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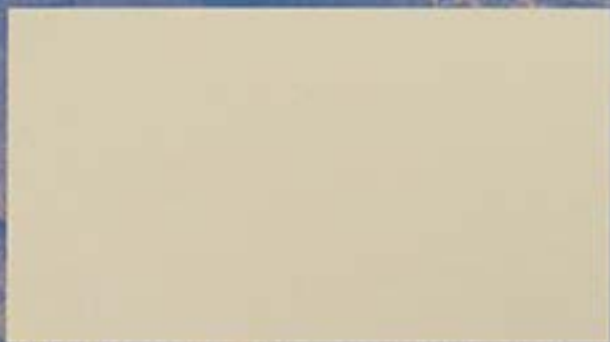
# AIR FORCE

JOURNAL OF THE AIR FORCE ASSOCIATION

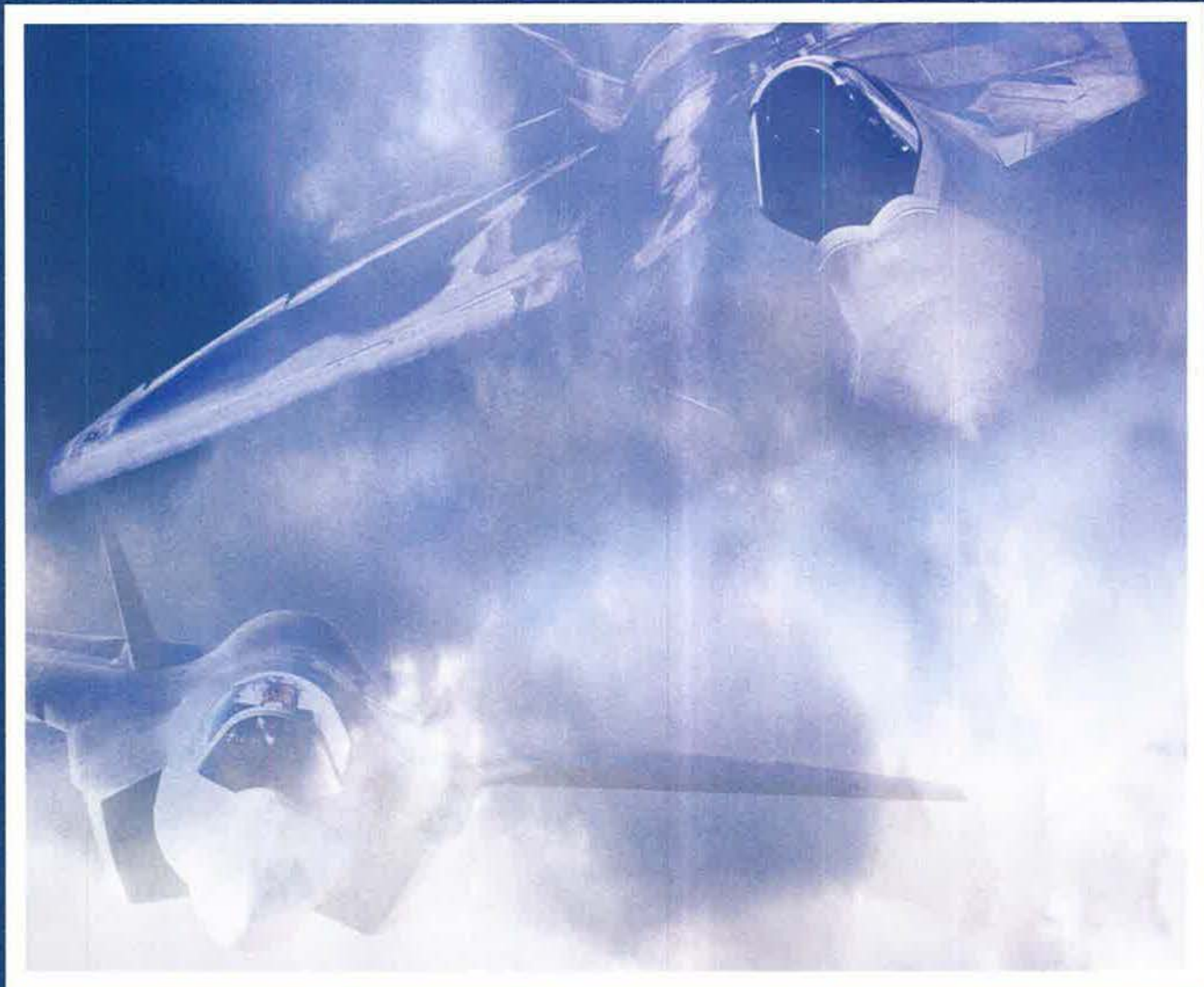
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By Robert S. Dudley, Editor in Chief

## The “Real Fight,” Reconsidered

**T**HAT recent Air Force wipeout of Abu Musab al-Zarqawi must have come as a thunderous surprise to many. How could it not? Everyone knows the Army and Marine Corps do the “real fighting” against terrorists, and our airmen just hold their coats, right?

Sen. Conrad Burns (R-Mont.) has lectured the Air Force that it has little future except in “the mission on the ground” in aid of “young corporals and sergeants engaged in the real fight.” To columnist Ralph Peters, a retired Army officer, land units—and only land units—do “the actual fighting.”

Soldiers and marines are doing “virtually all of the fighting and dying” in this war, wrote retired Maj. Gen. Robert H. Scales Jr., a former commandant of the Army War College, who discerns that the Army and Marine Corps are “at war” while USAF is “at peace.”

Usually, that type of sniping safely can be ignored, given its blatant service-centric bias. Yet such claims feed the widespread perception that USAF has little to offer in the global war against terrorists. That, in itself, could lead to real danger.

Let us stipulate that land forces have suffered grievous losses in Afghanistan and Iraq and in numbers that far exceed those of USAF or the Navy. The question is: How, exactly, does that show that USAF’s 21,000 in-theater airmen are non-contributors?

The primary allegation seems to be that USAF provides only so-called “enabling” capabilities—transport, medevac, intelligence-surveillance-reconnaissance (ISR) work, and so forth—while “real” warriors on the ground engage in the “real” combat against terrorists.

