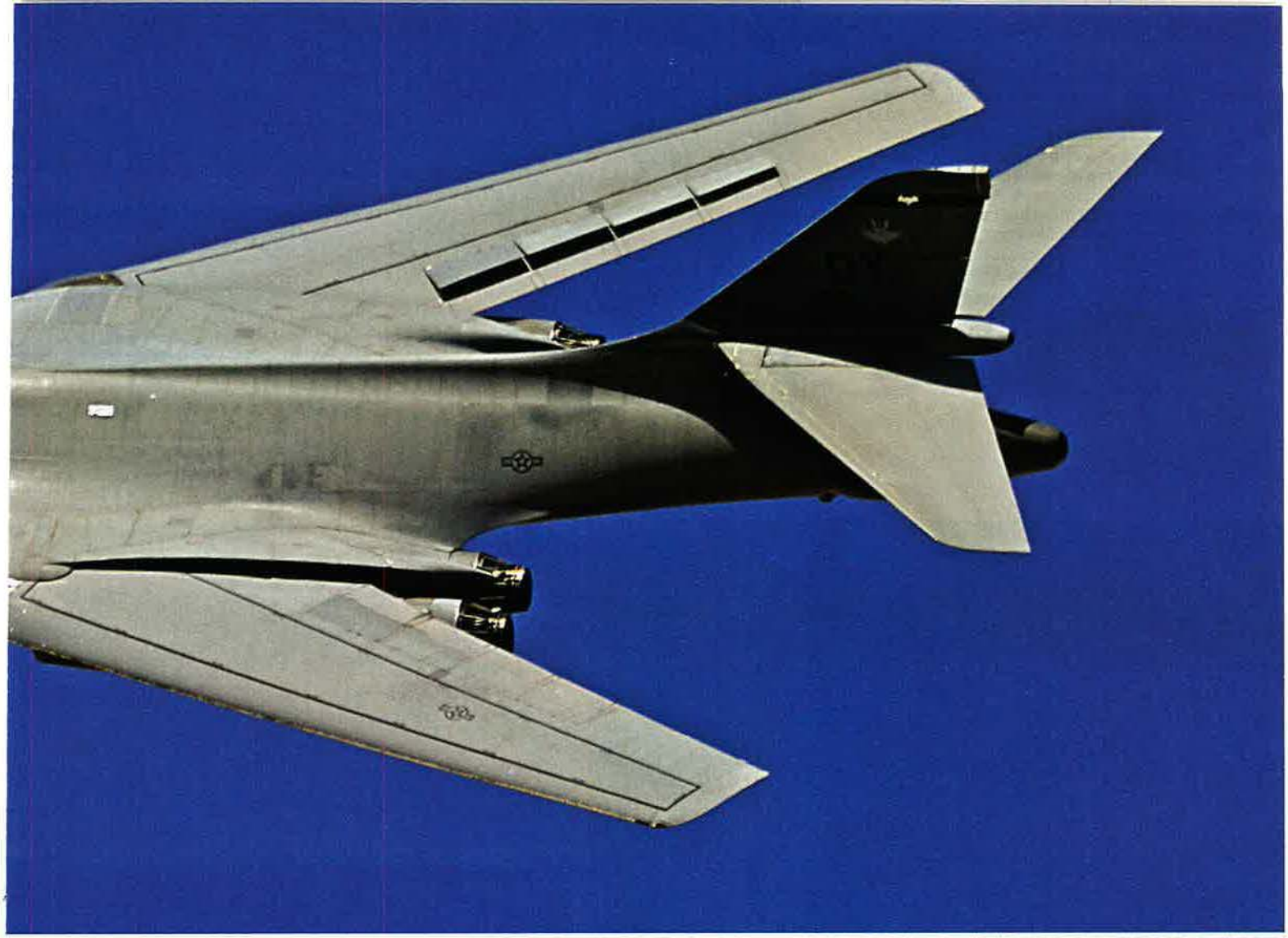
Simulators that pepper the range can mimic every conceivable danger to aircraft—from anti-aircraft artillery to missile batteries—some of which can provide feedback in real time.

"We'll have live fire operations that we haven't had in the past, we'll have [better] airdrops, ... and we will have a ground presence to a degree that we have not seen in the past," Wolf said.

While Cannon's neighbors may no longer hear the frequent roar of F-16 afterburners, the combat capability the Air Force is building at Cannon will be no less lethal. ■



Above: *A B-1 Lancer from the 9th Bomb Squadron, Dyess AFB, Tex., flies over the Nevada desert with its wings swept fully aft. Here: The target area takes a pounding from live ordnance. Right: A 509th Bomb Wing B-2 from Whiteman AFB, Mo., drops general-purpose bombs.*

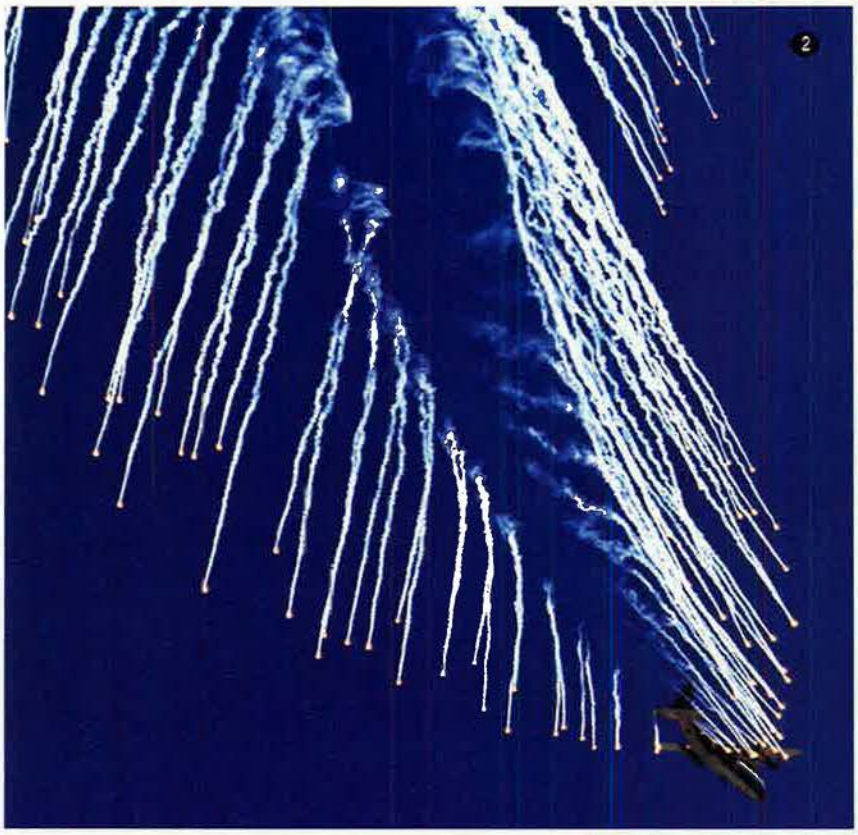


Firepower on the Wing

Live munitions dropped in the desert made an awesome demonstration.

Photography by Ted Carlson

AT A DESERT RANGE near Nellis AFB, Nev., the Air Force periodically holds a firepower demonstration. It's a chance to showcase front-line fighters and bombers, their munitions, and other USAF capabilities in the air and on the ground. This past September, more than 2,000 people turned out for the demonstration, held at a remote site called Point Bravo. Congressional staff members, active duty military, veterans, local business leaders, law enforcement and rescue agency personnel—all were invited to bring cameras and binoculars. The observers sat on bleachers set up three miles away from the actual bomb dropping and watched the action on large screens.



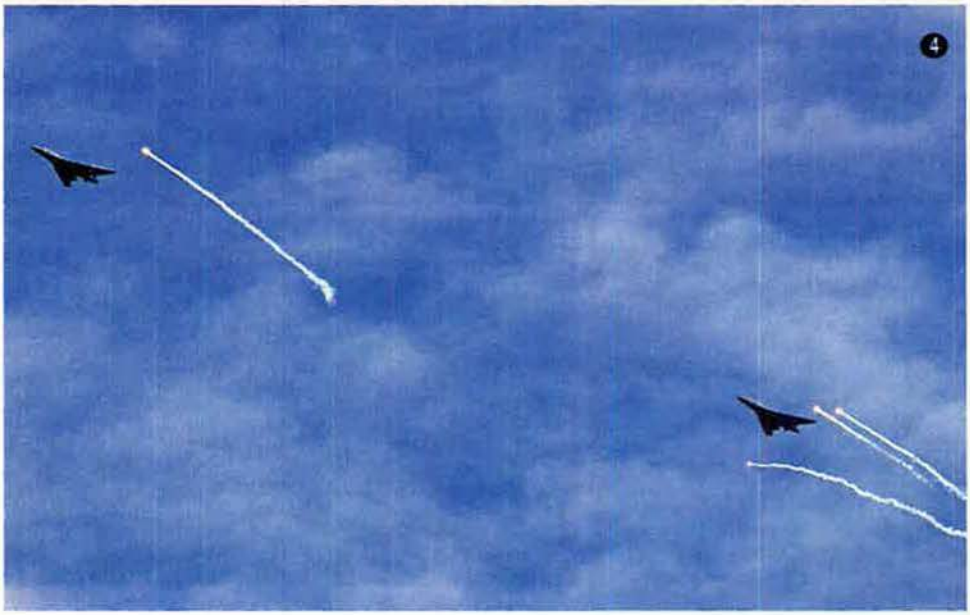
The firepower demonstration began with a desert warfare scenario, using grenade launchers and .50-caliber and M-60 machine guns. Then came an hour-long demonstration of flying firepower. [1] An F-15E Strike Eagle, from the 422nd Test and Evaluation Squadron at Nellis, turns for a bomb run at a target. [2] A 4th Special Operations Squadron AC-130U Spectre gunship performs a flare salvo to defeat simulated infrared guided surface-to-air missiles. [3] An A-10 fires its 30 mm cannon. [4] An F-15E moves in for a kill. [5] During a combat search and rescue simulation, an HH-60G Pave Hawk releases flares.

I1I USAF security forces in Humvees man machine guns as they secure an area during their live-fire exercise. I2I This F-117 Nighthawk came to the demonstration from Holloman AFB, N.M.

More than two dozen aircraft from across the US brought their firepower to Point Bravo. A 50-minute drive north of Nellis, the site consists of a few brick buildings and antennas. It is part of the three-million-acre Nevada Test and Training Range.

I3I A Warthog takes out a target with 2.75-inch rockets. Between rockets, bombs, missiles, and its cannon, the A-10 is a serious threat to enemy armored units. I4I "Red Air" came in the form of F-16Cs from the 64th Aggressor Squadron at Nellis.

|1| An A-10 fires a volley of rockets. At Point Bravo, the Warthogs expended more than 50 2.75-inch rockets and more than 4,000 rounds of 30 mm cannon shells. |2| In the CSAR demonstration, an HH-60 (foreground) and an A-10 (background) work together, as the Warthog suppresses potential threats and the Pave Hawk carries out the rescue. |3| A Red Air F-16 pulls hard. With a small frontal cross section and its blue camouflage paint scheme, the F-16 is hard to visually acquire.



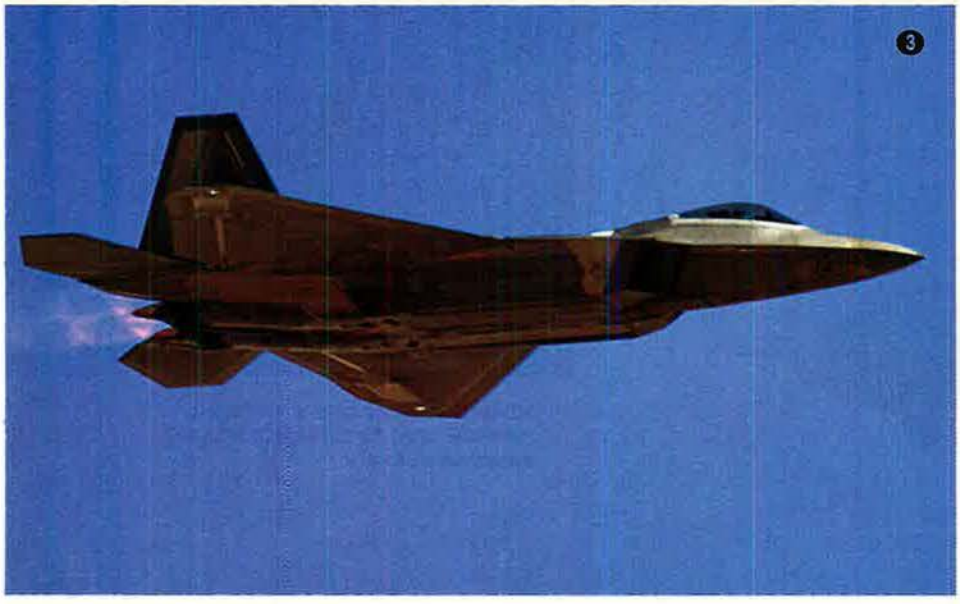
|4| Two B-1s fire defensive flares during a bomb run. The "Bone" specializes in both low-level and medium-altitude penetration for weapons delivery. |5| A B-52 drops bombs over a target. It was one of two participating from the 2nd Bomb Wing, Barksdale AFB, La.

I1I A BUFF fires flares as it releases bombs. I2I Aircraft dropped 500-pound, 1,000-pound, 2,000-pound, cluster, and laser guided bombs. Bombing on this scale would be done against large enemy troop and armor concentrations. I3I As Pave Hawks approach a downed pilot during the CSAR mission, door gunners keep an eye out for enemy fire.

The HH-60s and A-10s were able to fly within a few hundred yards of the spectators, to provide them with a closer look.

I4I An F-16 drops cluster munitions, generally used for anti-armor and anti-personnel strikes.

|1| Pararescue jumpers use Fast Rope, which has loops and rings woven into it, for a quick CSAR insertion and extraction from the Pave Hawk. |2| Pilot or decoy? PJs first make sure they are picking up a downed pilot and not an enemy pretending to be one. |3| An F-22 attached to the 422nd TES flies past the spectators. |4| The B-2 delivers a long stream of bombs.



I1I At the demonstration, the F-117 contributed awesome firepower along with the F-16s and F-15Es. USAF's first stealth fighter, the F-117 has functioned as the service's primary "first day of war" attack aircraft, able to penetrate high-threat areas with laser- and GPS-guided munitions. The Nighthawk made its first flight in 1981. It is being retired this year. I2I A Viper lights the afterburner during takeoff at Nellis. It carries cluster bombs and AIM-9 Sidewinders under its wings and AIM-120C AMRAAM missiles on its wingtips. I3I F-15Cs, such as this one, and F-22s took on the aggressor aircraft, demonstrating air combat maneuvering.

I4I Its CSAR mission a success, the Pave Hawk flies off with the rescued pilot on board, while the A-10 continues to work the perimeter. The demonstration in the desert showcased the Air Force's firepower, wide-ranging capabilities, and deadly precision. ■

The Ground Force Taskings Go On

More than 6,000 airmen will be doing the work of soldiers and marines for quite a while to come.

By Otto Kreisher

The Army and Marine Corps have started to reduce their ground forces in Iraq in response to a reduction in violence, but Air Force officials expect no relief for the growing number of airmen chipping in to help the land forces there.

Top Air Force officials say they assume they will have to provide an equal or perhaps a slightly higher number of airmen to fill "nontraditional" ground jobs. This is true, they say, not only in Iraq but also in Afghanistan. These officials expect USAF's commitment to continue well into next year.

The steady state assignment of more than 6,000 airmen to these tasks—called "in lieu of" missions, in that they have been assigned to airmen in lieu of soldiers and marines—will likely persist even though the Army and Marine Corps are raising end strength and the Air Force is cutting its.

The ILO taskings also continue despite Air Force charges that well-trained personnel are being put to poor use.

The Air Force has been sending its airmen to Iraq, Afghanistan, and elsewhere in the US Central Command theater to perform ILO taskings since February 2004. They have been performing a variety of tasks normally handled by soldiers or marines. Those requirements came in response to Pentagon concerns that the ground services were being overstressed from repeated combat deployments and shortened periods at home bases.

The assignments come in addition to the normal Air Force deployments in support of the war against extremists.

Of the 25,453 airmen deployed to the theater late last year, 6,293 were filling ILO taskings, Maj. Gen. Marke F. Gibson, Air Force director of operations, told a House Armed Services readiness subcommittee.

That number is up from about 5,100 in 2006 and is expected to remain "relatively stable" under current plans, said Col. Gregory A. Kern, commander of the Air Force Operations Group.

The ILO requirement this year is expected to be in the range of 6,000 to 6,600, Kern said. And the preliminary work on the 2009 joint force management plan indicates a requirement for 6,500 to 6,600, he said.

Amn. Kevin Cook stands watch at Ali Air Base, Iraq. Right: Members of the 887th Expeditionary Security Forces Squadron patrol a convoy route, searching for improvised explosive devices.

USAF photo by A1C Jonathan Snyder

Those CENTCOM requirements persist despite a declaration from Gen. T. Michael Moseley, Air Force Chief of Staff, that he would resist further requests for airmen to fill Army or Marine Corps jobs that fall outside airmen's core competencies.

"We live in a joint world," said Moseley. "We live in a military that's at war and we are in a situation where, if we can contribute, sign me up for that," Moseley said. However, he was much less enthusiastic about certain types of ILO assignments, such as Air Force security personnel guarding detainees in Iraq.

"We don't guard prisoners; we don't even have a prison," Moseley said. Making airmen guard prisoners takes them away from their normal Air Force jobs for time to train, more time to deploy, and then time to get back into their old work, he said.

In October, Moseley indicated that the Air Force was approaching a limit to its ability to support the ILO requirements, because of its ongoing personnel reductions.

Although the Air Force will continue to contribute to the joint fight, the Chief said, "as we get closer to 316,000 [troops; that is the current USAF end strength target], the capacity of the Air Force to offer up this kind of help will diminish down to about zero."