“The perception is that, if you’re not out there on the street, boots on the ground, dying, then you’re not in the war,” noted one Air Force veteran of combat in Southwest Asia.

Such claims took serious battle damage at 6:15 p.m. on June 7, when a lone F-16 pilot, given mere minutes to prepare, pumped two 500-pound precision guided bombs into the not-so-safe safe house of the notorious al-Zarqawi, whose grisly career is now at an end. According to Gen. T. Michael Moseley, USAF’s Chief of Staff, the F-16 pilot was

on a routine patrol but was “dynamically retasked” to attack the site.

This should have surprised no one. Effective air attacks are common in the war with terrorists, as seen in US Central Command reports for a recent week in June. Among the multitude of actions:

- “A-10 Thunderbolt IIs and a B-1B responded to troops in contact. ... A-10s performed strafing passes, *ending the engagement.*”

- “The B-1B expended precision guided JDAMs on the enemy positions, *ending the engagement.*”

- “The Predator expended Hellfire

**“The perception is that, if you’re not out there on the street, boots on the ground, dying, then you’re not in the war.”**

missiles on the enemy positions, killing four extremists and *ending the engagement.*” [Emphasis added.]

While they rarely make headlines, such operations have been conducted, to great effect, hundreds of times over the years. In many cases, ground forces act in support of airpower. In other cases, the reverse is true.

The Air Force puts up B-52 or B-1 bombers able to loiter for a full day and strike any target in 30 minutes. F-15, F-16, A-10, and AC-130 pilots use 20 mm, 30 mm, 40 mm, and 105 mm guns to attack ground forces with little collateral damage. Predators put their Hellfire missiles in specific windows or attack terrorists planting roadside bombs.

The second criticism, ironically, seems to be that USAF isn’t providing nearly enough “enabling” capability. Air Force leaders expend huge amounts of time deflecting calls to divert funds away from combat aircraft to buy more airlift, ISR, and similar capabilities.

It’s easy to see why ground forces want more; such capabilities are extremely useful. Example: USAF uses spacecraft and aircraft to find individual terrorists for ground forces to attack. “You could look at that as an enabling force,” said an officer, “or, you could say ground forces could do nothing without me.”

As for airlift, direct delivery of troops

and cargo in the theater greatly reduces the vulnerability of soldiers and marines on the ground. Is that “enabling,” or is it a part of effective force protection? What’s beyond doubt is it saves lives.

Col. Steve Pennington, an operations officer at Air Force headquarters, summed up the situation with this comment: “Airmen, as part of the joint team, bring these enduring capabilities to the fight. Without the airmen, [soldiers] won’t know what’s around the corner, they’ll be surprised, and they’ll die. Without the airmen, they won’t be able to quickly respond to an adversary. ... The airmen bring both of those capabilities to the fight, and are the only ones who do.”

A related criticism seems to be that Pentagon expenditures on airpower somehow are starving the ground forces of resources. The claim is usually phrased as a criticism of “worthless” F-22 and F-35 fighters useful only in a high-intensity conventional war.

It’s only natural for those engaged primarily in Iraq and Afghanistan to focus on today’s fight and slight a war that may be a decade away. Yet the services are the only defense institutions capable of sustaining a long-term view, and USAF must ensure it has the capabilities required for such a future fight.

If Army and Marine Corps needs are not being met, the solution is to persuade Congress to meet them, not to gut the Air Force.

“There will be some fights where the Air Force carries a disproportionate share of the load and others where we are primarily in support,” said retired USAF Gen. Richard E. Hawley, who formerly led Air Combat Command. “In those cases, we should accept reality, embrace our role as an enabler, ... all the while quietly reminding people that other kinds of fights are not only possible but likely.”

We think that’s good advice. We also think there’s been quite enough jabbering about who is, and is not, a “real” warrior in the fight against terrorism. The nation is getting a tremendous performance from its ground forces, but also from its air, space, and naval forces. They are all “in the fight.” Misrepresentation of this basic reality could lead to disaster, with the major victims being the ground forces themselves. ■



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## Secrets of Lima Site 85

As a survivor of the fall of Site 85, I was a firsthand witness to many of the events mentioned in this article [*"The Fall of Lima Site 85," April, p. 66*]. Of the many attempts to write about this tragedy, the only factual account of these events can be found in the book *The Soldiers' Story*, by Ron Steinman.

I wish to thank you for listing the names of the heroic men who were lost on that mountaintop. A Bronze Star and a name on the Vietnam War Memorial is small payment for their sacrifice.

Maj. Stanley J. Sliz,  
USAF (Ret.)  
Prescott, Ariz.

"The Fall of Lima Site 85" is deeply appreciated. One of the NCOs killed at the site, TSgt. Donald K. Springsteadah, worked for me when I was a first lieutenant at Tainan AB, Taiwan, in '60, '61. We were assigned to the 868th TMS, a Matador missile squadron. He was an exceptionally well-qualified electronics tech for our mission radar, very similar to the equipment used at Lima Site 85. There wasn't a piece of that system that Don couldn't fix. I had heard that he was KIA many years ago, but your article cleared away the fuzziness of that memory to honor his service and those other brave men who fell with him. Perhaps his remains, like TSgt. [Patrick L.] Shannon's, will also be found to bring some comfort to his family, similar to that brought to my wife's family years after the end of WWII when her older brother's remains were found in Germany.

Col. Paul McLellan,  
USAF (Ret.)  
Torrance, Calif.

## Who Shot Yamamoto?

I enjoyed reading "Magic and Lightning" in the March issue [p. 62] about the shootdown of Admiral Isoroku Yamamoto. ... I was a P-38 pilot just coming into the 339th Fighter Squadron as the Yamamoto mission was flown. After the war, I developed very close friendships with Rex Barber and John Mitchell.

With a number of other pilots, the Second Yamamoto Mission Association (SYMA) was organized and chartered in January 1989 to research all available evidence to see if we could determine which pilot, Tom Lanphier or Rex Barber, shot down Admiral Yamamoto's airplane. You will find the evidence in consider-

able volume at our website, <http://www.syma.org>.