The general said he did not object to airmen performing ground duties that they are trained to do, such as driving supply trucks. With its Air and Space Expeditionary Force rotations, the Air Force can put qualified drivers on the job quickly if needed. And the Air Force does so when asked, Moseley said.

Something Completely Different

However, because of the time it takes to select and train an airman for a requested job, the situation on the ground may have changed by the time the ILO airman arrives on the scene. The airman may then end up doing something completely different for CENTCOM, which is a waste of skill and effort.

Moseley also said that he has a problem with the term "in-lieu-of tasking." Being in lieu of anything implies that airmen are just sitting around waiting for something to happen. They actually have full-time day jobs and are critical contributors to other Air Force missions "that are now not being met" because airmen are "out doing something outside that task."

Gibson made the same point to the House committee, noting that when airmen perform duties outside of their core competencies, it costs money to train them and undercuts their primary mission and the missions of the Air Force. "We are proud to be part of this joint fight," he said, "but we would like to continue to get back into those functions that are matched with our core competencies within the Air Force."

Kern said ILO assignments stem from requirements from a combatant command—in this case, US Central Command—for a particular mission set or capability. "As the request for forces is in development, Joint Forces Command (JFCOM) will identify a preferred force provider," such as the Army, he said.

If the Army determines it cannot fill that requirement within the rules set by the Defense Secretary for conditions such as the ratio between deployments and dwell time at home, it will tell JFCOM, Kern explained.

JFCOM then asks the other services if they can meet the requirement and, if so, at what risk to their own functions.

The key point, Kern emphasized, is that ILOs are not filling Army requirements—they are a "combatant commander, a joint warfighting, requirement."

UAF photo by SSgt. Phillip Butterfield

A1C Byron Mcguire, a gunner with the 887th Expeditionary Security Forces Squadron, inspects the straps on his vehicle's turret seat before a convoy mission in Iraq.

If the requirements come to the Air Force, "we look at who's in the AEF bucket, who's ready to deploy, who has been trained to deploy," said Kern. "Those are the folks who can be assigned."

Most ILO tours last 179 days, with some up to 365 days, based on the requirements. Despite the concerns about individuals working outside their specialties, Kern said "greater than 90 percent of the airmen out there doing in-lieu-of missions are within ... their core competency."

He also said the ILO assignments are nontraditional jobs, first and foremost. Airmen are "doing a lot of training team activities, doing provisional reconstruction team activity, teaching the Iraqis and Afghans how to operate inside our concept of a modern military structure." Airmen also are working on mobility or logistic teams and are conducting "some convoy activities."

Asked about the apparent conflict between working within a "core competency" but doing "nontraditional jobs," Kern used the example of airmen who are trained as heavy equipment operators or big truck drivers, but for "the expected mission set for an Air Force vehicle operator."

If those airmen are tasked as ILOs, "they already have the basic skills it takes to drive the vehicle, to operate the vehicle safely on the battlefield," he said.

What the airmen probably lack is knowledge of how to operate that vehicle in a convoy with 10 or 12 or 100 other vehicles. The Army terminology, command and control architecture, and tactics, techniques, and procedures all must also be learned, especially as drivers face a high risk of coming under attack.

Bridging the Training Gaps

The Navy also has been helping to relieve the burden on the two ground services, sending sailors to perform ground jobs in the heat and sand of Iraq and Afghanistan. When he was Chief of Naval Operations, Adm. Michael G. Mullen, now Joint Chiefs of Staff Chairman, actively supported the use of what the Navy calls individual augmentees (IAs) to replace soldiers and marines. With about 10,000 sailors ashore, including 8,000 IAs, the Navy has more "boots on the ground" than at sea in the CENTCOM region.

Every airman selected for an ILO deployment will go through one of 32 sets of specialized combat skills training to make him or her "combat effective" in the environment the airman will deploy to.

The combat training takes place at one of eight Army posts and can run from several weeks to several months, Kern said. It is conducted by Army instructors, but the syllabus is put together and "managed as a kind of joint operation" between USAF's 2nd Air Force and the Army.

During that training, the airmen are under the command of an airman. They train as a unit and deploy as a unit, the colonel said.

The curriculum includes training in weapons, advanced first aid, Army terminology, command and control, how to operate wearing body armor and helmets—"all the combat skills they need to be combat effective, given the location," he said.

The training requirements are developed by 2nd Air Force experts and reviewed regularly by the Army to meet the specific task and location, he continued.

"We don't have one-size-fits-all training," Kern said.

Second Air Force assembled more than 40 functional experts to serve as the in-lieu-of Training and Equipment Review Board (TERB) at Keesler AFB, Miss., in March. The board validated

USAF photo by SSgt. Phillip Butterfield

Airmen at Camp Bucca, Iraq, are briefed before the start of a convoy. They are deployed from Barksdale AFB, La.; Nellis AFB, Nev.; Lackland AFB, Tex.; and Moody AFB, Ga.

USAF photo

Left to right, TSgt. William Duffy, SSgt. Justin Geers, and SSgt. James Arent, all deployed from Moody AFB, Ga., prepare for a patrol in Iraq.

the requirements for airmen performing the ground missions.

Acknowledging that Army training differs from Air Force training in culture, content, and delivery, the TERB members have "made great strides bridging the gaps—thus ensuring airmen are postured for success," said Maj. Gen. Michael C. Gould, 2nd Air Force commander, in an Air Force release.

No Career Damage

However, Gen. William R. Looney III, commander of Air Education and Training Command, complained last September that there are still "some severe disconnects" in the ILO training. "The Air Force needs to get a better grip on what the taskings are, where the airmen are heading, and whether they are getting the proper training," Looney said.

Kern said 70 percent of USAF's ILOs are in Iraq, with the remainder serving in Afghanistan or elsewhere in the CENTCOM theater.

Eighty-five percent of the ILOs are enlisted and 15 percent are officers.

Some ILO requirements are filled through mandatory assignment, although some airmen have volunteered for the jobs, and Kern said the Air Force is working hard to ensure that no airman's career suffers because of an ILO assignment.

USAF has found that when airmen return from an ILO assignment, "they are extremely competitive, highly charged, and they do very, very well when they compete with their peers who have not deployed" for an ILO experience, he said.

The airmen come back with "a great understanding of joint operations," Kern added. "They have a great understanding of Army terminology, Marine terminology, how a joint force fights. They have experiences that few other airmen will have."

If an airman misses a promotion test or a training opportunity due to an ILO deployment, a process is in place that allows the Air Force to make up for that.

USAF photo by MSgt. Robert Valenca

SrA. Jonathan Sheridan prepares C-4 explosives at Ali Air Base for a controlled detonation of confiscated weapons. Sheridan was assigned to the 407th Civil Engineer Squadron's explosive ordnance disposal team.

Airmen "are not put at a disadvantage because of their contribution to the overall war," Kern stressed.

There is, however, a potential impact from the unusual duties in a combat zone that the Air Force cannot reverse—the heightened risk of death or injury.

Kern said the Air Force could not distinguish ILO casualties from those suffered doing traditional tasks. It is likely, though, that ILO assignments "outside the wire" account for some of the airmen killed in action and wounded in Iraq and Afghanistan.

Despite the complaints about how some ILO airmen are employed, the Air Force is committed to the program because "the No. 1 priority is to win this Global War on Terror," Kern said. Moseley has said a number of times, "It's really not about the Air Force or the Army, or the Navy, or the Marine Corps. It's about winning this fight."

Kern has heard back from the leadership that has gone out to the AOR to visit these airmen and from the deployed commanders, and they say "these airmen are appreciated, they're valued. There is a demand for them because ... they're smart, and they like being a part of something that will define this generation and this century." ■

Otto Kreisher is a Washington, D.C.–based military affairs reporter and a regular contributor to Air Force *Magazine. His most recent article, "Seven New Carriers (Maybe)," appeared in the October 2007 issue.*

Those who wear Air Force blue are virtually shut out of the top warfighting posts.

Why Airmen Don't Command

By Rebecca Grant

Air Force officers who run big regional commands are rare birds indeed. In Europe, for example, there have been only two—Gen. Lauris Norstad, who served as the Supreme Allied Commander Europe during the period 1956-62, and Gen. Joseph W. Ralston, who held the same post from 2000 to 2003.

In fact, the only other regional command ever to be headed by an Air Force officer is US Northern Command, created after the Sept. 11, 2001 terrorist attacks here. Two of its commanders—Gen. Ralph E. Eberhart (2002-04) and Gen. Victor E. Renuart Jr. (2007-present)—have been airmen.

Other than that—zip.

US Pacific Command, dating to 1947, has been led by 21 admirals but zero officers from the Air Force (or any other armed service). US Central Command, established in 1983, has had nine commanders, all from the Army, Navy, or Marine Corps. Not one of US Southern Command's 30 commanders has been an airman. The newest regional entity, US Africa Command, drew its first commander from the Army.

True, Air Force officers today lead both US Strategic Command and US Transportation Command. In the recent past, airmen have commanded both US Special Operations Command and US Joint Forces Command. Airmen have also had their fair share of rotations as Chairman of the Joint Chiefs of Staff, from Gen. Nathan F. Twining (1957-60) through Gen. Richard B. Myers (2001-05).

Still, with regional combatant commands growing in importance, there's a sense that airmen have been overlooked and perhaps even slighted. If airpower is the dominant force in today's military operations—and it is—you would expect to see more airmen in command. Why are they not?

Photo by Boris Grdanoski, Reuters/Corbis

Gen. Joseph Ralston, then Supreme Allied Commander Europe, leaves a meeting in Skopje, Macedonia.

The first thing to say is that the record cannot be an accident of history; the numbers are too stark. Indeed, notes the airpower historian Phillip S. Meilinger, "The statistics are stunning."

The birth of the unified command system roughly coincided with the birth of the Air Force, so random selection would have led to roughly equal numbers of commanders among the services. As Meilinger (a retired Air Force colonel) totes up the score, there have been 110 theater commanders since World War II, counting the four-star joint commanders on the Korean Peninsula and in the Vietnam and Iraq wars.

The Air Force has supplied only the four mentioned—Norstad, Ralston, Eberhart, and Renuart. The Army has been the overwhelmingly dominant service, supplying 75 of those 110 joint commanders. The Navy has produced 25 of them, most of them in the Pacific. Even the Marine Corps has outpaced the Air Force, providing six regional commanders, according to data prepared by Meilinger.

When it comes to non-geographic-theater

four-star command billets, USAF's record has been better, but only marginally. USAF has supplied commanders in 21 of 71 of these cases. (On Oct. 7, 1999, Atlantic Command became US Joint Forces Command and its mission switched from geographic to functional responsibilities.) Even so, the Navy significantly surpasses the Air Force in this category of command, with 30 commanders.

Experts have cited a large number of possible reasons for the paucity of airmen serving in theater command. The list begins with the peculiarities of the Air Force as an institution and extends to the US military's stunted view of airpower, politics of the Joint Chiefs of Staff, and the Pentagon's nomination and Congressional confirmation processes.

To begin with, it seems reasonably clear that, for a long time, the Air Force did not place much emphasis on the leadership of regional commands. As Meilinger described the state of mind at the time, "The epitome for airmen was to be Chief or ACC [Air Combat Command] commander." Everything else, he went on, was "table crumbs."

Throughout the long Cold War, USAF's mission was focused tightly on nuclear deterrence underwritten by heavy bombers. Air Force generals had a lock on the awesome power of Strategic Air Command, a "specified" or single-service command. Over its 46-year existence, SAC had a total of 13 commanders. From George C. Kenney in 1946 through Curtis E. LeMay and Russell E. Dougherty and all the way to George Lee Butler in 1992, all wore Air Force blue.

Gen. Lauris Norstad is one of only two airmen to serve as the Supreme Allied Commander Europe.

A Transformation

Until fairly recently, moreover, ostensibly "unified" regional commands were in reality dominated by the doctrine and preferences of the single service which served as the principal supplier of forces to the region. In Europe and the Americas, it was the Army. In the Pacific, that was the Navy. In the Middle East, it was the Marine Corps as well as the Army.

In the relative quiet of the late Cold War, the CINC job was not popular because it would keep a top officer away from his military branch and its own forces. Power, by and large, rested with the services. In that framework, it was better for an airman to command Strategic Air Command or Tactical Air Command than to take over largely administrative and diplomatic duties in some distant geographic theater.

Then came three transformative developments. They were:

- The Goldwater-Nichols Act. Signed into law in October 1986, Goldwater-Nichols altered the national chain of command so that combatant commanders had direct authority over forces in their area of operations. Instead of Army, Navy, and Air Force components planning and directing their own operations, combatant commanders now had the whip hand. The combatant commander, in turn, reported not to his own service branch but rather to the Secretary of Defense, who is in fact the immediate superior of the combatant commander. In practice, the reporting is by custom done via the JCS Chairman, who has an advisory role.
- The Gulf War. Desert Storm in 1991 demonstrated, in spades, the new power and prestige of a regional commander. The war made a global superstar of a once-obscure Army officer—Gen. H. Norman Schwarzkopf. When he assumed leadership of CENTCOM, Schwarzkopf felt as though he had "stumbled upon a neglected frontier," he later wrote. He was also brutally frank about how he got the job. "Central Command had traditionally alternated between the Army and the Marine Corps, and since the current commander, Gen. George Crist, was a marine, his successor would almost certainly be the man [the Army Chief of Staff] chose." He was that man. Victory in the Gulf propelled Schwarzkopf and the CENTCOM post into the spotlight. The combination of rapid victory and global media surrounded Schwarzkopf with glamour not seen since the days of Eisenhower and MacArthur.
- The rise of regional policy. After the troops left the Gulf region, the US and several allies stayed behind to maintain no-fly zones in the southern and northern portions of Iraq. For 12 years, CENTCOM contained Iraqi power from the air while, to a less important degree, Navy warships enforced sanctions at sea. However, the command continued to alternate between the Army and the Marine Corps. The strangeness of ground-force specialists commanding an air and maritime theater led some to question why Air Force generals were not considered for this top regional post.

It was against this backdrop that the absence of USAF generals in command began to stand out. It seemed that airpower was being left out of the big game in town.

All of the three factors, but especially the accent on regional policy in the post-Cold War world, turned the combatant commanders into important players in defense policy. Suddenly, emphasis was on partnerships and alliances. Regional commanders found themselves at the leading edge of cooperative engagement, larger military training enterprises, and so forth.

Back in Washington, policy-makers, in turn, were listening more closely to the views of regional commanders. What they had to say had new weight in the reformulation of defense strategy and plans. The mid-1990s saw new emphasis on joint doctrine and joint vision statements, with impact on service actions.

USAF Gen. Nathan Twining, Chairman of the Joint Chiefs of Staff, 1957-60.

USAF Gen. George Brown, Chairman of the Joint Chiefs of Staff, 1974-78.

USAF Gen. David Jones, Chairman of the Joint Chiefs of Staff, 1978-82.

Some argued that the regional commanders should have a stronger voice in the Pentagon's planning, programs, and budget deliberations. Those commanders had long been generating annual integrated priority lists, naming the top new systems desired by their commands, but the lists always had gotten polite brush-offs. Now, some wanted to give the combatant commanders real and significant influence over resources, at the expense of the services' "organize, train, and equip" powers.

This raised a troubling question: If regional commanders were to have a bigger role in requirements, and none of them were airmen, who would convey USAF's perspective?

In July 2000, Air University's College of Aerospace Doctrine, Research, and Education published a paper titled, "Once in a Blue Moon: Airmen in Theater Command," written by Air Force Lt. Col. Howard D. Belote. Belote's study located the problem in the fact (as he saw it) that "airmen appear to have a narrower upbringing and less exposure to the political process than other service members." Further, Belote's research suggested that Army and Navy commanders tended to log numerous assignments within the theaters in which they eventually commanded.

Belote based his conclusion, in part, on the declared views of one Richard B. Cheney, then a former Secretary of Defense but not yet a United States vice president. In an interview with Belote, Cheney contended that the Army and Navy tended to have placed in the command queue many officers "who've worked their way up" in a specific theater. The Air Force had not.

Tradition obviously factored heavily into selections, and the Air Force wasn't the only service to get shortchanged. United States Southern Command seemed to have been locked in for the Army from 1963, when it became a four-star command. The thinking was that most militaries in the region were run by soldiers, so the US should also send an Army man to deal with them and tighten the links with foreign officers. That concept changed only in 1997 with the appointment of a Marine Corps general to lead the command. Still, while the post now has been held by soldiers, sailors, and marines, it has never gone to an airman.

The Navy Hold

The appointment of Air Force Gen. Joseph W. Ralston as Supreme Allied Commander Europe was a headline-making event. Ralston took over for Army Gen. Wesley K. Clark, who had fallen out of favor in the wake of Operation Allied Force, the 1999 NATO combat operation in Serbia. Ralston's appointment marked the first time since 1963 that an airman had headed up a big regional command.

Ralston's career at first glance seemed to run counter to advice on how to build a regional combatant commander. A fighter pilot with extensive Vietnam experience, Ralston held a number of command jobs within the Air Force and spent significant amounts of time on the staff in research, development, and acquisition. He attended Army Command and General Staff College and later the National War College, but these were his only assignments outside the Air Force until he became vice chairman of the Joint Chiefs of Staff in 1996.

Ralston was considered for nomination as Chairman of the Joint Chiefs of Staff. He withdrew his name amid reports that he had engaged in an extramarital affair years before, when he had been legally separated from his wife. Army Gen. Henry H. Shelton was selected, making it three in a row for the Army.

In reality, though, Ralston had just the right resume for the European post. His combat credentials and staff experience were well-matched by in-depth assignments in research and development of new technologies—an especially important factor in the European Theater. Most important, Ralston during his years as vice chairman had earned the confidence of the Joint Chiefs and the Pentagon leadership.

Even with the Cold War over, the SACEUR job was the crown jewel of theater commands. Ralston served ably until retirement in 2003. However, the next attempt to appoint an airman to a major regional command did not fare so well.