I believe our evidence irrefutably proves that Rex Barber, alone and unassisted, shot down the airplane carrying Admiral Yamamoto, and Rex Barber should have 100 percent of the credit because Tom Lanphier did not attack the Yamamoto airplane. I substantiate this statement with documents that [are] on the SYMA Website:

1. The March 1985 USAF Board of Review conducted by R. Cargill Hall, chief of research, Office of Air Force History, concluded:

"The evidence points to 1st Lt. Barber as the first to fire on Admiral Yamamoto's lead bomber, setting it afire and causing a portion of the tail empennage to fly off. But the burning bomber, in the words of Admiral Ugaki, continued to fly under power just above the jungle, losing altitude. Barber's wingman, Captain Lanphier, once disengaged from the Zeros, next struck Yamamoto's bomber broadside, severing a wing. The bomber turned over on its back and plummeted to earth. Barber, on looking back after his pass, saw the airplane fall and understandably presumed it to be the result of his attack. ..."

2. In August 1995, I received a letter from author C.V. Glines who had been named curator of the Jimmy Doolittle papers at the University of Texas at Dallas. Glines found a copy of a letter that Lanphier had sent to General John P. Condon dated Dec. 15, 1984. The key part of the letter is the sentence that Tom writes about the Yamamoto shootdown, "Rex now opines that he shared in the destruction of Yamamoto's bomber by implying, I gather, that he hit it while it was elsewhere in the air before I shot it into the treetops. The bomber I shot the wing off of was intact from nose to the tip of its tail, when I first fired at it, far inland from where Barber had to be at the time,

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chasing a bomber over the sea.”

3. Examination of the Yamamoto wreckage in the jungle showed that the right wing was immediately adjacent to the fuselage and had not been shot off in flight. The left wing had been torn off in the crash-landing in the jungle. This information is corroborated in a 1989 letter from Richard Kohn, director, Office of Air Force History.

4. The Air Force Board for Correction of Military Records continues in its refusal to let us present this new evidence (Lanphier letter) discovered after the initial hearing. But the proof is indisputable: Barber shot down the airplane carrying Admiral Yamamoto and, by his own words, Lanphier never attacked the Yamamoto airplane.

[In Rebecca Grant's article, the comment "No one on God's green Earth knew who had shot down which bomber, much less who had shot down Yamamoto;"] attributed to John Mitchell, was made before John attended the Yamamoto Retrospective held in Fredericksburg, Tex., in April 1988. Following that Retrospective, John Mitchell repeatedly, in interviews, stated that he was completely convinced that Rex Barber, alone and unassisted, shot down the airplane carrying Yamamoto.

George T. Chandler  
President  
Second Yamamoto Mission Assoc.  
Pratt, Kan.

I read with great interest the subject article in your March 2006 edition. Admiral Yamamoto and his role in World War II seem to continue after 60-plus years to interest readers of military history, airpower, and the parts that skill, daring, intense planning, and sometimes just good luck play in remarkable ways.

As the chairman of the Air Force Board for Correction of Military Records that heard Barber's claim that he, and he alone, should be granted credit for the shooting down of the "Betty" bomber transporting Yamamoto for an inspection trip to Japanese forces in the Solomon Islands in 1943, I would like to add some further insight to your article.

When it was decided that the board would agree to hear the Barber claim in the mid-1990s, I anticipated after reading his application that this case would be of historical significance and one that would be shrouded in controversy, whatever the outcome. I increased the number of people on the board for this hearing from the usual three, including the chairman, to five to bring in a wider array of expertise. All were senior executives.

Barber's case was documented and presented with great skill and detail. All members of the board actively participated in the hearing, each asking numerous questions to clarify points in their minds. After the hearing, the five of us met numerous times in my office to review the facts and present our con-

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clusions. We were split two for and two against from the beginning and ended up there when I sent our recommendations to the Secretary. As the tiebreaker I tried to present the Secretary with an equitable solution.

To summarize, [one board member] said her calculations convinced her [that] the shutdown could not have occurred as Barber alleged; [one member was] adamant that Barber had not made his case; and the other two members believed Barber's claim met the test of reasonable certainty. I leaned towards the latter two's position, but believed the best finding to be a strong recommendation to the Secretary that he return the case, now significantly better documented and reviewed, to the official AF Victory Credit Board that rendered the original finding Barber was appealing, to wit, credit was to be shared by the two contesting pilots. The two members voting to grant the appeal, agreed that if they did not prevail, then my suggestion would be acceptable to them. The Secretary chose to deny Barber's appeal. His points were well-crafted. The board could not find fault with his taking mostly the higher road.

The record of proceedings in this case exceeded one thousand pages. Exhaustive research led the applicant to call as a witness a person that actually went to the jungle site and inspected the wreckage of the "Betty" bomber. That there was some enmity between the two contesting pilots was clear in all the documentation. And I believe the board had in the back of their minds that we were hearing only one side of the argument. Lanphier was dead and could only speak for himself through his writings and extensive speaking engagements. He was fully aware of Barber's claims prior to his death. He never changed the fundamental facts of his claim to be the sole pilot that killed Admiral Yamamoto.

I know this case has stayed in the minds of the board members. None of us was perfectly satisfied with any of the possible outcomes. There was no perfect solution fair to all involved. The Secretary summed it up best when he said in essence that this was a remarkable mission, performed flawlessly and bravely by the very best of men. There was more than enough honor, gratitude, glory, heroism, courage, patriotism, and dedication to duty for all to share.

LeRoy T. Baseman  
Retired Air Force Deputy Asst.  
Sec., Cost and Economics  
Alexandria, Va.

#### Reader to Reader

Mr. Webber's letter in the May issue [p. 4, concerning the April editorial, "Faith No More?," p. 2] makes me wonder if we served in the same military. Certainly the service is not perfect, but it has come

a long way since the Vietnam era. The Vietnam era GI Bill was still in force or grandfathered in 1987. I know; I was still using it. If Mr. Webber did not obtain benefits, either he failed to transfer it to the new GI Bill or did not apply before he retired. It was also possible to use the education benefit while on active duty. As a recruiter, he surely must have known the extent of benefits and latest developments.

MSgt. John Wolf,  
USAF (Ret.)  
Bethel, Pa.

#### Missile Miss

I enjoyed several items on the topic of ICBMs in your May 2006 edition but must comment regarding the report, "Pentagon Describes Conventional Trident Plan" ["Aerospace World," p. 28].

First, the article states that "the D-5 is a newer design offering better accuracy." Actually, accuracy is not a function of the original missile design, but is achieved by a guided re-entry vehicle (RV). A guided RV is mature technology tested by the Air Force on Minuteman in the 1980s, refined in the 1990s, and easily adapted today for deployment in an ICBM.

Second, [the news item also states that] "the D-5 also is still in production, whereas the last Minuteman missiles were produced nearly 30 years ago." In fact, Minuteman is currently undergoing

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a significant modernization of propulsion, guidance, re-entry, and ground systems that will extend its life well beyond 2020. In many ways, Minuteman is a new missile and an excellent platform for continued spiral upgrades.

Third, [regarding the statement that] "launch of the land-based Minuteman would cause boosters to fall on Canadian soil, ... require overflight of Russian territory, ... [and] could be misinterpreted as a nuclear attack": Launching from operational missile bases such as Minot, Malmstrom, and F.E. Warren does present challenging issues. However, coastal (e.g., Vandenberg) or overseas (e.g., Guam) basing would mitigate this problem and eliminate the "nuclear or conventional" ambiguity.

For now, Minuteman serves as a nuclear deterrent. However, the Air Force is looking at derivatives of the recently retired Peacekeeper missile, including the Minotaur variant. Such a missile could be based in a way to solve the overflight and misinterpretation issues, provide the needed range/payload capability, and deliver large RVs to promptly achieve the desired weapons effect.

John L. Clay  
VP and General Manager  
ICBM Prime Integration Contract  
Northrop Grumman  
Mission Systems Sector  
Clearfield, Utah

### Calculated Courage

I enjoyed [John T.] Correll's recent article "Calculated Courage at Thai Nguyen" [February, p. 68].

I would like to point out two minor discrepancies. My father was named as "David A. Everson." He has no middle name or initial. His EWO was named as "Donald A. Luna." That should have been "Jose David Luna." Good article!

David C. Everson  
Vancouver, Wash.

### Corrections

Due to an editing error, three Air Force Medal of Honor recipients were inadvertently omitted from p. 90 of the May 2006 USAF Almanac issue. They are: Maj. Raymond H. Wilkins (World War II), Maj. Jay Zeamer Jr. (World War II), and Capt. Gerald O. Young (Vietnam). The three MOH recipients will be reinstated in the May 2007 USAF Almanac.

The altitude for McChord AFB, Wash., should be 323 ft.

The chart on p. 109 for 13th Air Force/Kenney Warfighting HQ. (Provisional) (PACAF), Hickam AFB, Hawaii, should have listed Lt. Gen. David A. Deptula as commander, Kenney Warfighting Hq., and Maj. Gen. Edward A. Rice Jr. as commander, 13th Air Force.

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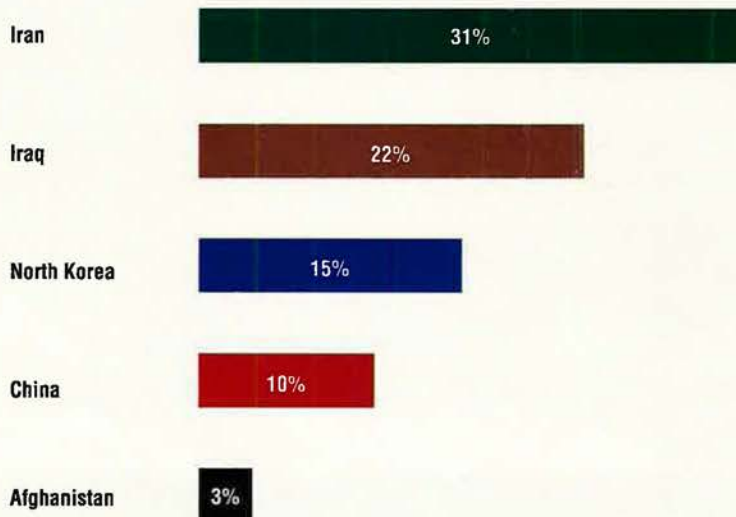


# The Chart Page

By Tamar A. Mehuron, Associate Editor

## Who's on Americans' "Enemies List"?

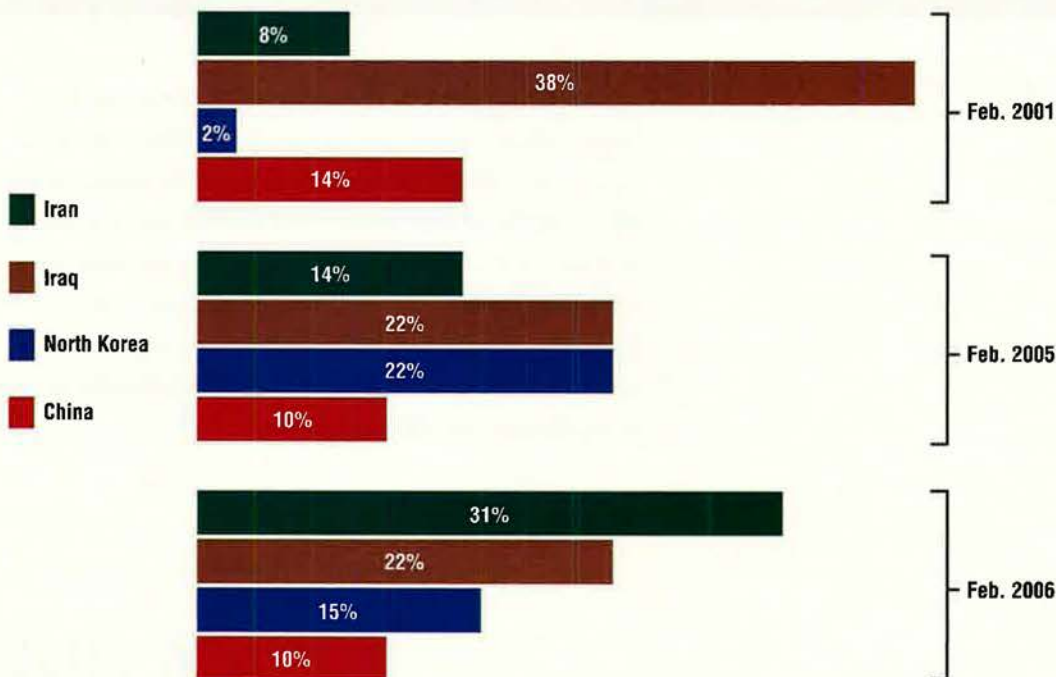
### Iran Is the Worst ...