This time around, Pentagon leaders nominated an airman, Gen. Gregory S. Martin, to succeed retiring Adm. Thomas B. Fargo as the leader of Pacific Command. In the end, though, it was clear that neither Goldwater-Nichols nor any other mortal force could blast the Navy out of that chair.

We now know that emotion and tradition have conspired to give the Navy a lock on that command. In the service's historical narrative, the US fleet and aviators turned the tide of World War II in the Pacific. Since then, the emotional attachment to the command at Pearl Harbor has scarcely dimmed. There is a logic to keeping such a large maritime theater in Navy hands, yet similar logic has been discounted in other commands. For example, Navy and Marine Corps officers take turns with USAF officers at the helm of US Strategic Command, the lineal descendent of USAF-dominated SAC.

In summer 2004, Secretary of Defense Donald H. Rumsfeld tried to break the Navy hold on the Pacific. Known for scrutinizing all service nominees for key posts, Rumsfeld also had shown himself willing to reject service nominees for joint or senior service billets, often running through several names before settling on a candidate. Those in charge

USAF Gen. Richard Myers, Chairman of the Joint Chiefs of Staff, 2001-05.

Photo by Jacques Langevin, Corbis Sygma

Then-Lt. Gen. Charles Horner (l) and Gen. Norman Schwarzkopf speak at a press conference in Riyadh, Saudi Arabia, during the first Gulf War.

of guiding senior officer career moves learned to expect major churn from Rumsfeld.

So, with Fargo edging toward the door and with senior admirals speculating which of their number would wind up at Pearl Harbor, Rumsfeld unexpectedly nominated Martin, a stellar Air Force officer, to take the top Pacific job.

When it happened, a PACOM public affairs officer issued to *Stars and Stripes* a remarkably bland statement: "US Pacific Command is like all joint commands. It can be commanded by qualified officers from any service." For his part, Fargo praised Martin as "a superb officer."

Privately, however, the Navy was shocked senseless. More to the point, the same was true of senior members of the Senate and House. One of the shockees was Sen. John S. McCain (R-Ariz.), a retired Navy officer who had served in the Pacific and was a POW in Vietnam. McCain's father, Adm. John S. McCain Jr., had been PACOM commander in the years 1968-72.

The stage was set for confrontation. It came during an October hearing of the Senate Armed Services Committee on whether to confirm Martin in the Pacific post. Although officers called to testify must swear to speak truthfully and candidly, Martin's hearing turned into a minefield.

Senate questions submitted in advance to Martin had concentrated heavily on topics of interest in the Pacific. In the hearing, however, McCain bore in on Martin about former Air Force acquisition executive Darleen A. Druyun, who had been convicted of contracting favoritism and ultimately served jail time. Martin said he had seen "nothing inappropriate" when he worked with her several years before. McCain angrily declared, "I'm questioning your qualifications for commands."

It was an oily insult to one of the US military's premier officers, but Martin gracefully withdrew his nomination, stating, "I believe it in the best interests of the Pacific Command and the Air Force Materiel Command [Martin's venue at the time] for me to withdraw my nomination, even though I have not been involved with the KC-767 tanker program."

Get In the Game

Adm. William J. Fallon was summoned from his post at the Navy's Fleet Forces Command in Norfolk, Va., to take over the now open post in the Pacific.

McCain's disruption of the Martin nomination marked the start of a retrenchment for the Air Force. In March 2007, Fallon was selected to move from the Pacific to take the helm of Central Command in the Mideast. The surprise move ended 24 years of Army and Marine Corps leadership of CENTCOM. Clearly, there was no prejudice about handing command to a Navy man. It appears that no one from the Air Force was even seriously considered.

Not long afterward, retirement opened up the top post at Southern Command. This prize, too, went to the Navy.

Whether the reasons are personal or institutional or both, the Air Force has long been underrepresented in top command jobs. The disparity matters more than ever as the regional commands become a focus of defense strategy. At the least, the airmen's perspective is likely to be given short shrift.

It seems undeniable that the pattern must change—if not immediately, then reasonably soon. As Belote said, "If ... airpower is to have the game ball, should not someone who has devoted a career to airpower quarterback some of the games?"

Three transformations are vital.

First, the Air Force must groom its leading generals for command positions. Today that means not only staff assignments but tours where Air Force officers gain credibility as warriors. As Belote's study pointed out, understanding ground operations—which have dominated US military thought—is also essential. The recent experiences of airmen in Iraq and Afghanistan should go far toward broadening the base of air and space warriors armed with outstanding joint skills.

Second, the airman seeking a top combatant command must catch the eye of those in the political process. At all costs, the Air Force should guard against running its promotion process based on "political acceptability," counseled one retired Air Force four-star. At the same time, the record bears out a need for acclimating prime candidates to circles outside of the Air Force. Sending forward the best candidates demands a blend of experience on top of the excellence that got the officer to three stars in the first place.

Third, all evidence is that the institutional Air Force needs to find a way to fight harder or politic better for those general officers whose names do go forward. "We need to do a far better job in the political arena fighting for our people," said Meilinger. "We seem not to want to dirty our hands with the political process, and we pay for that seeming fastidiousness." ■

Rebecca Grant is a contributing editor of Air Force *Magazine. She is president of IRIS Independent Research in Washington, D.C., and has worked for RAND, the Secretary of the Air Force, and the Chief of Staff of the Air Force. Grant is a fellow of the Eaker Institute for Aerospace Concepts, the public policy and research arm of the Air Force Association. Her most recent article, "The Long Arm of the US Strategic Bombing Survey," appeared in the February issue.*

Senior Leadership

Compiled by June Lee, Editorial Associate

KEY:

ADUSD	Assistant Deputy Undersecretary of Defense
ASD	Assistant Secretary of Defense
ATSD	Assistant to the Secretary of Defense
DASD	Deputy Assistant Secretary of Defense
DATSD	Deputy Assistant to the Secretary of Defense
DUSD	Deputy Undersecretary of Defense
PADUSD	Principal Assistant Deputy Undersecretary of Defense
PDASD	Principal Deputy Assistant Secretary of Defense
PDATSD	Principal Deputy Assistant to the Secretary of Defense
PDUSD	Principal Deputy Undersecretary of Defense
USD	Undersecretary of Defense

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Deputy Secretary of Defense
Gordon England

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Robert Wilkie

PDASD, Legislative Affairs
Robert R. Hood

DASD, Senate Affairs
Robert Taylor

DASD, House Affairs
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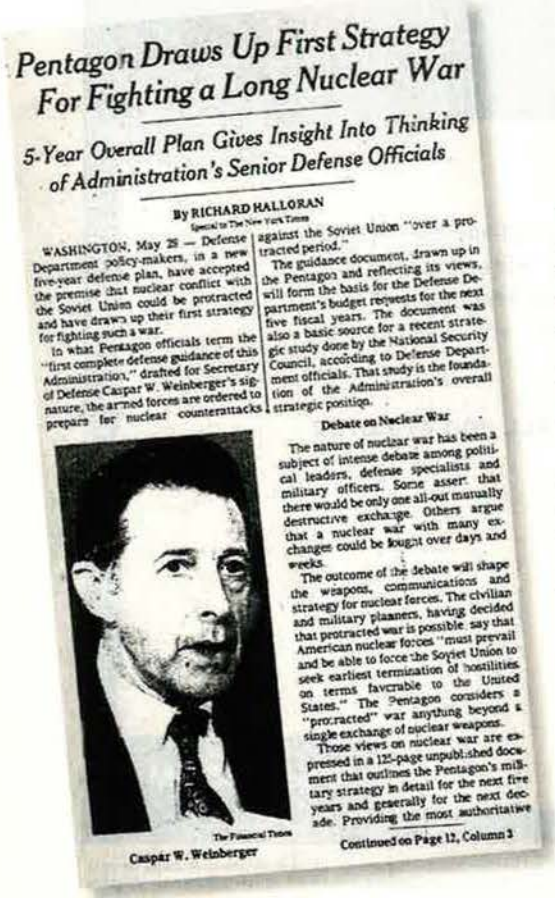
Protracted Nuclear War

The Reagan Pentagon wanted to plan for it. Then, all hell broke loose.

By Richard Halloran



Pentagon Draws Up First Strategy For Fighting a Long Nuclear War

5-Year Overall Plan Gives Insight Into Thinking of Administration's Senior Defense Officials

By RICHARD HALLORAN
Special to The New York Times

WASHINGTON, May 28 — Defense Department policy-makers, in a new five-year defense plan, have accepted the premise that nuclear conflict with the Soviet Union could be protracted and have drawn up their first strategy for fighting such a war.

In what Pentagon officials term the "first complete defense guidance of this Administration," drafted for Secretary of Defense Caspar W. Weinberger's signature, the armed forces are ordered to prepare for nuclear counterattacks against the Soviet Union "over a protracted period."

The guidance document, drawn up in the Pentagon and reflecting its views, will form the basis for the Defense Department's budget requests for the next five fiscal years. The document was also a basic source for a recent strategic study done by the National Security Council, according to Defense Department officials. That study is the foundation of the Administration's overall strategic position.

Debate on Nuclear War

The nature of nuclear war has been a subject of intense debate among political leaders, defense specialists and military officers. Some assert that there would be only one all-out mutually destructive exchange. Others argue that a nuclear war with many exchanges could be fought over days and weeks.

The outcome of the debate will shape the weapons, communications and strategy for nuclear forces. The civilian and military planners, having decided that protracted war is possible, say that American nuclear forces "must prevail and be able to force the Soviet Union to seek earliest termination of hostilities on terms favorable to the United States." The Pentagon considers a "protracted" war anything beyond a single exchange of nuclear weapons.

Those views on nuclear war are expressed in a 125-page unpublished document that outlines the Pentagon's military strategy in detail for the next five years and generally for the next decade. Providing the most authoritative

Continued on Page 12, Column 3

The Financial Times

Caspar W. Weinberger

Top: B-52G bombers take flight. Left: The May 30, 1982 article from the New York Times.

During a trip to Europe in the 1980s, Undersecretary of Defense Fred C. Iklé sat down to breakfast one morning and fell into a discussion about how a nuclear war might be fought. After several minutes, the Reagan Administration aide paused, then said, "Of course, none of us really knows what he is talking about, because we have no empirical feedback on nuclear war."

Iklé, a well-known nuclear theorist, later expanded on that thought, writing that the "instantaneous terror" of nuclear war "is so unfathomable that people tend to think about it in all-or-nothing fashion; either no nuclear weapons will be used, or aggressor and defender will be totally destroyed."

Ever since the 1945 atomic bombings of Hiroshima and Nagasaki, strategic thinkers such as Iklé have struggled to imagine how a nuclear war might unfold, even as they sought to shape doctrine and procure weapons for fighting such a war. For many reasons, that intellectual exertion reached a climax in the early 1980s.

In retrospect, the pivot was the new Reagan Administration's concept of "protracted nuclear war," often cast in shorthand as "fighting and winning nuclear war." It was hardly a military secret; almost as soon as they arrived in Washington in 1981, Reagan officials began discussing a military campaign after a potential breakdown in deterrence.

Surrender was out, said these officials, as was suicidal all-out retaliation, so some more-limited, episodic nuclear doctrine was needed. Better to plan for it.

In this view, such planning was a logical extension of the deterrence that had been in place for decades. Why, they thought, should the US be forced to choose between doing nothing or committing suicide? If the USSR knew the US had retaliatory options, it would only strengthen deterrence.

Others, however, found such talk horrifying. To them, anything that made nuclear war seem less than doomsday made it more likely that somebody might try it. Some even mistook the Reagan team's planning as preparation to initiate a nuclear war.

Backtracking

A political backlash erupted and soon Reagan himself was backtracking. When asked during a March 1982 press conference whether nuclear war was winnable, he responded: "I don't believe there could be any winners" and "everybody would be a loser." In April 1982, Reagan declared forcefully, "A nuclear war cannot be won and must never be fought."

Behind the scenes, however, nuclear planners churned away. Indeed, an official embrace of "protracted nuclear war" was an essential element in the classified *Fiscal Year 1984-1988 Defense Guidance.* The 125-page *Defense Guidance* was drawn up by Pentagon officials in 1981-82 and signed by Secretary of Defense Caspar W. Weinberger in March 1982.

Moreover, *Defense Guidance* was blessed by the White House with National Security Decision Directive 32, signed by Reagan on May 20, 1982. The recently declassified NSDD stated, "The modernization of our strategic nuclear forces ... shall receive first priority." It continued: "The United States will enhance its strategic nuclear deterrent by developing a capability to sustain protracted nuclear conflict."

That was followed by NSDD-75, signed on Jan. 17, 1983, which underscored deterrence. It said Soviet calculations about war must always see "outcomes so unfavorable to the USSR that there would be no incentive for Soviet leaders to initiate an attack."

The substance of the Pentagon document was soon leaked to the *New York Times.* My 2,500-word piece about it appeared in the May 30 edition under the headline, "Pentagon Draws Up First Strategy for Fighting a Long Nuclear War." It began: "Defense Department policy-makers, in a new five-year defense plan, have accepted the premise that nuclear conflict with the Soviet Union could be protracted and have drawn up their first strategy for fighting such a war."

The piece, noting that US officials believed that nuclear deterrence could fail and a long war result, said US armed forces were ordered to prepare for nuclear counterattacks against the Soviet Union "over a protracted period." The kicker was that the US "must prevail and be able to force the Soviet Union to seek earliest termination of hostilities on terms favorable to the United States."

With the Administration's nuclear vision out in the open, a vigorous debate ensued.

Or rather, it continued. This was a time of deep argument over all things nuclear. Congress and the Administration were going at each other over the MX (later, Peacekeeper) ICBM, especially its basing mode, and over plans to deploy US Army Pershing II theater-range ballistic missiles and US Air Force Ground-Launched Cruise Missiles in Western Europe to counter the Soviet SS-20 missile force.

It was an era of disputes over the B-1 bomber, which had been killed by President Carter but resurrected by President Reagan in 1981, and the "stealth" bomber, later called the B-2 Spirit. It was an era of deliberations over the Trident ballistic-missile-firing submarine and its planned D-5 missile, a bigger, more powerful, and more accurate successor to the C-4 weapon.

It's hard, after the passage of a quarter-century, to characterize the debate of those days. It didn't break down along the predictable lines of Republican vs. Democrat, conservative vs. liberal, military vs. civilian. About the only constant in the brawl was that few professed to have a monopoly on truth. Almost everyone knew he was groping in the dark.

A key part of the debate had always been out of public view, among a handful of strategic wise men often called "nuclear theologians," who dove deep into nuclear arcana. That brotherhood included (but was not limited to) Paul Bracken, a Yale political scientist; Bernard Brodie, another political scientist at Yale and father of the concept of nuclear deterrence; Herman Kahn, the strategic analyst known for "thinking the unthinkable" that deterrence might fail and the US might have to wage nuclear war; Bruce G. Blair of the Brookings Institution; and Alan Vick of the RAND Corp.

The debate was unlike any other in universities or government. Iklé, a full-fledged member of the nuclear priesthood, acknowledged in his 2006 book, *Annihilation From Within,* that much of the discussion "took the form of an abstract and cold-blooded theorizing of an eerily academic nature."

The debate consumed forests of newsprint and hours of television time. Perhaps the key dispute was whether there could be any plausible theory of victory in nuclear warfare.

The traditionalist view was that, when it came to nuclear war, a tie game was the best that could be hoped for, and even then, the US lost.

Harold Brown, a renowned nuclear physicist who had served as Secretary of Defense in the Carter Administration, put it in the starkest possible terms. "The destruction of more than 100 million people in each of the United States, the Soviet Union, and the European nations could take place during the first half-hour of a nuclear war," Brown wrote after he left the Pentagon in 1981. "Such a war would be a catastrophe not only indescribable but unimaginable," he added. "It would be unlike anything that has taken place on this planet since human life began."

Dig a Hole

A strong and vocal minority held a different view. Thomas K. Jones, a senior engineering official in the Weinberger Pentagon, argued in an interview with the *Los Angeles Times* that nuclear war would not be the end of days. It would be bad but survivable. In Jones' estimate, the United States could recover from a nuclear exchange with the Soviet Union in two to four years. He put great store by civil defense. Americans would dig holes in the ground, cover them with wooden doors, and blanket the whole thing with three feet of dirt. "If there are enough shovels to go around," he said, "everybody's going to make it." Jones' comment did not reflect mainline thinking in the Pentagon, but it did reflect a willingness to ponder what might happen should deterrence fail.

In a third view, Michael Howard, the Oxford don and later military historian at Yale, was optimistic that nuclear war

DOD photo by R.D. Ward

Caspar Weinberger, Secretary of Defense, at a DOD news conference in 1985.

could be avoided altogether. "The development of nuclear weapons," he said, "has given us a chance for the indefinite future of preventing the outbreak of major war. ... One cannot rule it out as a possibility, but our very dread of nuclear war makes it a highly remote possibility."

When Reagan became President in 1981, he brought to the White House limited knowledge of nuclear affairs. It was much the same with Weinberger, a lawyer and a relative novice in security policies. Even so, Reagan and Weinberger presided over a shift of doctrine by relying on specialists such as Iklé, a Swiss-born thinker who supervised the drafting of *Defense Guidance.*

That document specified six nuclear objectives:

- "Promote deterrence by being convincingly capable of responding to a first strike in such a way as to deny the Soviets (or any other adversary) their political and military objectives."
- "Minimize the extent to which Soviet military nuclear threats could be used in a crisis to coerce the United States and our allies."
- "Maintain the capability to support Alliance commitments."
- "Should deterrence fail, deny the Soviet Union (or any other adversary) a military victory at any level of conflict and force earliest termination of hostilities on terms favorable to the United States."
- "Limit damage, by active and passive measures, to the United States and its allies."
- "Maintain in reserve, under all circumstances, nuclear offensive capabilities so that the United States would never emerge from a nuclear war without nuclear weapons while still threatened by enemy nuclear forces."