In the perception of Americans, the greatest US foreign enemy is Iran, which now surpasses North Korea and China for that dubious honor. The Gallup Organization, interpreting a Feb. 6-9 "World Affairs" survey, said 31 percent of Americans put Iran atop the US enemies list. The surprising runner-up, however, was not Pyongyang or Beijing, but US-subjugated Iraq. It received the vote of 22 percent of Americans. Third and fourth, respectively, were North Korea and China.

The perception of Iran as an enemy has grown steadily over the past five years, rising over three polls from eight percent (2001) to 14 percent (2005) to today's 31 percent.

### ... and Gets Worse by the Year



Source: The Gallup Organization





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# Washington Watch

By John A. Tirpak, Executive Editor

## Now, a Russian Buildup?; Keep an Eye on China; Services To Lose Power? ....

### Back to the Future Cold War

Russia's weakened military status will invite other countries—specifically, the United States—to push it around, so a new arms buildup is warranted, Russian President Vladimir Putin asserted in his seventh state-of-the-nation address on May 10.

"It is premature to speak of the end of the arms race," Putin said, noting that the US spends 25 times as much on its military as Russia does. He called for sharp increases in the production of aircraft and ships and said Russia's military revitalization is already under way.

"A few years ago," Putin said, "the armed forces were no longer receiving any modern equipment." He noted that no new ships were built between 1996 and 2000, that exercises were only carried out "on maps," and that the war in Chechnya illustrated the woeful condition of Russian forces.

"It is our task today to make sure that this never happens again," Putin said, adding that this year saw the start of mass defense equipment procurement for the Defense Ministry's needs.

Taking a page from the US, he said that Russian forces must be able "to simultaneously fight in global, regional, and—if necessary—also in several local conflicts."

The Russian military is moving away from conscription toward professional troops, and they will see better training, better housing and pay, and greater social prestige, Putin said. He pledged that by 2008, two-thirds of service members will be "professional" military people with service contracts. The Russian military will be reduced to just one million service members, with reductions to come from retirements. Any other cuts will come from the defense bureaucracy; combat units won't be touched, he insisted.

However, while he promised a more aggressive program of developing top-quality weapons—Putin said half the Russian defense budget will go toward development—he has no intention of allowing a buildup to bankrupt the nation as it did under the Soviet Union.

"We should not repeat the mistakes made by the Soviet Union—the mistakes of the Cold War era—either in politics or defense strategy," he said.

A military buildup won't come "at the expense of economic and social development. This is a dead-end road that ultimately leaves a country's reserves exhausted. There is no future in it. ... We should not go after quantity and simply throw our money to the wind."

Instead, Putin explained that Russia will pursue an "asymmetric" strategy to balance the might of the US, by emphasizing a modernized nuclear force.

He said that Russia will do its utmost to preserve its nuclear deterrent, noting that his country will field two new ballistic-missile submarines this year, the first since the Soviet Union went out of business in 1991. A new sub-based missile, called the Bulava, as well as a new land-based intercontinental ballistic missile, called the Topol-M, are equipped with warheads that can maneuver and defeat US strategic defenses, Putin claimed. Work also is under way



Itar-Tass photo via AP Presidential Press Service

**Putin: This time, we won't break the bank.**

on "creating unique high-precision weapons systems and maneuverable combat units that will have an unpredictable flight trajectory."

"Along with the means for overcoming antimissile defenses that we already have, these new types of arms will enable us to maintain ... the strategic balance of forces," he asserted.

Putin also suggested that the arms race "has entered a new spiral today, with the achievement of new levels of technology that [create] the danger of the emergence of a whole arsenal of so-called destabilizing weapons." Among these could be nuclear weapons based in space, he said. He noted that the US is considering mounting conventional warheads on some of its ICBMs to obtain an extremely fast precision global strike capability. He warned that such a system would pose a danger of confusion with dire consequences.

"The launch of such a missile could provoke an inappropriate response from one of the nuclear powers—[and that] could provoke a full-scale counterattack using strategic nuclear forces," Putin admonished.

Because of the threat of international terrorism, Putin said, the key issues of disarmament have virtually fallen off the global agenda.

Some of Putin's speech was aimed at Russian women; he urged them to have more children to give the nation a sufficient pool of future soldiers. Russia's population has been declining by almost 700,000 people a year.

### While China Ramps Up

China is accelerating the development of its military power on almost every front, particularly in intercontinental ballistic missiles, the Pentagon said in May.

In its annual assessment of China's military power, required by Congress, the Defense Department confessed to being "surprised" at "the pace and scope of [China's]





U.S. Air Force photo

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strategic forces modernization," which features several new classes of missiles with ranges that can reach the United States.

Overall, "China's military expansion is already such as to alter regional military balances. Long-term trends in China's strategic nuclear forces modernization, land- and sea-based access denial capabilities, and emerging precision-strike weapons have the potential to pose credible threats to modern militaries operating in the region," according to the report, prepared by the Office of the Secretary of Defense.

The Pentagon said China is the one country that could reasonably "compete militarily with the United States."

As the Pentagon has noted before, China continues to be secretive about its plans and ambitions and has "yet to adequately explain the purposes or desired end-states of [its] military expansion." The Pentagon pegs China's defense spending at between \$70 billion and \$105 billion in 2006, or up to three times China's own stated figures. (See "Aerospace World: China Boosts Arms Budget," May, p. 25.) China's defense budget has continued to increase by double-digit percentage points annually since the early 1990s, and the Defense Intelligence Agency estimates China's military budget will triple by 2025.