The final point was key, putting the "protracted" in "protracted nuclear war."

Press Coverage

The disclosure in the *Times* was immediately picked up by network television. With graphic film of nuclear tests, the TV reports made a splash. Not all DOD officials were disturbed by the coverage; some suggested it might have a deterrent effect on the Kremlin.

Weinberger, however, was displeased. He invited me to breakfast, during which he voiced two complaints. First, he was unhappy that someone had leaked classified material. Second, he complained—with civility—that the headline on the article made it seem that the US was plotting an offensive nuclear war against the Soviet Union. He considered that part of the newspaper's coverage to have been misleading.

Weinberger was an erudite and likeable man, possessed of a quick mind and dry, self-deprecating sense of humor. As Secretary of Defense, he quickly became the leading advocate for the Reagan nuclear posture.

Over the next months, Weinberger went to great lengths to make the point that the Reagan Administration was not planning a nuclear assault on the Soviet Union, that neither Reagan nor his top aides thought that nuclear war would be "winnable" in any ordinary sense of the word, and that he was doing his job by planning for the most demanding nuclear contingency.

He declared more than once in public, "You show me a Secretary of Defense who is planning not to prevail and I'll show you a Secretary of Defense who ought to be impeached."

Weinberger pressed the point in a speech at the Army War College, Carlisle Barracks, Pa. "We must," he said, "have a capability for a 'protracted' response to demonstrate that our strategic forces could survive Soviet strikes over an extended—that is to say, protracted—period."

He made many such speeches. With each utterance, Weinberger seemed to become more deeply enmeshed in the complexities and "negatives" of *Defense Guidance.*

The Reagan nuclear stance continued to draw flak, and not just from traditional political opponents. Toward the end of his tour in 1982, Air Force Gen. David C. Jones, Chairman of the Joint Chiefs of Staff, told the *Washington Post,* "I don't see much of a chance of nuclear war being limited or protracted. I see great difficulty in keeping any kind of exchange between the US and the Soviets from escalating."

Jones, not always one of Weinberger's favorites, also told military writers: "If you try to do everything to fight a protracted nuclear war, then you end up with the potential of a bottomless pit." He added, "We can't do everything. I personally would not spend a lot of money on a protracted nuclear war."

Indeed, high cost was a main drawback in the protracted war concept. First, the nation needed large numbers of secure, accurate, and flexible weapons. Even more important, the concept required a survivable command, control, and communications net, one that would be filled with redundancy. Without it, no one could be sure the US could unleash its weapons under the demanding conditions of war.

Bracken, the Yale nuclear theologian, was sharp in his criticism. He wrote that "questions of how nuclear weapons would really be used are questions of irremediable insanity." Blair of the Brookings Institution asserted,

with understatement, that "preparing forces and command networks for protracted intercontinental nuclear war is not palatable to significant segments of the defense community."

The political attacks continued. By late summer 1982, Weinberger was moved to dispatch to 30 American and 40 foreign publications a letter stating that he was "increasingly concerned with news accounts that portray this Administration as planning to wage a protracted nuclear war, or seeking to acquire a 'warfighting' capability."

In the letter, he argued: "We must have a capability for a survivable and enduring response—to demonstrate that our strategic forces could survive Soviet strikes over an extended period."

The letter sparked a memorable exchange between Weinberger and Theodore H. Draper, the historian and social critic, in the *New York Review of Books*. When the written combat ended, Weinberger had provided an authoritative Reagan Administration view and Draper had summed up the position of many Administration critics.

The argument that began in November 1982 reached a crescendo in mid-1983. Weinberger, who had a combative streak, wrote Draper that "each and every assertion you have made is absolutely incorrect and at variance with the truth." Moreover, he said, Draper's assertions showed "fundamental misunderstanding of US nuclear policy as it has evolved" since World War II.

Weinberger went on, "Our historical objective of deterrence is founded on our belief that there could be no winners in a nuclear war. ... We are under no illusion that a nuclear war would be anything less than an absolute catastrophe." He suggested that Draper take the time to read the annual reports of the previous five Defense Secretaries, after which "you will observe that the policy I have enunciated rests squarely in the mainstream of US strategic thought."

In a long, occasionally testy response, Draper disputed Weinberger's claim, noting, "You yourself have made the distinction between the requirements for fighting and winning a nuclear war and those for merely deterring it."

Draper emphasized what he saw as the danger inherent in calibrating the relative acceptability of different types of nuclear war. "This vision of a controlled nuclear war, capable of hitting only military targets precisely and discriminately, ... is the most perverse and dangerous nuclear temptation that has been dangled before us in a long time. ... To pretend that moral distinctions can be made between allegedly different types of nuclear wars is already taking a most slippery and menacing step toward breaking the nuclear barrier."

Thomas Jones, a senior engineering official in the Weinberger Pentagon.

In the End, In the Mainstream

Draper, however, finished with a grace note, rare in American politics then and even more rare today: "As you see, I have not been persuaded by your letter, and I rather think that you will not be persuaded by mine. But I cannot end without acknowledging my deep respect for your willingness to engage in an open exchange of views with a professedly critical private citizen. It is an act in the best democratic tradition, and I wish to salute you for it, whatever the merits of your case or mine."

Eventually, the debate blew over. Pentagon officials stopped talking about "winnable" nuclear war. Critics had difficulty finding new cracks to exploit. President Reagan himself pushed nuclear arms control initiatives with undeniable sincerity and vigor. With Mikhail Gorbachev in the Kremlin, perceptions of the Soviet Union grew more benign.

The trail from Hiroshima and Nagasaki in 1945 to Weinberger and Draper in 1983 was long and tortuous. After World War II, many strategic planners saw nuclear weapons as merely bigger versions of the bombs used in conventional operations. President Truman viewed them as weapons of last resort. President Eisenhower tended to view them as weapons of early resort. President Kennedy embraced "flexible" nuclear employment, while President Johnson tended to emphasize assured destruction.

Under President Nixon, Secretary of Defense James R. Schlesinger devised "limited nuclear options." President Ford continued the evolution of policy in that direction. By the end of President Carter's term, the US had adopted Presidential Directive 59, which, according to Harold Brown, dealt with "how a nuclear war would actually be fought by both sides if deterrence fails." The US, he said, planned "to employ strategic nuclear forces selectively ... as well as by all-out retaliation."

In the end, it seemingly was not so large a step from Brown's PD-59 to Weinberger's *Defense Guidance* and its theoretical acceptance of protracted nuclear war. Indeed, as Weinberger contended with Draper, the Reagan approach rested in the mainstream of historical US strategic thought, even if it didn't appear to be that way. ■

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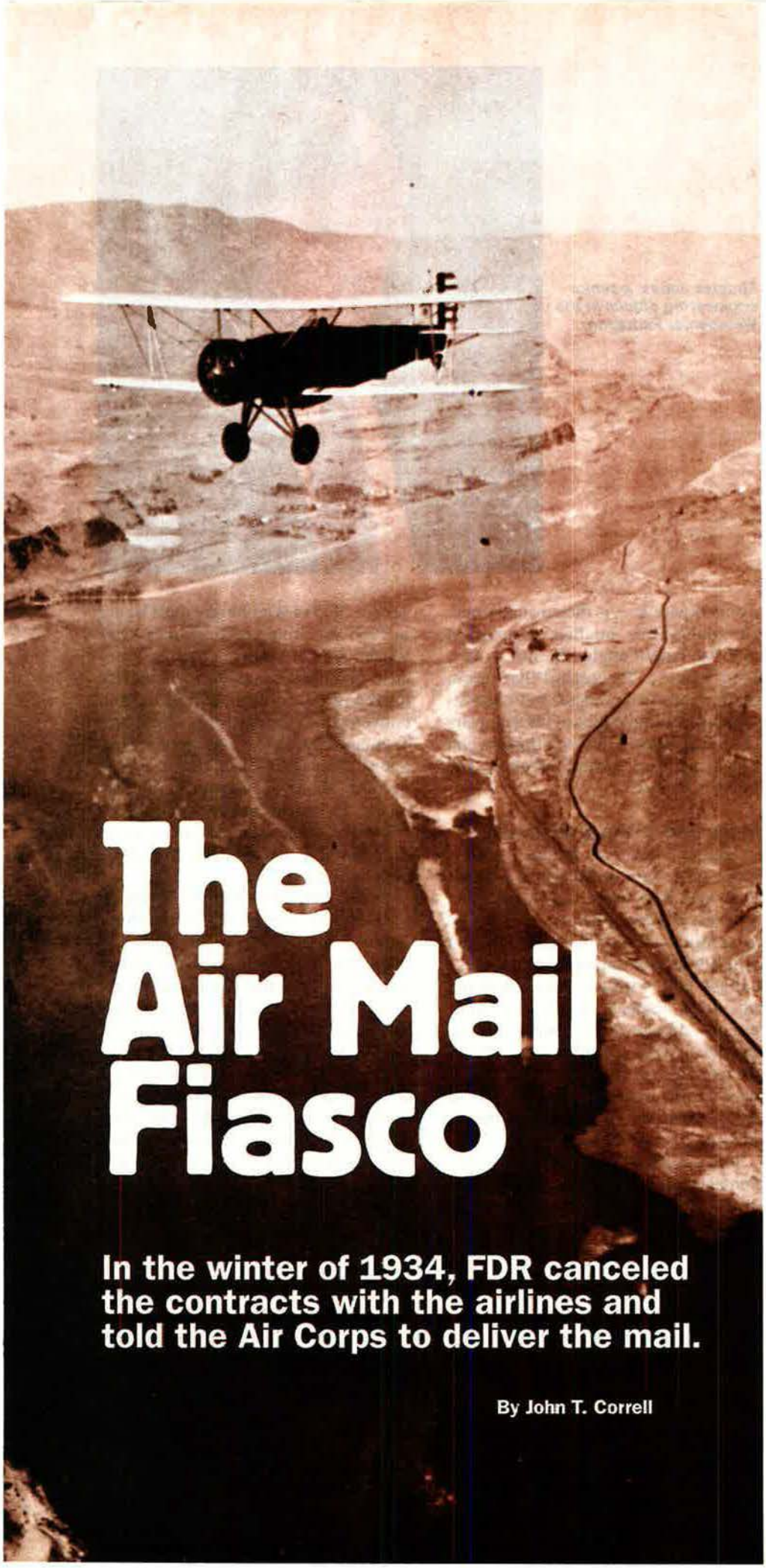


The Air Mail Fiasco

In the winter of 1934, FDR canceled the contracts with the airlines and told the Air Corps to deliver the mail.

By John T. Correll

US air mail operations began with the Army Air Service, which flew a regular route between New York and Washington as a demonstration for three months in 1918. Post Office pilots and airplanes then took over, built the air mail into a nationwide network, and serviced it for the next nine years.

The first mail airplanes were mostly war surplus de Havilland DH-4s. They had no radios, no navigation aids, and no instruments. The pilots flew by dead reckoning. It was dangerous work. Of the first 40 Post Office pilots, three died in crashes in 1919 and nine more were killed in 1920.

For several years, the air mail operated only in daytime. The airplanes landed at dark and transferred the mail to trains for the next leg of the route. It was loaded again onto airplanes the following morning.

Both safety and operational capability improved with time. In 1922, Post Office pilots went an entire year without a fatal accident. Night flying became routine, made possible not only by instruments in the airplanes but also by ground beacons and lighted emergency landing fields along the way. Regular transcontinental service was established in 1924.

In 1925, however, Congress decided to turn air mail operations over to private contractors to encourage commercial aviation. By 1927, they had taken over completely from the Post Office pilots.

Some of these commercial carriers called themselves airlines, but for most of them, that was stretching it. They had little interest in carrying passengers and made little provision for it. They seldom bothered to install seats on their airplanes.

Air mail and freight paid better. "In 1926, airlines were paid three dollars per pound for flying the mail a thousand miles," said historian Oliver E. Allen. "To take in as much for carrying a 150-pound passenger as for hauling an equivalent weight in air mail, a line would have had to charge a prohibitive $450 per ticket."

Subsidies exceeded the postage on the letters. One carrier flooded the system with Christmas cards, which cost him nine cents each, including postage, but returned 18 cents each to the airline in revenue. Another carrier shipped a cast iron stove as air mail.

AP photo

At left, an O-19 flies over the Columbia River on a mail flight. Here, President Roosevelt delivers his first fireside chat to the nation in March 1933. A year later, he was in the hot seat over the air mail situation.

There were about 45 of these airline companies, most of them small and undercapitalized, flying short routes and disinclined or unable to grow or invest in new equipment. The emergence of a true airline industry from this jumble was largely the work of one man, Walter Folger Brown, appointed postmaster general when the Hoover Administration came to office in 1929. Brown was convinced that he could use air mail contracts to stimulate the growth of a stable and efficient airline industry.

To aid in this purpose, Brown drafted legislation that Congress adopted as the Air Mail Act of 1930. It established new rules that favored big carriers that flew larger airplanes. The basis of payment was changed from cents per pound per mile to the amount of space available for carrying mail, whether the air mail filled that space or not. That cut off the junk mail profiteering and, as intended, led to the purchase of larger airplanes and expanded passenger service. The act also gave the postmaster general near-dictatorial powers to bypass low bids and force consolidations and mergers.

Brown called the large operators to a series of meetings (later called "secret spoils conferences") at which the air mail routes were divided up. There were 27 air mail contracts and 24 of them went to airlines controlled by three big holding companies. The New York to Washington run was awarded to Eastern Air Transport (later Eastern Airlines), although its bid was three times that of a smaller line.

An Investigation

The conferences were not altogether secret. The Post Office put out a press release about them. Even so, there was little public understanding of the details or the scope of the change that had taken place.

Brown's plan succeeded splendidly. The big airlines grew and prospered. Shaky small operations were swallowed up or went out of business. The cost per mile for air mail decreased from $1.10 in 1929 to 54 cents in 1933.

The Democrats won the 1932 elections by a landslide and the complaints of the small airline contractors began to get attention. In September 1933, Sen. Hugo L. Black (D-Ala.) and a special Senate committee launched an investigation of the air mail contracts. Black, a future justice of the Supreme Court, was a strong political ally of the new President, Franklin D. Roosevelt.

Black soon uncovered evidence pointing to "fraud and collusion" by the Hoover Administration and the contractors. The hearings made headlines daily in early 1934 with accounts of small bidders frozen out of the competition, lost and missing documents, overcharges, and other unsavory doings. Much of what Black accused the airlines of doing was undeniably true, but 1934 was also an election year and the Republicans had been caught red-handed in a scandal, or so it seemed.

The investigation took a melodramatic turn when Black charged William P. MacCracken Jr.—formerly assistant secretary of commerce and the man who had presided over the spoils conferences—with contempt of the Senate. In 1934, MacCracken was a lawyer for the airlines. He not only refused to answer questions but also permitted his clients to remove papers from his files. The Senate ruled that he was a lobbyist. With Black acting as prosecutor, the Senate voted to convict MacCracken for contempt and he was sentenced to 10 days in jail. He strung out the case on appeals but eventually served his sentence.

Walter Brown was appointed postmaster general in 1929 by the Hoover Administration.

Maj. Gen. Benjamin Foulois, Chief of the Air Corps in 1934, assured Harllee Branch that the Air Corps could be ready to carry the air mail in a matter of a week to 10 days.

Black discussed the scandal with Roosevelt as did the new postmaster general, James A. Farley. Administration insiders proposed the cancellation of the improperly awarded air mail contracts. At a cabinet meeting on the morning of Feb. 9, Secretary of War George H. Dern said the Army Air Corps would carry the mail if directed to do so. Dern gave that assurance without consulting either the Chief of Staff, Gen. Douglas MacArthur, or the Chief of the Air Corps, Maj. Gen. Benjamin D. Foulois.

Events moved quickly after the Cabinet meeting. At 11 a.m., Harllee Branch, the second assistant postmaster general, called for Foulois to come to a meeting, which lasted from noon to about 3 p.m. Branch asked whether the Air Corps could carry the mail. Foulois, who had been reading the newspapers, knew the question was related to the scandal.

In later years, questions would arise about exactly what Foulois said. By some accounts, he asked for four to six weeks to prepare if the Air Corps was ordered to carry the mail. What Foulois actually said—according to his own autobiography—when Branch asked him how much time he needed to get ready was, "I think we could be ready in about a week or 10 days."

Foulois acknowledged that he had "answered casually." He said he had not understood, when Branch asked how much time would be needed, that he meant "from that moment on." Foulois returned to his office and told his staff to start working up a contingency plan to carry the air mail.

As the day wore on, Foulois realized he had better notify the Chief of Staff of the overtures from the Post Office. However, MacArthur found Foulois before Foulois found him, and the Chief was not happy. He had just learned from a news reporter that the Army Air Corps was going to fly the mail.

The White House had announced, about 4 p.m., that an executive order, signed by Roosevelt, directed Postmaster General Farley to annul all domestic air mail contracts. During "the present emergency," the War Department would take over the air mail routes. Farley said the contracts were canceled as of midnight on Feb. 19—which gave Foulois the full "week or 10 days" he said he would need.

Thus the White House and the Air Corps leapt off into what would be remembered in history as "the Air Mail Fiasco."

Dark Nights, Bad Weather

The airlines had flown the mail in modern passenger airplanes equipped with the latest flight instruments and radios. Most of the flying was at night. There were 26 air mail routes, covering 25,000 miles of airways.

The Army Air Corps Mail Operation (AACMO) was a reduced operation, cutting back to 17 routes and 11,000 miles of airways. Nevertheless, the problems and risks were formidable. The Air Corps had about 1,500 airplanes, but nearly a third of them were trainers or special purpose aircraft. Most of the others were light, maneuverable airplanes built for combat in daylight and good weather.

Most of the 250 Army pilots assigned to AACMO were lieutenants with less than two years of flying experience. Although the air mail would be transported mainly at night, only 31 of the pilots had more than 50 hours of nighttime flying.

Among those expressing concern was humorist Will Rogers, a noted aviation enthusiast. "You are going to lose some fine boys in these Army fliers who are marvelously trained in their line but not in night cross-country flying in rain or snow," he said Feb. 11 in the *Kansas City Star.* "I trust an airline, for I know that the pilot has flown that course hundreds of times. Neither could the airline pilots do the Army flier's close formation work."

In his testimony to the House Post Office Committee Feb. 14, Foulois was enthusiastic and optimistic. "We have assigned to this work the most experienced pilots in the Army Air Service," he said. "We have had a great deal of experience in flying at night, and in flying in fogs and bad weather, in blind flying, and in flying under all other conditions. We have not had the actual experience of flying over these scheduled routes, but we feel that after three or four days of preliminary flying over those routes, we shall experience no difficulty in maintaining the regular schedules."

His statement defies explanation. As airpower historian DeWitt Copp said in *A Few Great Captains,* "It just wasn't so, and later suggestions that Foulois' commanders had misinformed him couldn't stand scrutiny."

Foulois had a different recollection in his autobiography. "Very few of our pilots had extensive instrument and night-flying experience," he said. "We did not have the latest instruments, and not very many of our planes had landing, navigation, or cockpit lights. The techniques of flying the newly developed radio beams were developed by the airline pilots and our pilots were not very adept at using them."

Bettman/Corbis photo

Brig. Gen. Oscar Westover was placed in command of the AACMO. He would die in an airplane crash in 1938.

Two days after Foulois testified, three air mail pilots were killed in two training flight crashes in Utah and Idaho. Neither of the fatal flights was carrying mail.

Brig. Gen. Oscar Westover was placed in command of AACMO, which was divided into three zones. The Eastern zone was headed by Maj. Byron Q. Jones, the Central zone (from Chicago to Cheyenne, Wyo.) by Lt. Col. Horace M. Hickam, and the Western zone by Lt. Col. H.H. "Hap" Arnold.

One of Arnold's squadron commanders was Capt. Ira C. Eaker, in charge of the route from San Diego to Los Angeles to Salt Lake City. "Naturally I did not ask Colonel Arnold any foolish questions like what planes and pilots I would use and where the money would come from," Eaker said. "I had a squadron with 18 fighter pilots and 18 P-12 airplanes."

To fly the air mail, the Air Corps used 14 types of aircraft, the majority of them open-cockpit biplanes. It was soon clear that the P-12 pursuit fighters were not suitable for the task. They could carry only 50 pounds of mail in a box built into the baggage compartment, and the mail load made them tail heavy. They were dangerous to fly at night and in bad weather and were withdrawn from the mail routes after the first week.

The P-12s were replaced by O-38 observation biplanes borrowed from the National Guard. The O-38s and O-25 biplanes were the workhorses for the operation in all three zones. Their rear cockpits were rebuilt to carry 160 pounds of mail, and while they were not ideal for the task, they were better than most of the other choices.

The old B-6 Keystone bomber could carry 1,100 pounds, but it was so slow that a fast train could outrun it if there was a strong headwind. The low windshield did not give much protection to the pilots in the open cockpit in cold weather.

The best Army mail airplanes by far were the A-12 attack aircraft and the YB-10 bombers. The A-12 was an open-cockpit monoplane that carried 400 pounds of mail. The YB-10 was a twin-engine monoplane with a closed cockpit and retractable landing gear. It could carry up to 2,000 pounds of mail. These airplanes, however, were brand new and the Army had only begun taking deliveries of them.

Foulois ordered a crash program to install a directional gyro, an artificial horizon, and a radio in each mail airplane. However, the Army mechanics had no experience with radios or instruments. They frequently placed compasses in places where the pilots could not see them, and instruments were hastily mounted on panels where shock and vibration made them inaccurate.

An air mail pilot takes an envelope before taking off on a mail run from March Field, Calif.

Tragic and Maddening

"Army aviators, with only limited bad-weather flying experience, were not about to trust their fate to some new-fangled gauges," said historian John F. Shiner. "Instead, they tended to rely on the seat of their pants when they encountered bad weather, or they tried to go low, beneath the clouds."

The AACMO flights were scheduled to begin in Newark, N.J., on the afternoon of Monday, Feb. 19, but on Sunday afternoon, a blizzard moved east from the Rocky Mountains. It arrived in Newark around 3 p.m. and mail flights from there were canceled. The first flight departed instead from Kansas City, Mo., with 39 pounds of mail for St. Louis.

Nine inches of snow accumulated in New York City, and New England had 15 inches. Despite numerous cancellations for weather, especially in the East, many of the flights got through. The initial loads were much heavier than expected because of the number of stamp collectors who wanted a letter on the historic first run.

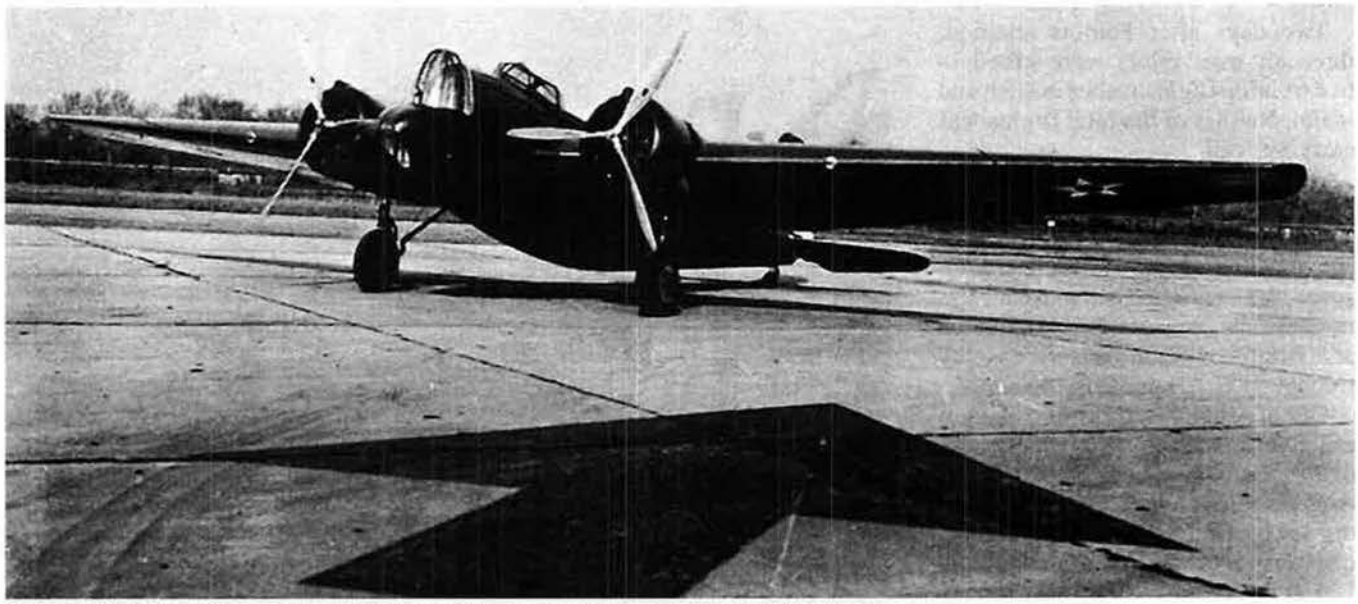
Two air mail airplanes crashed on Feb. 22, killing the pilots. The next day, an OA-4A amphibian aircraft, ferrying mail pilots, went down off the New York coast and a passenger drowned.

A second blizzard moved in on the tail of the first, with snow drifting to 50 feet in parts of Maine. "The bad weather showed no sign of letting up, and neither did our casualties," Hap Arnold said. "It was tragic and it was maddening. Ten days after the Army started carrying the mail, the whole country was angry."

The operation was further hampered by lack of support from Congress and other government agencies, including the War Department. The Post Office had agreed to transfer $800,000 to the Air Corps to cover costs, but Attorney General Homer S. Cummings ruled that this was not permissible without approval from Congress. The Air Corps obtained $300,000 from War Department emergency reserve funds, but that was far short of the amount required.

There was no money to pay $5 per diem to pilots and mechanics who had to live on the local economy along the mail routes. The enlisted men slept in hangars and got by on loans and assistance from officers and townspeople. Ira Eaker borrowed $750 and spread it around in small sums as needed to his airmen. The Air Corps got almost no help from the Army in obtaining relief.

A bill to fund AACMO passed the House Feb. 24, but the Senate dithered



The Martin YB-10, such as the one shown here, was a twin-engine monoplane with an enclosed cockpit. It could carry up to a ton of mail.

on action for another four weeks, preferring to spend the time making speeches and exploiting the situation for political purposes.

Some parts of the Air Corps were unhelpful as well. When pilots asked for thermometers so they could determine when ice was likely to form on the wings of their airplanes, the Materiel Division said that procurement would take two months.

There were dozens of crashes, and March 9 was a particularly bad day. Four air mail crew members—three pilots and a mechanic—were killed in crashes in Ohio, Florida, and Wyoming. That raised the AACMO death toll to 10. Roosevelt and the Air Corps were under fire for the recurring mishaps.

After the first losses in February, Eddie Rickenbacker, America's "Ace of Aces" in World War I, had told the press that the deaths had been "legalized murder" and that there would be more fatal accidents. In March, the nation's most renowned aviator, Charles A. Lindbergh, said that using the Air Corps to carry the mail was "unwarranted and contrary to American principles."

Their criticism carried weight, even though Rickenbacker was vice president of one of the three big holding companies that had lost air mail business in the cancellation and Lindbergh was a paid consultant to two airlines.

Billy Mitchell, hero of the Air Corps, chimed in as well. "The Army has lost the art of flying," he said. "It can't fly. If any Army aviator can't fly a mail route in any sort of weather, what would we do in a war?"

The news media and Republicans in Congress joined the outcry. "The story of the air mail will be written in blood on the record of the Roosevelt Administration," said Rep. Edith N. Rogers (R-Mass.).

Pointing Blame

The Air Corps accidents were headline news, but hardly anyone noticed several airline crashes. On Feb. 23, a United Airlines airplane crashed near Salt Lake City, killing eight persons. About the same time that four AACMO airmen died in the accidents on March 9, an American Airlines airplane also crashed, also killing four.

Even less noticed in all the outrage was that in spite of the weather, the unsuitable airplanes, and the lack of experience, the Air Corps was successfully delivering most of the air mail.

The Air Mail scandal had reversed course and now FDR was in the hot seat. He summoned MacArthur and Foulois to a meeting at the White House on March 10 and expressed his dissatisfaction.

"For the next 10 minutes, MacArthur and I received a tongue-lashing which I put down in my book as the worst I ever received in all my military service," Foulois said. "There was no doubt that what bothered Roosevelt the most was the severe criticism his Administration was getting over the contract cancellation. He did not seem genuinely concerned or even interested in the difficulties the Air Corps was having."

The White House staff tried to get MacArthur to say he had personally guaranteed FDR that the Air Corps was capable of carrying the mail, but MacArthur refused to play along. Nevertheless, FDR said later in the day in a letter to Secretary of War Dern that he had made the AACMO decision "on the definite assurance given me that the Army Air Corps could carry the mail."

"To lessen the attacks on Roosevelt and Farley, Democratic leaders in both houses of Congress and Post Office officials placed the blame for all that had gone wrong on the shoulders of Foulois," said Norman E. Borden Jr., author of *Air Mail Emergency 1934*.

Roosevelt told Dern the Air Corps should not carry the mail "except on such routes, under such weather conditions, and under such equipment and personnel conditions as will insure, as far as the utmost human care can provide, against constant recurrence of fatal accidents." Dern left the decision up to Foulois but told him the blame would fall on him if there were more accidents.

On March 10, Foulois suspended the air mail operation for 10 days and ordered all of the aircraft and instruments to be checked thoroughly. Pilots with less than two years of experience were removed from AACMO duty. The suspension served no purpose except to create a political smoke screen. The pilots resented it as well as the assumptions about their competency that lay behind it.

Operations resumed on March 19, reduced to eight routes from the previ-

ous 17, and covering 7,049 miles of airways instead of 11,000. A ninth route was added April 8. There were two more fatal accidents in March, but the Air Corps had gained proficiency in flying the mail. The operation stabilized and deliveries became routine.

Roosevelt and Farley saw no choice except to go back to the airlines, and in April, the Post Office opened the contracts to competitive bidding. The carriers whose contracts were canceled were not allowed to participate, but they got around that by modifying their names.

American Airways became American Airlines. Eastern Air Transport became Eastern Airlines. Transcontinental and Western Air added "Inc." to its name. No change was needed for United Airlines because the previous contracts had been with United's subsidiaries.

On May 3, Farley awarded three-month temporary contracts, later extending them for a full year. Some newcomers, notably Braniff and Delta, won contracts, but the big airlines again got most of the business. All of the AACMO routes except one—the run between Chicago and Fargo, N.D.—were shut down by May 17, and the Air Corps flew its last mail pouch on June 1.

Later in June, Congress adopted the Air Mail Act of 1934, engineered by Hugo Black. Its main provision broke up the aviation holding companies and made bidding for contracts more competitive. With air mail revenue less certain than before, the airlines put new emphasis on carrying passengers.

Several of the airlines, feeling they had been treated unjustly, sued the government. The last lawsuit was settled in 1942 when the government agreed to pay the airlines for the revenue they missed during the weeks when the Air Corps carried the mail. In 1941, the US Court of Claims found that there had been no fraud in how the Post Office had awarded the contracts in 1930. The creation of the modern airline industry is credited largely to Walter Folger Brown and his restructuring of the air mail contracts and incentives.

The bottom line for AACMO was 13,000 hours of flying time, 1.5 million miles flown, and 777,000 pounds of mail carried. The completion rate for scheduled flights was only 65.8 percent, but as historian Copp noted, the Air Corps pilots "could claim, unlike the civilian carriers, that they didn't lose a single letter."

Members of the Baker Board in 1934 included Maj. Gen. Benjamin Foulois (seated, far left); George Dern, Secretary of War (seated, fourth from left); and Jimmy Doolittle (standing, second from left).

There had been 66 crashes and 12 fatalities during the operation, but that must be interpreted in the context of the 1930s, when flying still involved considerable risk. In 1934, the Air Corps had a total of 54 deaths from flying accidents, including the 12 from AACMO. That did not differ vastly from the 46 deaths in 1933 or the 47 in 1935.

Lessons Learned

Will Rogers, who had expressed early concern about the safety of the air mail operation, died himself in 1935 in the crash near Point Barrow, Alaska, of a small airplane flown by his friend, Wiley Post. Oscar Westover, who commanded AACMO and succeeded Foulois as Chief of the Air Corps, died in a crash when trying to land an AT-17 in a crosswind in 1938.

In April 1934, before the air mail operation ended, Secretary of War Dern convened a board, chaired by Newton D. Baker, the former Secretary of War, to examine the problems of the Air Corps. It was the 15th board in 16 years to undertake that question. Dern told the members that their group had been appointed as a result of the accusations about AACMO.

The Baker Board recommended additional aircraft and personnel for the Air Corps and more training time, especially in flying at night and on instruments. It also endorsed the idea of a GHQ (General Headquarters) Air Force that would combine flying units into a single command for cohesive operations not tied directly to ground operations. The GHQ Air Force was organized in 1935, a big step toward an independent Air Force.

The personal fortunes of Benny Foulois declined further. Already in the bad graces of the White House and the War Department, he soon managed to alienate Congress as well. He finished his tour as Air Corps Chief without high-level allies or support and when he retired in 1935, there was no official farewell to mark his departure.

The Air Corps learned from the weaknesses exposed by the air mail operation. The old attitudes that assumed flying in daytime and good weather gave way to approaches that made use of instruments and radio communications. AACMO deficiencies alerted the nation to the needs of the Air Corps for better aircraft and equipment, and within a short time, the open-cockpit biplanes were rendered obsolete by a new generation of fighters and bombers. The Air Corps that entered World War II was an entirely different force than the one that had been ordered to carry the air mail seven years before. ■

John T. Correll was editor in chief of Air Force *Magazine for 18 years and is now a contributing editor. His most recent article, "The Reformers," appeared in the February issue.*

Through the centuries, the enlisted man has been known by the chevrons he wears.

A Study in Stripes

By Walter J. Boyne

The principal insignia of the Air Force's enlisted ranks—that is, their "stripes"—has a complex history that dates back for centuries. In light of the Air Force's growing interest in highlighting service history and heritage, some basic facts about the stripes are worth recounting.

The stripes that enlisted airmen wear on their uniform sleeves can be traced to the chevrons worn by the rank-and-file soldiers of the British Army during the time of the Napoleonic wars in the late 1700s and early 1800s.

Even the term "chevron" has a history. In heraldic terms, the chevron means an architectural arch or rafter. In other words, it denotes a strengthening mechanism. This is surely apt, as nothing strengthens a unit more than the men and women who wear the chevrons, the "stripes."

Members of the British Army took pride in forming what it called its "thin red line" to halt Napoleon's advances. The thin red line usually comprised large units of soldiers formed up and armed with a variety of weapons. The units needed leaders to supervise operations, ensure fire discipline, and see to it that maneuver orders were carried out. In each squad, a corporal was placed in charge. He was the unifying cornerstone of the squad, and the chevron he wore symbolized that corner position.

A larger unit, the equivalent of a modern platoon, had a sergeant in charge, wearing another angled chevron. Over the ensuing years, the style and execution of these chevrons varied greatly, gathering complexity as they came to describe rank, branch, and duties.

In 1782, Gen. George Washington authorized the first American use of stripes. They were worn as a means of indicating years of service—"hash marks" in later parlance. This idea was invoked again in 1863 and once more in 1904. Since then, stripes have become an essential if extremely variable aspect of US uniforms.

The first extant official US Army document on stripes is dated 1821. Captains and lieutenants wore gold chevrons; the more senior enlisted—sergeants and corporals—wore silver ones. While the officers ceased wearing their gold chevrons after a decade, the enlisted men wouldn't give them up.