While its annual defense budget is substantially less than that spent by the US, China's personnel pay and support costs are sharply lower than those of the US or other Western militaries, allowing most of the expenditure to go toward procurement of hardware.

In the document, DOD noted that China continues to pile up combat aircraft and tactical missiles directly across the Taiwan Strait from Taiwan, which it continues to claim as part of its territory. China frequently practices a wide range of amphibious attack techniques in large-scale exercises, the Pentagon said.

"China's military buildup appears focused on preparing for Taiwan Strait contingencies, including the possibility of US intervention," according to the white paper. DOD noted that many of China's military advances are aimed at being able to "interdict, at long ranges, aircraft carrier and expeditionary strike groups that might deploy to the western Pacific."

However, the buildup also will give China wider options in "conflicts over resources or territory." The Pentagon noted that China's appetite for energy resources—oil and coal—is already voracious, and the military buildup may be aimed in part at "securing" either vital sea-lanes of supply or communication, "or key geostrategic terrain."

In the Cold War-style showdown with Taiwan, the balance of forces is "shifting in the mainland's favor," the Pentagon said. China has deployed nearly 800 short-range tactical ballistic missiles opposite Taiwan and adds about another 100 every year. China has deployed about 400,000 troops opposite Taiwan, or about 25,000 more than last year.

Its new strategic missiles, the DF-31 and DF-31A, are solid-fueled and road-mobile, making them more survivable against a first strike, and the latter missile can cover most of the US. A similar new submarine-based missile, called the JL-2, is in advanced development.

China has deployed more than 700 advanced combat aircraft in the region of Taiwan and is continuing to acquire advanced Su-27 Flanker derivative types from Russia, build its own versions under license, and develop its own indigenous combat aircraft.

DOD seemed to offer a re-assessment of the capabilities of China's F-10 fighter, which it previously had compared to the F-16 Block 30. (See "Washington Watch: Chinese

Military Is Catching Up—Fast," September 2005, p. 12.) In this latest version of the annual China report, the Pentagon said the F-10 is probably more comparable to the Eurofighter Typhoon and French Rafale, considered among the top three fighters in the world today, after the US F-22A. The Pentagon expects more than 1,200 F-10s will be built, and improved versions—the F-10A and "Super-10"—are in advanced development.

China also is improving its night and all-weather maritime strike capability, although the Defense Department still is not sure if a Kuznetsov-class aircraft carrier purchased from Russia in the 1990s will be fitted for naval use, used as a floating museum, or, as the Chinese claim, turned into a floating casino.

Besides the combat aircraft, China is proceeding with reconfiguring Russian airlifters into airborne warning and control platforms and intelligence collection sensor aircraft. Some 40 Il-76 transports are being bought from Russia, along with eight Il-78 Midas air refueling aircraft.

The first battalion of Russian-made S-300PMU-2 air defense systems, considered the most formidable in the world, will be operational in China this year, with "an advertised intercept range of 200 km." Besides offering improved capability against tactical ballistic missiles, the S-300 has "more effective electronic countermeasures" than any previous types.

The People's Liberation Army is downsizing, having cut 200,000 from its ranks in recent years. The PLA goal is to have a smaller but better-qualified military, the Pentagon said. The PLA will number about 2.3 million active forces when the downsizing is done, by China's own accounting, but could expand to 4.6 million with active, reserve, and paramilitary units called up. China's 2004 defense white paper boasted an ability to call up more than 10 million organized militia members.

A key issue coming to a head is whether the European Union will lift its embargo on selling military technology to China, the Pentagon said. If it does, DOD thinks China will move to establish joint ventures with military counterparts in Europe, toward acquiring "advanced space technology, radar systems, early warning aircraft, submarine technology, and advanced electronic components for precision guided weapons systems."

DOD thinks the EU will lift the embargo, imposed after the 1989 Tiananmen Square incident, because China offers a potentially lucrative military market, and the EU has stated that lifting the ban wouldn't radically alter Beijing's military capabilities. The Pentagon warned, however, that the EU might be defeating its own policies, because China's history of third-party arms transfers could mean European weapons technology could go to Iran, Myanmar, Sudan, and Zimbabwe—all countries that China sells weapons to and that are themselves the subject of EU arms embargoes.


#### Requirements and "Big Box" Transformation

The regional combatant commanders should have a much bigger role in setting requirements, and there should be a new, broader organization to oversee buying and delivering all the things the military uses, according to the Defense Science Board.

In the DSB report "Transformation: A Progress Assessment," released in May, study participants found that the process of setting requirements "continues to be dominated by the force providers and the Joint Staff, and is under-represented by the COCOM needs."

The COCOMs have "marginal impact" on the acquisition process, as the services usually take over the process





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of translating capability requirements into programs and “usher them through the Joint, OSD, and Congressional gauntlet.”

Instead, the DSB wants the services to have only one-fourth of the duty of setting requirements, sharing it equally with the Joint Staff, the Office of the Secretary of Defense, and the COCOMs. The regional chiefs need to have a bigger role, the DSB said, because only they “employ all the armed forces as a joint team” and have visibility into all their needs and the capabilities at their disposal.

Providing that increased say is part of the DSB’s recommendation that the Pentagon create a new “business plan.” It would require the COCOMs’ new requirements staffs to be involved with milestone and program reviews and to pass judgment on whether the program in question is performing at the level required to meet commander needs and whether it is still relevant in light of real-world operations and other choices.

The COCOMs would be co-equal with the services in helping the Secretary of Defense in formulating the annual Defense Planning Guidance, which sets budgetary priorities, under the DSB scheme. As it is now structured, the regional chiefs provide only “advice” during the requirements-setting process and at program reviews.

Even if the regional commanders focus too heavily on their immediate needs, at the expense of longer-term considerations, the DSB thinks that would be acceptable.

“Even an imperfect allocation [of resources] can serve the purpose of applying the combatant commanders’ special understanding to the trade-off of resources within their allocated resource set,” the DSB said.

The business plan should be assessed for its success every other year, and OSD already has the structure to do this, the panel found. The Pentagon needs to develop more metrics to assess performance, and OSD needs to exercise more discipline in taking corrective actions.

The US military must have a modern logistics system, patterned roughly on today’s “big box” retailers, which automatically records needed items and sets the process of meeting those requirements in motion, the DSB said. The Pentagon should merge the functions of today’s US Transportation Command and Defense Logistics Agency, and there should be a single person in charge of this Joint Logistics Command, the panel found.

Supporting this new mega-command would be service component logistics commands that would report to it. Even so, in wartime, a “joint theater logistics commander” would have the final word on supply.

The new commander would have responsibility for the end-to-end supply chain. He would oversee program managers, who would be responsible for their systems from development through sustainment. The new agency would create “total asset visibility” to be aware of everything it has, and where the materiel is, and apply an “on demand” business model. This new logistics czar also would oversee shipment of materiel by air, land, or sea.

Taking all these steps could enable the Pentagon to reduce its logistics manpower levels from 1.1 million today “to 600,000 or lower,” the DSB said. It also would save billions of dollars by sharply reducing the waste of lost or misdirected goods and by eliminating complexity in an accounting system whose books routinely come up billions of dollars short.

#### **On F-22 Multiyear Buy, Congress Says, “No Way.”**

Congress has turned down an Air Force request to set up a multiyear contract to buy the F-22 through 2012, even as it added money to buy the fighters.

The Senate and House authorization bills specifically declined the Air Force’s request to buy 60 F-22s under a



USAF photo by TSgt. Ben Bliker

*McCain doesn't like this deal, either.*

multiyear contract for 20 per year. The two houses didn’t care much for the Air Force’s proposed method for funding the airplanes, especially after the Congressional Budget Office presented a report saying the plan hid the true cost of the program and created future obligations.

What the Air Force had in mind was to spread out the cost of the aircraft over a longer period of time, so that in the next few fiscal years, the service would be buying only major subassemblies of Raptors, not whole airplanes, with the balance to be paid later.

Still, the two houses voted to give USAF enough money to buy completed fighters in Fiscal 2007, without committing to future buys.

The Air Force’s approach would have saved up to \$500 million over the rest of the F-22’s planned production of 183 aircraft, according to Lt. Gen. Donald J. Hoffman, USAF’s top uniformed acquisition officer. Hoffman told the Senate Armed Services Committee panel on March 28 that the unique multiyear plan would save five percent on the remaining program.

The approach was designed to add two years to the F-22 production line without incurring a huge cost. The service wants to keep the F-22 line open longer, just in case there are problems or delays in getting the F-35 into production. The Quadrennial Defense Review said USAF should maintain a warm manufacturing capability for a fifth generation fighter.

However, the pitch also required that Congress grant relief from a law that prohibits incremental buys, and Congress balked.

“Why would Congress agree to this?” asked Sen. John McCain (R-Ariz.). McCain said such a deal would hamstring Congress and commit it to buying things that haven’t been approved by appropriations legislation.

The CBO, in a report titled “The Air Force’s Proposal for Procuring F-22 Fighters,” dated March 28, said the service would not be asking for enough money each year to cover all its costs for the F-22 and “would have to seek additional appropriations in the future to obtain functional aircraft.” The plan would give USAF the chance to cancel production at the end of any given year, but demand that it still pay to finish the airplanes on which it had made a down payment.

The Air Force “is not requesting appropriations sufficient to cover the potential cancellation liability,” the CBO said.

Deferring the full cost of the aircraft “would understate the nature of the government’s obligations, potentially distorting budgetary choices by making the program appear less expensive than it is, and would constrain budgetary flexibility in subsequent years,” the CBO said.

Authorization language in both the House and Senate bills cited the CBO’s reasoning almost verbatim. ■




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# Aerospace World

By Breanne Wagner, Associate Editor

## McKinley Takes Charge of ANG

Lt. Gen. Craig R. McKinley, a 32-year Air Force veteran, became the 12th director of the Air National Guard on June 3. In this capacity, he will head a force of more than 106,000 Air Guardsmen, along with their fighter, mobility, and other types of aircraft.

McKinley, a fighter pilot and former official of the Air Force Association, succeeds Lt. Gen. Daniel James III as ANG's senior leader. James officially retired June 3.

The new Air Guard director most recently had served as Air Force assistant deputy chief of staff for plans and programs at the Pentagon. He earlier had served as commander of 1st Air Force and commander of NORAD's continental US region, Tyndall AFB, Fla.

McKinley also has been active in AFA work, serving in the past as a national vice president, national director, state president, and member of the Executive Committee.

## Hayden Takes Command at CIA

Air Force Gen. Michael V. Hayden was sworn in on May 30 as the 20th CIA director, in Langley, Va. President Bush and National Intelligence Director John D. Negroponte attended a second, public swearing-in the following day.

Hayden was approved for the post by a 78-15 Senate vote on May 26. He became the first active duty military officer to head the CIA since Adm. Stansfield Turner served two of his four years in the job while on active duty in 1977-78.

Hayden, who succeeded Porter



USAF photo by SSGT. James L. Harper Jr.

*Airmen with the 615th Contingency Response Wing, Travis AFB, Calif., quickly approach a simulated threat during an airfield seizure exercise, Lightning Fury, held at Amedee Field in Herlong, Calif.*

J. Goss at the CIA, was already the highest-ranking US military intelligence officer. Since April 2005 he had served as the first deputy director of national intelligence. A career intelligence officer, Hayden previously served more than six years as the director of the National Security Agency at Ft. Meade, Md.

## Chilton Heads Space Command

Air Force Space Command's new chief, Gen. Kevin P. Chilton, has become the first astronaut to lead USAF's space activities and forces, headquartered at Peterson AFB, Colo.

Before heading to Space Command on June 26, Chilton commanded 8th Air Force at Barksdale AFB, La. The Senate on May 19 confirmed his fourth star and new assignment. Chilton succeeds Gen. Lance W. Lord, who retired in March.

A 1976 Air Force Academy graduate, Chilton was a fighter pilot and then test pilot. He was selected as a NASA astronaut in 1987 and flew three space shuttle missions, two as pilot and one as commander.

He also served as the deputy program manager for the international space station operations before returning to USAF assignments.