USAF photo

A wreath encircling the star distinguished the insignia of USAF's first Chief Master Sergeant of the Air Force, Paul Airey (left), from that of a chief master sergeant.

Up and Down

At first, enlisted chevrons pointed downward. That lasted until the Spanish American War era, when it changed. Thereafter, the Army chevron's apex always was at the top of the insignia.

The first USAF-related insignia was created when the Army formed the Aeronautical Division of the US Army Signal Corps on Aug. 1, 1907.

USAF photo by Carl Bergquist

USAF initially adapted Army enlisted insignia, like this one (above) for a technician fifth grade. At right, the director of the Enlisted Heritage Hall, CMSgt. Malcolm McVicar (right), discusses changes to uniforms with Gen. T. Michael Moseley, USAF Chief of Staff. McVicker is wearing a sergeant's uniform.

The members of this new "air force" wore the standard Army uniform and insignia, including the crossed signal flags emblem of the Signal Corps. The Aeronautical Division became an Aviation Section in 1914, and in 1918, it evolved into the Army Air Service, no longer a part of the Signal Corps. The "crossed signal flag" emblem became a winged propeller, but the stripes remained those of the Army, and did so even after the Air Force gained its independence on Sept. 18, 1947.

After USAF's creation, however, change was in the wind. Airmen were to get a new and distinctive blue uniform, and it was in need of new insignia. In March 1948, a comparatively small sample of 150 airmen was polled as to preference, and a majority selected a chevron with a center circle encompassing a star, with wing-like stripes swept upward. The size of the chevron for men was fixed at four inches, for women, at three inches.

The new blue uniform, which was adopted in 1949, had new inverted chevrons but retained old Army rank designations.

The new Air Force's rank titles remained in the Army's traditional order, with stripes descending in order from the E-7 master sergeant, with three upper and three rocker stripes, down to the E-1 private, with no stripes. (See box: "When the Ranks and Stripes Crossed Over," p. 68.) Moving from private to private first class, and thereby getting that first stripe, was of high importance to young airmen.

At the senior level of the noncommissioned ladder was a key rank, that of first sergeant. The first sergeant had the same six stripes as a master sergeant, but there were no questions then or now as to who was in charge; the first sergeant runs things.

His or her position was acknowledged by an insignia change in September 1954, when the new Chief of Staff, Gen. Nathan F. Twining, approved the addition of a diamond (sometimes called a "lozenge") in the center of the insignia.

Hasty post-World War II demobilization caused all sorts of personnel "humps" in the Air Force, and neither the officer nor the enlisted force rank structures were well-balanced. Studies in 1950 and 1951 concluded that the enlisted force imbalance might be redressed if the total number of noncommissioned officers was reduced by changing some rank titles.

In 1952, Air Force Regulation 39-36 effected change. The master, technical, and staff sergeant rank and insignia remained the same. However, the stripe-less private became the stripeless basic airman (later, airman basic). The private first class became airman third class, with one stripe; the corporal became airman second class, retaining two stripes; while the sergeant became the airman first class, with three stripes.

Many sergeants perceived their loss of noncommissioned status as a demotion.

A proposal to change the insignia to have straight wings instead of upward closing wings was considered favorably but was later personally rejected by Twining.

Over time, enlisted demographics changed rapidly, as did retention rates. In 1956, the Cordiner Committee found that about 80 percent of first-term airmen were not re-enlisting, and it was estimated that fully 40 percent of their first-term time had been spent in training. In addition, the Air Force, deeply engaged in both the Cold War and the space race, was becoming much more technologically advanced.

The committee recommended adding two additional grades, E-8 and E-9, in numbers representing two percent and one percent of the total enlisted force, respectively.

Making the Supergrade

The Military Pay Act of 1958 authorized the suggested grades of E-8 and E-9, bringing about the then-revolutionary concept of the "supergrade." This act was a visionary step, emphasizing the need for trained technical supervisory personnel, and resulted in the creation of the truly elite noncommissioned force that serves our Air Force today.

There were delays, of course, before actual promotions were made, giving time to make an initial selection of 2,000 of the best qualified personnel to be promoted to E-8 from the pool of some 45,000 master sergeants. The numbers within the promotion pool were not increased, as the E-

8s (and later the E-9s) had to come from the same quota as the E-7s. As of September 2006, there was a total of 273,990 members in the enlisted force. Of these, 2,704 (.98 percent) were E-9s, and 5,514 (two percent) were E-8s.

The creation of the supergrades displaced the duties and the prestige of the warrant officers. The last Air Force warrant officers were appointed in 1959. Some warrant officers reverted to noncommissioned status, some became commissioned, and others remained in that rank until they retired. The last active duty USAF warrant officer, CWO-4 James H. Long, retired in 1980.

The Air Force turned to the field again to select titles for the new E-8 and E-9 grades. In deference to the enormous respect for the existing body of master sergeants, the terms senior master sergeant and chief master sergeant were chosen for the new titles. For the senior master sergeant, the standard master sergeant insignia was enhanced with an additional stripe; the chief master sergeant rated two. Anyone privileged to have one of those ranks and also be a first sergeant, receives the additional diamond.

By October 1967, another revision had been made, with the principal aim of restoring NCO status to the E-4 by changing the title from airman first class to sergeant. The effort aligned the Air Force with other service rank structures and had a positive effect on re-enlistment rates.

By 1991, things had changed again. NCOs at that time represented 77 percent of the Air Force, with E-4s accounting for 28 percent of the NCOs. Gen. Merrill A. McPeak, the USAF Chief of Staff, faced a Congressionally mandated reduction in force. He announced the E-4 NCO status was revoked, effective May 1991, and the rank title changed to senior airman. Staff sergeants thus became, again, the entry NCO position. Their stripes, however, did not change.

The desirability of having senior enlisted advisors to commanders at wings, numbered air forces, field operating agencies, and major command levels was evident. The title of senior enlisted advisor was changed to command chief master sergeant in November 1998. The new rank insignia was that of the chief master sergeant with a silver star in the upper field.

When the senior enlisted position of a joint command is held by an Air Force member, that member is also designated as a command chief master sergeant.

The invaluable work done by the senior enlisted advisors was another consideration in the long-sought creation of the rank of Chief Master Sergeant of the Air Force in 1967. Also in that year, the Navy established the post of Master Chief Petty Officer of the Navy. The Marine Corps was ahead of the pack—it had created its post of Sergeant Major of the Marine Corps in 1957, and the Army had established the post of Sergeant Major of the Army in 1966.

Adding a Wreath

The first Chief Master Sergeant of the Air Force, Paul W. Airey, gave the rank prestige and power from the start and took seriously his role of representing the interests of the enlisted force. Airey, a combat veteran, former prisoner of war, and dedicated professional, was hand-picked by Gen. John P. McConnell, the Chief of Staff, and told to "take this job and run with it."

This unique position obviously deserved a unique insignia. On March 3, 1967, the standard chief master sergeant insignia was enhanced with a star encircled by a wreath in the interior field, to become the insignia of the Chief Master Sergeant of the Air Force. Then, on Nov. 1, 2004, the insignia was further updated to include the Great Seal of the United States of America, and two stars, in the upper field. This addition was made to conform to the style of the equivalent position in the Marine Corps and the Army. The laurel wreath-enclosed star in the lower field was retained to maintain the tradition established with Airey.

The issue of stripes was just a small element in the teapot tempest surrounding McPeak's changes to the Air Force uniform in the early 1990s. The change to the stripes was rather subtle (in contrast to the change in the uniforms), and they became somewhat larger and brighter than before.

There were many minor perturbations in the stripes story over the years, most of which did not seriously impinge on the day-to-day recognition of who was wearing what rank. These include a convoluted series of changes in the application of stripes to formal wear, raincoats, and shoulder boards.

The history of Air Force stripes is a proud one. From the insignia of the Chief Master Sergeant of the Air Force all the way down to that of the E-2 airman, they are stripes of dignified elegance. ■

When the Ranks and Stripes Crossed Over

The Army ranks adopted by the Air Force, from lowest to highest, were as follows:

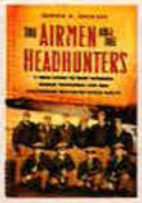
- Private (no stripes)
- Private, First Class (one inverted V upward stripe)
- Corporal or Technician Fifth Grade (two upward stripes or two upward stripes with the capital letter T under the stripes)
- Sergeant or Technician Fourth Grade (three upward stripes or three upward stripes with the capital letter T underneath)
- Staff Sergeant or Technician Third Grade (three upward stripes with one "rocker" stripe or the same with a T in the space between the stripes and the rocker)
- Technical Sergeant (three upward and two rocker stripes)
- Master Sergeant (three upward and three rocker stripes)
- First Sergeant (same as a master sergeant's stripes, but with a diamond between the upward stripes and the rocker stripes

Walter J. Boyne, former director of the National Air and Space Museum in Washington, D.C., is a retired Air Force colonel, author, and member of the National Aviation Hall of Fame. He has written more than 600 articles about aviation topics and 50 books, the most recent of which is Soaring to Glory. *His most recent article for* Air Force *Magazine, "The McCook Pilots," appeared in the February issue.*

Books

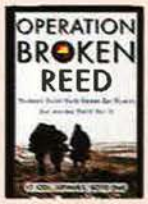
Compiled by Chequita Wood, Media Research Editor

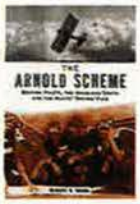
The Airmen and the Headhunters: A True Story of Lost Soldiers, Heroic Tribesmen, and the Unlikeliest Rescue of World War II. Judith M. Heimann. Harcourt, New York (800-543-1918). 289 pages. $26.00.



The Greatest Battle: Stalin, Hitler, and the Desperate Struggle for Moscow That Changed the Course of World War II. Andrew Nagorski. Simon & Schuster, New York (800-223-2336). 366 pages. $27.00.

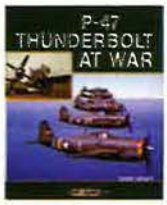
Operation Broken Reed: Truman's Secret North Korean Spy Mission that Averted World War III. Lt. Col. Arthur L. Boyd, USA (Ret.). Da Capo Press, Cambridge, MA (800-343-4499). 280 pages. $26.95.





The Arnold Scheme: British Pilots, The American South, and the Allies' Daring Plan. Gilbert S. Guinn. History Press, Charleston, SC (866-457-5971). 559 pages. $39.99.

Into the Fire: Ploesti, the Most Fateful Mission of World War II. Duane Schultz. Westholme Publishing, Yardley, PA (800-621-2736). 294 pages. $26.00.

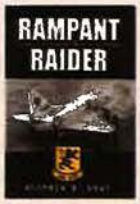


P-47 Thunderbolt at War. Cory Graff. Zenith Press, St. Paul, MN (800-826-6600). 128 pages. $19.95.

The Big Red One: America's Legendary 1st Infantry Division from World War I to Desert Storm. James Scott Wheeler. University Press of Kansas, Lawrence, KS (785-864-4155). 594 pages. $34.95.

Iran and the Bomb: The Abdication of International Responsibility. Thérèse Delpech. Columbia University Press, New York (800-944-8648). 148 pages. $26.95.

Rampant Raider: An A-4 Skyhawk Pilot in Vietnam. Stephen R. Gray. Naval Institute Press, Annapolis, MD (800-233-8764). 284 pages. $32.50.

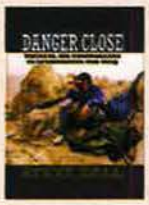


Command in Air War: Centralized Versus Decentralized Control of Combat Airpower. Lt. Col. Michael W. Kometer, USAF. Air University Press, Maxwell AFB, AL (334-953-2773). 335 pages. $29.00.

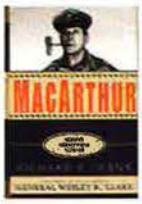
Learning to Love the Bomb: Canada's Nuclear Weapons During the Cold War. Sean M. Maloney. Potomac Books, Dulles, VA (800-775-2518). 470 pages. $29.95.

Uniting Against Terror: Cooperative Nonmilitary Responses to the Global Terrorist Threat. David Cortright and George A. Lopez, eds. The MIT Press, Cambridge, MA (800-405-1619). 334 pages. $21.00.

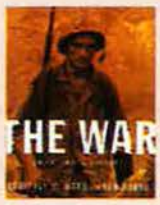
Danger Close: Tactical Air Controllers in Afghanistan and Iraq. Steve Call. Texas A&M University Press, College Station, TX (800-826-8911). 250 pages. $29.95.



MacArthur. Richard B. Frank. Palgrave Macmillan, New York (888-330-8477). 198 pages. $21.95.



The War: An Intimate History, 1941-1945. Geoffrey C. Ward and Ken Burns. Knopf, New York (800-726-0600). 451 pages. $50.00.



Debrief: A Complete History of US Aerial Engagements, 1981 to the Present. Craig Brown. Schiffer Publishing, Atglen, PA (610-593-1777). 192 pages. $49.95.

Off I Went Into the Wild Blue Yonder. John James Knudsen. Pelican Publishing, Gretna, LA (800-843-1724). 328 pages. $24.95.

The War That Never Ends: New Perspectives on the Vietnam War. David L. Anderson and John Ernst, eds. University of Kentucky Press, Lexington, KY (800-839-6855). 368 pages. $35.00.

Keeper File

The Battle Orders of Billy Mitchell

On the afternoon of Sept. 11, 1918, Col. William Mitchell was putting the finishing touches on his plan for air operations in the World War I Battle of St. Mihiel in France. It was to be the world's first major air offensive, and Mitchell was, in reality, its "air boss"—the world's first joint force air component commander. He assembled the key members of his staff as well as the commanders of various aviation units at his headquarters. There, he patiently explained the plan to one and all. Convinced that they all understood his plan, he then issued his written battle orders. He wrote them himself. With his all-capitalized admonition for airmen to "take the offensive at all points," he had summed up the tenor of his command and produced an instant classic of military history.

"Battle Orders, No. 1"

Col. William Mitchell
First Army Headquarters
American Expeditionary Forces
Ligny-en-Barrois, France
Sept. 11, 1918

Find the full text on the Air Force Association's Web site www.afa.org *Air Force* Magazine "The Keeper File"

The enemy is losing ground, personnel, and materiel at all points of the front on which the allied armies are attacking. On the front of the first Army he is holding the line Pont-sur-Seille–St. Mihiel–Fresnes-en-Woevre–Chatillon-sous-les-Cotes in his old positions. His air service is estimated at 150 pursuit, 120 reconnaissance, and 25 battle airplanes, which is being reinforced. The strength of his ground troops is estimated at about seven divisions, with from three to five divisions in reserve. The strength and morale of these divisions is reported low. There are signs that he intends to withdraw from his front lines and make his main resistance at some point further to the rear.

The First Army attacks on the whole front on 12 September 1918. The hour of the attack will be 5H 12 September 1918. The First and Fourth Corps will attack at H hour. The 5th Corps will attack at H hour plus three hours. ...

OUR AIR SERVICE WILL TAKE THE OFFENSIVE AT ALL POINTS WITH THE CBJECT OF DESTROYING THE ENEMY'S AIR SERVICE, ATTACKING HIS TROOPS ON THE GROUND, AND PROTECTING OUR OWN AIR AND GROUND TROOPS.

The corps sectors of reconnaissance are as announced in Annex #3, Field Orders #9 Appendix #4, dated September 7th, 1918. Particular attention is to be paid to minute reconnaissance of the enemy lines to determine whether he has been reinforced or has changed his dispositions. ...

The 1st Army Observation Group (Reynolds) will execute the reconnaissance and surveillance as ordered in the plan of reconnaissance. ... Three airplanes will be held ready to execute any special reconnaissance ordered.

The Army Artillery Group (Block) will execute the observation ordered for the artillery to which it is attached. ...

The First Pursuit Wing (Atkinson) will cover the front Pont-sur-Seille–St. Mihiel, inclusive. An absolute barrage will be established against enemy aviation, our own observation aviation will be protected, and an attack against all balloons exposing themselves on this front will be made early in the morning. After 9:00 a.m., one pursuit group loaded with bombs will be held in reserve to be used for the purpose of attack of hostile troops or convoys on the ground, so as to be ready to leave the ground 15 minutes after the receipt of the order.

The First Bombardment Group will attack the hostile division and corps posts of command and such enemy positions as present a suitable target.

The right flank of the First Pursuit Wing will be protected by the First Brigade (French) Aerial Division and the aerial defenses of the 8th French Army. Close liaison will be maintained by the 1st Pursuit Wing (Atkinson) with both of these and with the Army corps so as to keep close track of the advance of the troops.

The First Pursuit Group (Hartney) will cover the front Chatillon-sous-les-Cotes–St. Mihiel, inclusive. A barrage will be maintained against hostile aviation, observation aviation will be protected, and hostile balloons will be attacked opposite the front of the 4th Corps. ...

The Army Night Bombing and Reconnaissance Wing (Major Villome) will execute the night reconnaissance directed in accordance with the schedule provided for. Railroad centers and airdromes will be bombed systematically as provided for in the plan of employment. Particular attention will be paid to the German night bombing airdromes.

The French Air Division (Vaulgrenant) will take the offensive against the enemy's aviation and troops on the ground. The brigades will execute successive attacks, passing over both sides of the St. Mihiel salient. ... The principle being to operate along the axes indicated so as to take the enemy aviation in reverse and force it towards our lines. Attacks will be made against the ground troops of the enemy when occasion offers.

The bombardment aviation will attack the objects on the ground which show themselves to be the most dangerous as operations develop.

Provision will be made for guarding the 1st Army's right flank against hostile air attack. Close liaison will be maintained by radio and courier planes with the Corps Air Services so as to insure the air division's cooperation in the attack. ...

William Mitchell

AFA's 2007 National Teacher of the Year brought the world of aerospace to students in Kansas.

The Force Was With Her

By Bruce D. Callander

Jennifer Sinsel was a finalist in NASA's educator-astronaut program in 2003. Below left: Two fifth-graders at Wichita Collegiate School collect mineral specimens on "Mars."

If it hadn't been for the smash 1977 film "Star Wars," Jennifer Sinsel might never have gone into teaching science and therefore could never have been chosen as the Air Force Association's National Teacher of the Year for 2007.

"The first time I ever got interested in spaceflight," Sinsel said, "was when I was a kid and I went over to my uncle's house. My brother and I watched a video of 'Star Wars.' Those movies had begun to come out and we watched every one of them almost daily. I could have recited all of the dialogue. ... I was fascinated by spaceflight."

Sinsel was teaching fifth grade at Wichita Collegiate School, a private school in Wichita, Kan., when she was selected as AFA's 22nd recipient of the Christa McAuliffe Memorial Award for Teachers. The honor is named for teacher-astronaut Christa McAuliffe, who perished in the January 1986 *Challenger* disaster. The award recognizes a public, private, or parochial school teacher in grades K-12 who promotes aerospace technology though innovative curriculum.

Sinsel received the honor and a $5,000 cash award during the AFA Air & Space Conference and Technology Exposition in Washington, D.C., in September 2007.

In high school, Sinsel was inspired by two memorable teachers. In biology class, she was taught by the North Dakota biology science teacher of the year, and her physics teacher was one of the finalists for the teacher in space program during the period when McAuliffe was involved.

After college, Sinsel worked at summer camp and loved working with kids, so she combined those two interests and became a science teacher.

After earning both a bachelor of science degree and a master of science degree from the University of North Dakota, Sinsel began teaching in public schools in Minnesota. Later, she moved to Wichita and started working at Wichita Collegiate. Wichita Collegiate School is a private college preparatory day school founded in 1963, and currently enrolls 966 children from preschool through 12th grade.

It was for her work at that school that she won the Teacher of the Year award, but in the fall of 2007 she began teaching a class for gifted children in the Wichita public school system.

"I continue to use the same approach as I did in the private school," Sinsel said, "a lot of higher-level-thinking kinds of activities, a lot of problem solving where [the students] are forced to take knowledge and apply it," with considerable analysis and evaluation.

"I'm teaching all levels of elementary now but only with gifted students," she continued. "If I stay in this position, I will have some of these kids for five or six years."

Innovative Techniques

Sinsel often uses an approach that combines subjects. "One of the middle school philosophies is to create interdisciplinary units so kids can see the connection between different subject areas" so topics are not just viewed as discrete matters, she said.

Prime examples are a recent space shuttle simulation and a Mars simulation.

Sinsel partnered with an English teacher and gave each student a position as an astronaut or a mission controller. The students performed various duties

Fifth-grader Marcus Phox consults with Sinsel on a robotics project.

related to their positions and collaborated to make the mission a success. The students determined the mission.

One of the simulations was a trip to Mars; another dealt with attaching a solar panel to the space station. Sinsel took positions that NASA actually uses, such as flight director and flight dynamics officer, and created assignments for the students based on the specifics of their chosen mission.

The students took those assignments and completed them, as best they could. For example, the science team came up with experiments to do during the mission. Those named public affairs people developed a PowerPoint presentation and shared the mission with the audience. Sinsel said she and the English teacher "worked very hard" to combine different relevant skills.

Sinsel has earned numerous other awards for her teaching. In 2002, she

Salem Cusick learns how to exit an airplane, using a skydiving trainer. Sinsel is a skydiver.

was named Kansas Aerospace Educator of the Year. In 2003, she received an educator achievement award from the American Institute of Aeronautics and Astronautics, and in 2006 she was picked as the nation's best middle school science teacher by the National Middle Level Science Teachers Association.

Then, in early 2007, she was selected as the Kansas recipient of the Presidential Award for Excellence in Mathematics and Science Teaching. The National Science Foundation award recognizes teachers with deep knowledge in the subject and the ability to motivate students.

Her teaching also has put her in touch with NASA on several occasions. "Probably the best experience I've had was in 2003 when I interviewed for the astronaut program," Sinsel said. "They chose about 35 educators from across the country to interview for the educator-astronaut position. I was included, so I spent a week at Johnson Space Center" going through physical testing and psychological testing and all the exams they give to astronauts before they are chosen.

More NASA Projects

In 2005, she was chosen to make another trip to a NASA facility, this one to the Ames Research Center in California. "That was through a program called Space Systems Educators Cohorts," she said. "We went there for five days to learn about aerospace systems and how Ames is working with those systems." For example, Ames develops the software that the Dallas-Fort Worth Airport uses for air traffic control. Sinsel learned how NASA and Ames are working with the Air Traffic Control System and the Federal Aviation Administration to make air traffic safer, more convenient, and to "keep more flights on time."

Her experiences and the contacts she has made with NASA and other officials have helped her teaching, especially on such projects as building a full-size space shuttle simulator for her class. "I probably put 200 hours of research into the design of the simulator itself and the curriculum that I wrote to go along with it," she said.

Sinsel later built a capsule, similar to that used in the Apollo era, as a model for a system that could eventually to go to Mars.

"In our math class right now the students are working on the engineering design challenge that NASA has put out," she said. Her students are "building a plant growth chamber to evaluate some basil seeds that were grown on Barbara Morgan's flight." (Morgan, a former teacher, flew on *Endeavour* in 2007.)

Sinsel and student Caitlyn Goodman prepare to launch a small rocket.

NASA made available some 200,000 packets of seeds "and we will build a plant growth chamber. Then, we can compare the growth of the micro-gravity seeds to regular seeds," she said.

All in all, NASA has "a great education division and they are very helpful to teachers," she said.

Sinsel still hopes to one day get her students into one of the NASA sessions in which ground personnel talk to astronauts during an actual spaceflight. "Those are really tough sessions to get into," she said.

Like many teachers, Sinsel is concerned about the overall lack of interest in science among students and, particularly, the shortage of science teachers.

"I think I have had a lot of kids who have shown an inclination to go into science," she said, but even so, she added, "I'm not sure I have had many" who want to be science teachers.

But, she concluded, "I feel that aerospace is such a motivator for kids, and any topic can be made more interesting if you incorporate aerospace into it." ■

Bruce D. Callander is a contributing editor of Air Force *Magazine. He served tours of active duty during World War II and the Korean War and was editor of* Air Force Times *from 1972 to 1986. His most recent article for* Air Force *Magazine, "First Shirts," appeared in the January issue.*

Chart Page

By Tamar A. Mehuron and Heather Lewis

Airpower Steps Up

In the wars of Southwest Asia—Iraq and Afghanistan—airpower has become more prominent and important. Figure 1 shows that, for four straight years, overall sortie numbers have risen, especially in close air support of troops on the ground. As Figure 2 shows, there was also a dramatic increase in CAS strikes. Figure 3 reflects the growing desire for USAF's air delivery of cargo. "ISR" stands for intelligence-surveillance-reconnaissance.

Fig. 1

Air Activity in Southwest Asia

Number of Sorties

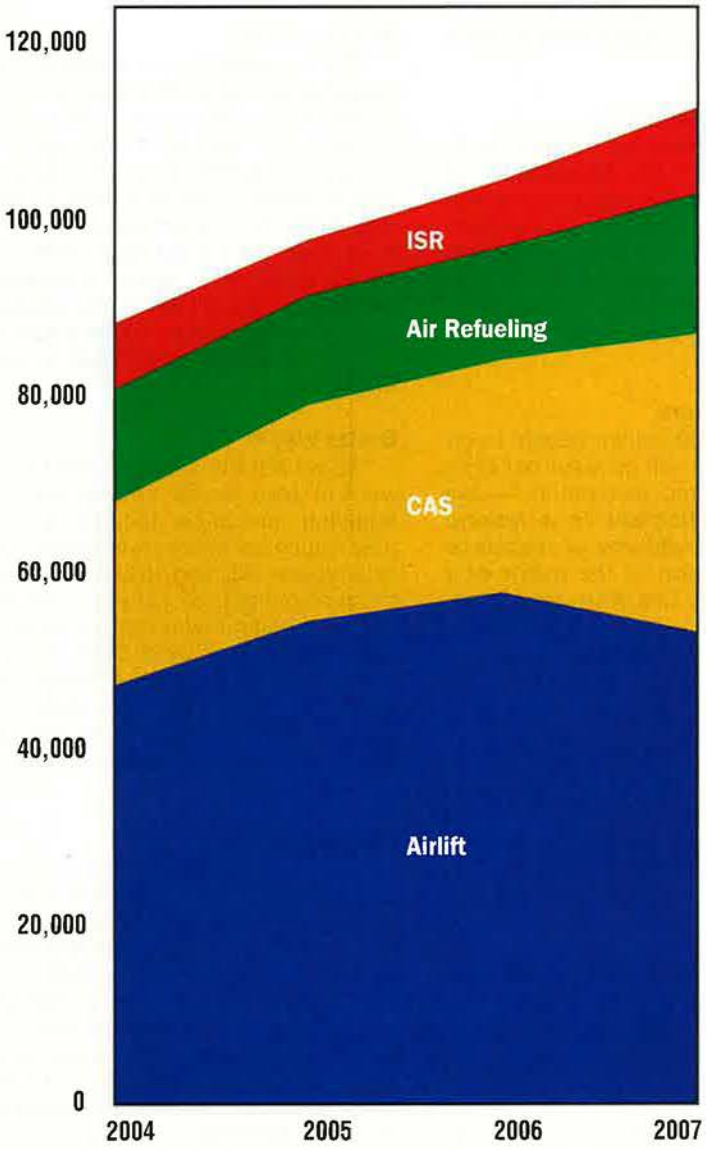


Fig. 2

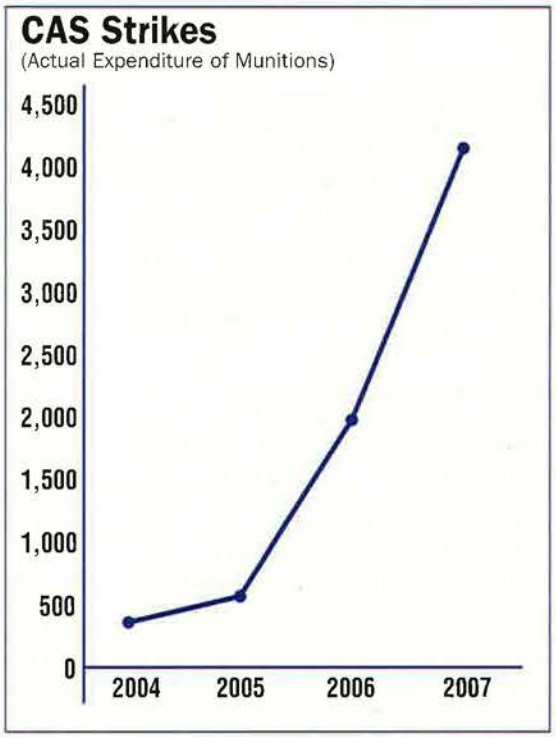
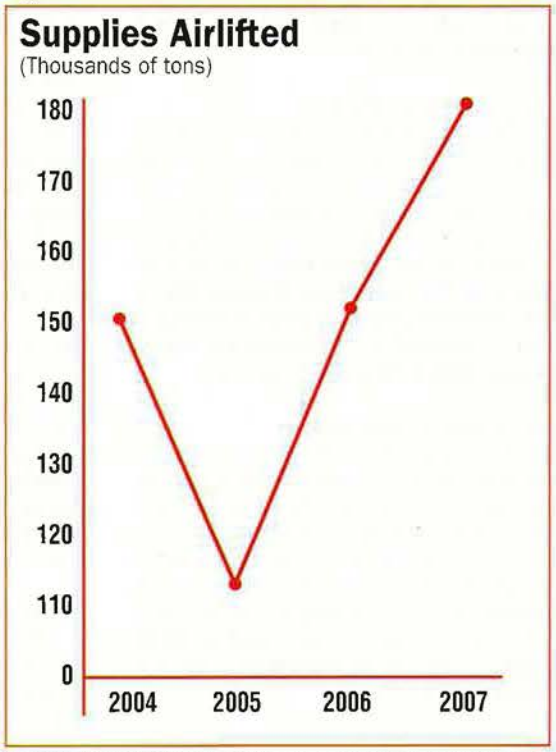


Fig. 3



Source: USCENTAF, Combined Air and Space Operations Center, Jan. 3, 2008. Data reflects the activities of all services, with the exception of airlift, which is USAF only.

Verbatim

By John T. Correll, Contributing Editor

Technology Is So Yesterday

"The US has no conventional military enemies now. Neither Russia nor China nor anyone else is building vast arsenals of advanced weaponry. The enemies the US actually fights are guerillas and insurgents. So why spend huge sums on high-tech arms?"—***Columnist Fred Reed,* Washington Times, *Dec. 15.***

What Tomorrow May Bring

"The issue, then, is whether the US needs the best plane in the sky. For all the talk of the F-22 being a legacy of the Cold War, we are far from convinced that the US will forevermore be faced with only Taliban-like adversaries incapable of fielding air forces of their own, or that the era of great power military rivalries is over. Judging by the expensive weapons systems currently being developed in China and Russia (which on Tuesday successfully tested a new ICBM, apparently Vladim r Putin's idea of the Christmas spirit), it seems that neither country has reached that conclusion either."—**Wall Street Journal *editorial, Dec. 27.***

Flying Officer Wales

"During his time with us, Flying Officer Wales will be realizing a personal ambition to learn how to fly, and this will be the beginning of a lifelong relationship with the Royal Air Force."—***Central Flying School chief Nick Seward on entry of Flying Officer William Wales (Prince William) into pilot training at RAF Cranwell in Lincolnshire, Press Association dispatch, Jan. 4.***

All in the Squadron

"To prepare for combat, we train like we fight, so it only makes sense that we should also organize the way we fight. Aircraft maintenance is a vital element of a flying squadron's mission at home or deployed, and the maintainers that generate sorties belong in that chain of command."—***Air Force Chief of Staff Gen. T. Michael Moseley, CSAF's Scope, Dec. 13.***

Look to the Skies

"The war in Afghanistan has largely returned to its 2001 origins, when a combination of special operations forces on the ground calling in airpower quickly defeated the Taliban armies. This doesn't mean ground forces are less important; the most effective combination is to have 'eyes on the ground' making US airpower more effective. Yet despite the strategic review and the call for more troops, nothing dramatic is likely to happen 'on the ground' in Afghanistan before the Bush Administration leaves office. That is because the drama is not on the ground. To understand the war in Afghanistan, look up in skies."—***William M. Arkin,* Washington Post *blog, Dec. 17.***

No One Complained

"Again this year, the national cemetery system of the Department of Veterans Affairs (VA) has received the highest rating in customer satisfaction for any federal agency or private corporation surveyed, according to a prestigious, independent survey of customer satisfaction."—***VA news release, Dec. 18.***

The Nonbelievers

"If you tell 100 million people to go east, 25 million will go west because they don't trust the government."—***Jay C. Davis, participant in a federal study of the problems of response and coordination in the event of a nuclear attack,* Los Angeles Times, *Jan. 6.***

We're Losing

"The American people have become very frustrated with the course of this war. They should be frustrated. We're losing."—***Frederick W. Kagan, neoconservative scholar and author and former professor of military history at West Point, NPR "Morning Edition," Jan. 8.***

We're Winning

"After years of mismanagement of the war, many people had grave doubts about whether success in Iraq was possible. In Congress, opposition to the surge from anti-war members was swift and severe. They insisted that Iraq was already 'lost,' and that there was nothing left to do but accept our defeat and retreat. In fact, they could not have been more wrong. And had we heeded their calls for retreat, Iraq today would be a country in chaos a failed state in the heart of the Middle East, overrun by al Qaeda and Iran. Instead, conditions in that country have been utterly transformed from those of a year ago, as a consequence of the surge."—***Sen. John McCain (R-Ariz.) and Sen. Joseph I. Lieberman (I-Conn.),* Wall Street Journal *op-ed, Jan. 10.***

Need to Know

"The computer's user managed the database on behalf of the band for the purposes of unit history and alumni contact. It is not yet known why PII [personal identification information] was included in the database."—***Bolling AFB, D.C., announcement, Jan. 4, on theft from a member of the Air Force Band of a laptop computer containing Social Security numbers and other personal information on 10,000 retirees and 500 active duty members.***

Better Way to Go

"As we set the stage for the future, we will also break new ground by applying innovative technologies in areas such as alternative energy and cyberspace. Building on last year's certification of the B-52 to fly on synthetic fuel and the first-ever transcontinental flight on 'synfuel' by a C-17, we are taking aggressive steps to certify the entire fleet to reduce dependence on foreign oil."—***Secretary of the Air Force Michael W. Wynne, Letter to Airmen, Jan. 7.***

Acquisition Logic

"I need competition. If the C-5 [reengining upgrade] is canceled, there's a possibility that the C-17 price will go up."—***Air Force acquisition executive Sue C. Payton on why USAF may pursue the C-5 re-engining upgrade, even though its estimated cost has risen by 54 percent despite competitive pressure from the C-17, the price of which has steadily declined,* National Defense, *January.***

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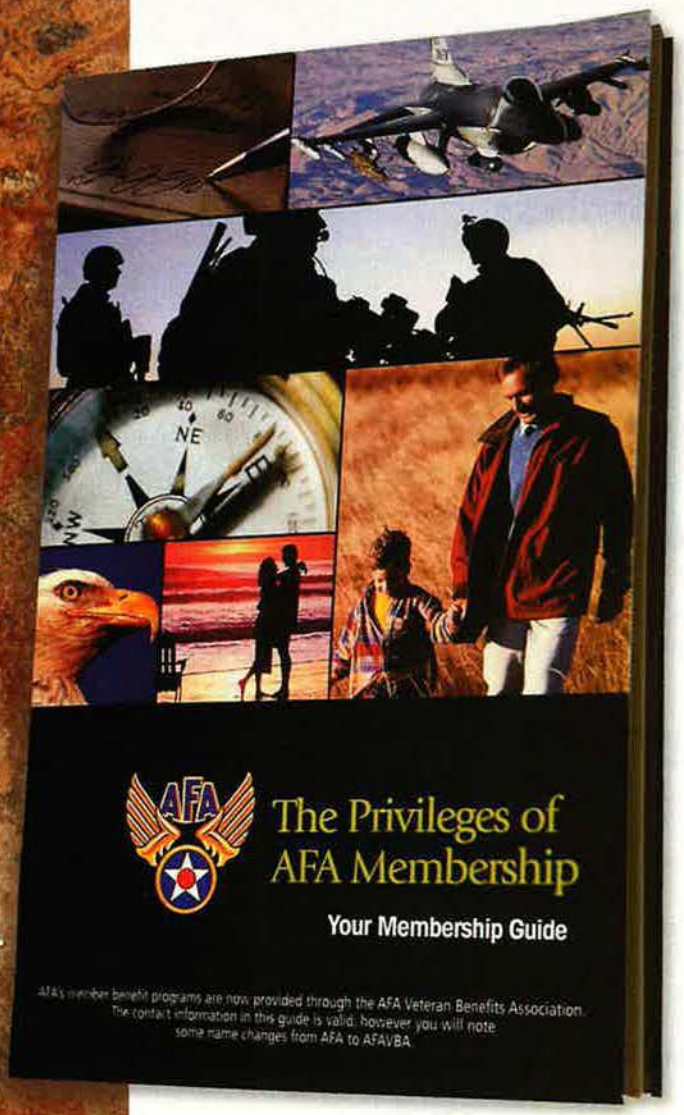

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AFA National Report

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By Frances McKenney, Assistant Managing Editor

USAF photo by A1C Brittany Barker

AFA Board Chairman Bob Largent (far right) observes a combat search and rescue demonstration at Moody AFB, Ga., in December. With him are (l-r) Parker Greene from the South Georgia Chapter; Col. Eric Kivi, commander of the 347th Rescue Group; and Col. Kenneth Todorov, commander of the 23rd Wing.

"Thrills and Spills"

When the Washington Capitals hockey team played the Philadelphia Flyers in Washington, D.C., in January, several members of the **Gen. Charles A. Gabriel Chapter (Va.)** were in the stands. They were volunteer escorts for Wounded Warriors—injured US service members recovering at Walter Reed Army Medical Center.

The home team Capitals lost four to six, but the chapter members and guests enjoyed a game described by one sportswriter as full of "thrills and spills," with "plenty of hard hits."

Gabriel Chapter member Kenneth A. Spencer and a co-worker, Jared Wurster, served as chapter contacts for the outing that involved 20 patients from Walter Reed and several of their family members. Others who escorted guests were Terrence J. Young, chapter president; Frederick S. Knowles, chapter treasurer; and Matt O'Kane. The hospital provided the bus, while Caps representative Jeff Keeney arranged for discounted tickets, access for the bus, and a welcome for the guests when they arrived at the arena.

Gabriel Chapter members first volunteered for a Wounded Warrior outing from Walter Reed in 2006.

Community Partner Dynamo

"A dynamo" in Colorado's **Lance P. Sijan Chapter** was among the outstanding chapter members and Community Partners honored at an annual awards reception in Colorado Springs.

Debbie Estrem, chapter and state vice president for Community Partners, received a Special Award for her efforts to jump-start the chapter's CP program. Chapter President George T. Cavalli, who described Estrem as "a dynamo," said she took a chapter Community Partner program that had "dwindled" to four businesses and in four years increased the number of participants to 140. (As of February, Estrem was nearing 150, and Cavalli had rounded up two volunteers to help her administer the program.)

The Air Force Association established the Community Partner Program in 1975 as a way for chapters to build ties to local businesses. The Community Partner's association membership fee is split between the chapter and AFA national.

Estrem is prepared to find Community Partners, by always carrying membership applications in her purse. Cavalli said the chapter executive board once had a lunch meeting at a restaurant, and by the time it was over, Estrem had talked the manager into signing up as a CP.

What is her most effective approach? "I sell it as a networking tool," said Estrem, who is an executive assistant and security administrator in her civilian job. She explains to potential CPs that the program is a method to advertise, to show support for the military, and a way to work on the same team with other businesses.

Because of her effectiveness, the chapter has received four consecutive national-level Community Partner Gold Awards (2004-07), presented to chapters whose CPs represent at least six percent of the total number of chapter members.

The chapter awards reception was held in the banquet hall at the stadium of the Colorado Springs Sky Sox baseball team—a Community Partner.

"A Hit" in Arizona

In Arizona, the **Cochise Chapter** has received positive feedback on its first try at sponsoring classrooms in the Visions of Exploration program.

A joint effort between AFA and *USA Today* newspaper, the Visions of Exploration program encourages students in grades four through 12 to study math, science, and technology. The program includes lesson plans keyed to articles published in the newspaper and copies of the publication one day a week.

Chapter President Ross B. Lampert said fifth-grade teacher Jennifer Brooks from Village Meadows Elementary School in Sierra Vista wrote in December that the program is "a hit with the students."

Lampert headed the **Central Oklahoma (Gerrity) Chapter** a few years ago. His Visions experience there prompted him to encourage the Arizona chapter's aerospace education vice president to promote the Visions program in their area. Susan R. Struck signed up four classrooms in Sulphur Springs Valley—described by Lampert as "a very rural area." Three other classrooms in Sierra Vista signed on, too.

All the classrooms were in grades four through eight, so this cost the chapter less than if they had sponsored high school classrooms, Lampert pointed out. He added that "nothing much like it was going on in the area," making this chapter outreach effort more visible and important.

"This is the sort of thing that a small chapter like us can do relatively easily," Lampert said. As of last June, the chapter had just under 130 members.

Historian on Deployment

An Air Force civilian historian just back from a deployment to Southwest Asia was guest speaker for the December meeting of the **Scott Berkeley Chapter** in Goldsboro, N.C.

Roy W. Heidicker, from the 4th Fighter Wing, Seymour Johnson AFB, N.C., had volunteered for a deployment last year to Balad AB, Iraq. He was historian for the 332nd Air Expeditionary Wing from May to September.

Heidicker explained that the historian career field has transitioned from active duty to all-civilians, so he is considered "emergency essential" and was in his "normal 'bucket' of deployment" when he volunteered for Iraq.

Heidicker, who once served in the Marine Corps, spoke to the chapter about "what it was like for a 54-year-old civilian to work as an Air Force historian in a war zone," as he put it. In a commentary written en route to Balad, he said, "I am an observer, but I have the rare privilege of working for the extraordinary patriots who are taking the fight to the enemy."

The 332nd is USAF's most forward deployed wing in Operation Iraqi Freedom and ties its heritage to the World War II 332nd Fighter Group of the Tuskegee Airmen.

According to a press release from the 9th Reconnaissance Wing, Beale AFB, Calif., the first civilian historian to complete an Operation Iraqi Freedom deployment was Chris Mayse who served with the same 332nd AEW a few months before Heidicker, from August 2006 to January 2007.

Front-Line Medicine

Also on deployment with the 332nd AEW in the same May to September time period as Heidicker was ANG Lt. Col. Edythe A. McGoff from the **Northern Shenandoah Valley Chapter (Va.).**

At the January meeting of the chapter, McGoff presented a slide and video summary about her deployment as chief nurse for the 332nd Aeromedical Evacuation Operations Team. She provided an overview of the medevac system and described some of her work in overseeing patient movement, scheduling crews, and helping to ensure the readiness of equipment.

Debbie Estrem and Kevin Estrem of the Lance P. Sijan Chapter host an AFA membership table at SnoFest at Keystone, Colo., in January. The chapter was a sponsor of this 18th annual snow-sports weekend, organized for military personnel by Air Force and Army units in Colorado.

McGoff has been in the Air National Guard for 18 years and has served in other war zones. Before this deployment,

she was the Emergency Department manager of City Hospital, Martinsburg, W.Va., and now is the trauma services manager for West Virginia University Hospitals-East.

At the chapter meeting, McGoff—who is also the chapter government relations VP—received an AFA Citation from Chapter President Norman M. Haller and Membership VP Raleigh H. Watson Jr.

Fund-Raising Golf

A golf tournament in Sacramento, Calif., last October raised $25,000 toward the **C. Farinha Gold Rush Chapter's** support programs for Air Force families and for scholarships.

Lee V. Greer, chapter president, said this allowed the chapter to give $5,500 during this past holiday season to 22 Air National Guard and Reserve families who have a member deployed for the Global War on Terror. A chapter member donated another $5,000 that covered active duty Air Force families.

Some 110 players teed off at the tournament, called the "Wings of Hope Golf Classic," held at a golf club north of Sacramento. Greer reported that the chapter raised the funds through a major corporate sponsor, Community Partners, donations, and raffles.

Post-tournament activities included a dinner, with a local former TV newsman, as master of ceremonies. In addition, retired Col. William A. Eveland was named the Wings of Hope Golf Classic honoree. He received framed artwork from the chapter to recognize his nearly 30 years of Air Force service and more than two decades as an airborne traffic reporter for a Sacramento radio station.

Scholarship

In Florida, the **Hurlburt Chapter** awarded the first scholarships from its newly established program for AFROTC cadets at the University of West Florida, based in Pensacola.

Kimberly Luzano and Angie Cox were selected from among some 65 cadets. Chapter President Dann Mattiza announced their names at a January gathering of the cadets at UWF and noted that each scholarship included $1,000, an AFA certificate, a year's membership in AFA, and a unit coin.

Mattiza said the chapter expanded its scholarship program to encompass the UWF cadets last fall, deciding to choose from among third-year AFROTC cadets who were not already on an ROTC scholarship. Luzano is the wing commander for the cadets and Cox, a prior-enlisted USAF member, is the logistics squadron commander.

At a C. Farinha Chapter meeting in California, Rick Osmun (left) receives a memento from Lt. Col. Gary Aten, chapter VP for programs. Osmun is a program manager with Sierra Nevada Corp., an electronics and manufacturing company. He presented information on airships and their potential role in ISR and showed photos from an autonomous airborne refueling demonstration.

More Chapter News

■ It was a return engagement for Clint D. Null from Lockheed Martin. In January, he spoke to a meeting of the **Tarheel Chapter** in N.C., providing an update on the F-35. He had spoken to the chapter in February 2006. Chapter President Joyce Feuerstein reported that this time, Null focused on the Lightning II's multinational development effort. A retired F-4 pilot who joined Lockheed Martin to work on the Joint Strike Fighter, Null is now based in Suffolk, Va. ■

Reunions

reunions@afa.org

1st Radio Relay Sq, in Europe. Sept. 15-17 in Chattanooga, TN. **Contact:** John Seifert (410-833-0672 or 1-800-872-2529) (bristolboy@peoplepc.com).

11th, 12th, 6166th TAC Recon Sqs. Starting Nov. 1 in Miami. **Contact:** L. Hayes (248-651-2995) (1-800-998-1228) (linhayes1@yahoo.com).

27th Air Transport Gp, including ferrying, transport, and service squadrons. Sept. 18-20 in Portland, OR. **Contact:** Fred Garcia, 6533 W. Altadena Ave., Glendale, AZ 85304-3114 (623-878-7007) (gar31@earthlink.net).

48th FS/FIS/FTS. Sept. 24-27 in Newport News, VA. **Contact:** Joe Onesty, 455 Galleon Way, Seal Beach, CA 90740 (562-431-2901) (jonesty@roadrunner.com).

61st FS, Newfoundland (1950s). Sept 4-6 in Branson, MO. **Contact:** Charles Christianson, PO Box 326, Monticello, MN 55362.

91st BG Memorial Assn. June 24-29 in Fullerton, CA. **Contact:** Jim Shepard (jshep91@earthlink.net).

98th BG/Wg Veterans Assn. Oct. 14-19 in Cincinnati. **Contact:** Dennis Posey, 1780 Chasewood Park Ln., Marietta, GA 30066 (770-509-7734) (dposey@comcast.net).

306th BW. Sept. 17-23 in Washington, DC. **Contact:** Joe Demes (321-452-4417) (joedimps@aol.com).

351st BG Assn., Polebrook, England, WWII. July 10-13 at the Wyndham Hotel Airport in Milwaukee. **Contact:** Clint Hammond, PO Box 281, Mechanicsburg, PA 17055 (717-766-1489) (bomb351st@aol.com).

384th ARW Maintenance Sqs. June 27-29 at McConnell AFB, KS. **Contact:** Jay Stark (251-479-6620) (papasanstark@aol.com).

6922nd Radio Group Mobile, Ashiya, Japan, including radio intercept operators and intelligence analysts. May 19-20 at Lions Gate Hotel in McClellan Airfield Park, Sacramento, CA. **Contact:** Jim West (usafssclub@aol.com).

Malden AFB, Mo., all personnel. Sept. 18-20. **Contact:** R. Thorpe, 6616 E. Buss Rd., Clinton, WI 53525 (608-676-4925) (g.hagans@verizon.net).

Pennsylvania AACS alumni. July 15-17 at the Hampton Inn in DuBois, PA. **Contact:** Ed Rutkowski (814-371-7167). ■

E-mail unit reunion notices four months ahead of the event to reunions@afa.org, or mail notices to "Unit Reunions," *Air Force* Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. Please designate the unit holding the reunion, time, location, and a contact for more information. We reserve the right to condense notices.

Airpower Classics

Artwork by Zaur Eylanbekov

P-38 Lightning

The P-38 Lightning was one of the more deadly of World War II's fighters. It was also one of the more distinctive; the airplane's twin-boom, central nacelle, tricycle-landing-gear design made it instantly recognizable. Beloved by its pilots, the Lightning went on to become one of the all-time greats.

When the Air Corps called for an interceptor in 1937, Lockheed engineers knew they needed 2,000 horsepower to get desired speed and handling. Their solution was to use two 1,150 hp engines equipped with GE exhaust-driven turbo-superchargers. Originally designed as a high-altitude interceptor, the P-38 was more versatile than expected. It fought in every theater and performed in roles that ranged from air-to-air combat to dive bombing, level bombing, ground strafing, and photoreconnaissance. The P-38's range, agility, and enormous firepower turned it into an "ace-maker" early in the war. While proficient enough in Europe and North Africa, the P-38 gained greatest fame in the Pacific. There, it was flown by USAAF's two top aces—Dick Bong and Tom McGuire. Moreover, Thirteenth Air Force P-38s pulled off the most famous ambush of World War II—the 1943 shootdown execution of Japanese military leader Adm. Isoroku Yamamoto in a daring, 500-mile, over-water raid.

The Lightning was an aircraft of exceptional capabilities; it pushed against the limits of performance and expanded US combat possibilities, especially in the Pacific. US pilots used those powers to great advantage, which is one reason that the P-38 was the only US fighter that was produced continuously from Pearl Harbor to V-J Day.

—Walter J. Boyne

This aircraft: P-38J-25 #44-23677—*Little Buckaroo*—as it looked in August 1944 when assigned to the 392nd Fighter Squadron in France. It was flown by the squadron commander, Maj. Robert C. Rogers.

In Brief

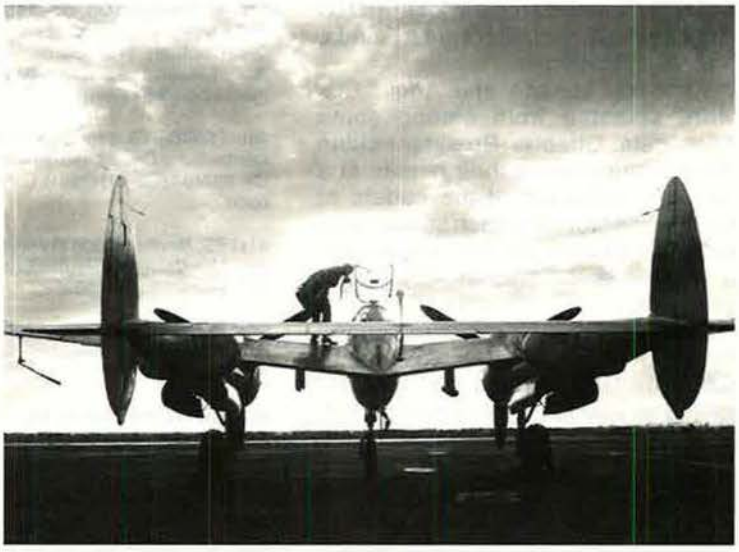
Designed by Lockheed ★ built by Lockheed, Convair ★ first flight Jan. 27, 1939 ★ crew of one or two (P-38M only) ★ number built 10,038 ★ **Specific to P-38J:** two Allison V-1710 12-cyl engines ★ armament, one 20 mm cannon, four .50 cal machine guns, two 1,600 lb bombs ★ max speed 414 mph ★ cruise speed 290 mph ★ max range 450 mi ★ weight (loaded) 21,600 lb ★ span 52 ft ★ length 37 ft 10 in ★ height 9 ft 10 in.

Famous Fliers

Medal of Honor: Dick Bong, Tom McGuire. **Aces** (P-38 kills only): Bong (40), McGuire (38), Charles MacDonald (27), Jay Robbins (22), Gerald Johnson (20), Thomas Lynch (17), Bill Harris (16), Edward Cragg (15), Cyril Homer (15), Michael Brezas (12), William Leverette (11), Jack Ilfrey (8), Robin Olds (5) **Notables:** Rex Barber, Tom Lanphier, and 14 other pilots in April 18, 1943 Yamamoto interception flight. **Others:** Jimmy Doolittle, Charles Lindbergh.

Interesting Facts

First US fighter to: destroy a German aircraft (1942), fly over Berlin (1944), land in Japan (1945) ★ solved torque problem with opposite-rotating propellers ★ "Lightning" bestowed by RAF ★ called "Fork-Tailed Devil" by Germans ★ appeared in the films "A Guy Named Joe" (1943), "Yamamoto Shot Down!" (1944), "Dick Bong: Pacific Ace" (1944) ★ led to F-4 and F-5 photorecce variants ★ "made" more than 100 aces in the Pacific theater.



A P-38 in Chico, Calif., in 1944.

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