## Air Force RIFs Lieutenants

Air Force Personnel Center announced May 3 that a force-shaping board had selected 843 lieutenants for involuntary separation. (USAF planned to reconsider on June 26 192 of them because of a records error.)

Eligible lieutenants from the 2002 and 2003 accession groups were notified May 10 of their status, either by a senior rater or by a deployed commander.

Officers not selected for retention will be separated no later than Sept. 29, said the release, but all could apply for the Palace Chase or the Blue to Green programs.

## PACAF's Top Chief To Be 15th CMSAF

The Air Force on May 1 announced the selection of CMSgt. Rodney J. McKinley to become the 15th Chief Master Sergeant of the Air Force. He succeeds CMSAF Gerald R. Murray. Plans called for Murray to retire on June 30.

McKinley's job is to represent the interests of the Air Force's enlisted men and women and to serve as personal advisor to Gen. T. Michael Moseley, the Chief of Staff, on enlisted issues.

McKinley most recently has served as the command chief master sergeant for Pacific Air Forces, located at Hickam AFB, Hawaii. He was the PACAF commander's principal advisor on matters of interest to enlisted personnel.

Before his PACAF assignment, McKinley had command chief master sergeant assignments at Ramstein AB, Germany; Langley AFB, Va.; Al Udeid AB, Qatar; and Elmendorf AFB, Alaska.



Palace Chase transfers the lieutenants into the Guard and Reserve without a break in service if applied for by Aug. 1. The Blue to Green Program gave officers the opportunity to transfer to the Army, if an application was submitted by June 15.

Those officers who no longer wanted to serve in uniform were allowed to apply for civil service employment through the Office of Personnel Management.

Departing lieutenants are entitled to post-separation benefits and services for 180 days and expanded Montgomery GI Bill opportunities.

### Payton Tapped for Acquisition Post

Sue C. Payton was nominated by President Bush in April to become the Air Force's top civilian weapons buyer, a post that has been vacant since Marvin R. Sambur resigned in January 2005.

If approved by the Senate, Payton will fill the Air Force's last senior leadership vacancy.

As assistant secretary of the Air Force for acquisition, research, and development, Payton would guide the acquisition of aircraft, missiles, bombs, intelligence-surveillance-reconnaissance platforms, and systems other than space and space-related ones.

Payton has been working in the Pentagon as head of the advanced systems and concepts shop in the Office of the Secretary of Defense, supervising so-called Advanced Concept Technology Demonstration projects. The Global Hawk reconnaissance drone started as an ACTD, for example.

Earlier, Payton was acting director of defense research and engineering.

An industry veteran, Payton was vice president of applied technology for ImageLinks, Inc., a remote sensing and image processing company in Melbourne, Fla. She also has worked for

## Airmen MIA From Vietnam War Identified

The remains of two Air Force sergeants carried as missing in action since the Vietnam War have been identified, the Defense Department announced May 1.

TSgt. Donald R. Hoskins of Madison, Ind., and SSgt. Calvin C. Cooke of Washington, D.C., were identified. Cooke was to be buried at Arlington National Cemetery on June 20 with full military honors.

Hoskins and Cooke were among seven people aboard a C-130E cargo airplane on April 26, 1972 that was flying to An Loc City, South Vietnam, to conduct a low-level night airdrop to resupply South Vietnamese forces. En route, the aircraft was hit by enemy fire and crashed into the countryside, killing all crew members.

Enemy activity prevented any recovery attempts until 1975 when a Vietnamese search team found artifacts and remains belonging to another crewman.

Beginning in 1988, Vietnamese nationals have provided remains found at the crash site to US officials.

Prior to Hoskins and Cooke, the remains of Maj. Harry A. Amesbury, the C-130E pilot, had been identified. Remains also were previously found that were attributed to Cooke, but this was not confirmed until recently.

In 1992, a joint Vietnamese-US team, led by the Joint POW/MIA Accounting Command, interviewed several Vietnamese nationals who led the team to the crash site and also turned over remains they had found. Another joint team returned to the site in 1993, uncovering more remains.

In 1998, the National League of Families of American Prisoners Missing in Southeast Asia contacted JPAC to notify them of a woman in Georgia who had further remains belonging to Amesbury. Those remains were turned over to JPAC.

JPAC scientists and Armed Forces DNA Identification Laboratory specialists used mitochondrial DNA and dental remains to identify Hoskins and Cooke.

Martin Marietta, now part of Lockheed Martin.

### Hanoi Taxi Retires

The "Hanoi Taxi," a C-141 Starlifter famed for picking up American prisoners of war held by North Vietnam, was handed over to the National Museum of the United States Air Force at Wright-Patterson AFB, Ohio, on May 6. Ceremonies there marked the end of an era: It was the last Starlifter still in service with USAF.

The aircraft had flown to Gia Lam airport near Hanoi, North Vietnam, on Feb. 12, 1973 as part of Operation Homecoming, the repatriation of more than 500 American POWs. Kept in service since then, the aircraft was

chosen to represent the entire Starlifter fleet at the museum.

The 445th Airlift Wing (AFRC) at the base hosted more than 120 of the former POWs and their families for the aircraft's retirement ceremonies.

The Starlifter will go on display this summer at the outdoor airpark, bearing markings like those it wore in 1973.

### Sonny Montgomery, 1920-2006

Former Rep. Gillespie V. "Sonny" Montgomery (D-Miss.), champion of veterans' benefits and father of the Montgomery GI Bill, died May 12 in Meridian, Miss., at the age of 85.

His legislation, which expanded the 1944 GI Bill, widened educational benefits for active duty military and, for the first time, made them available to members of the National Guard and Reserve. Military enlistees have consistently cited educational benefits as one of the major reasons for joining the US armed forces.

President Reagan signed the measure in 1984. Four years later, Montgomery co-sponsored another law that changed the Veterans Administration to the Cabinet-level Department of Veterans Affairs.

During his 13 years as the chair of the House Veterans' Affairs Committee, Montgomery pushed to give vets ever-greater benefits in life insurance, medical coverage, and preferred eligibility for home loans.

He served 15 terms in the House, from 1967 to 1997. He was on active duty in the Army in World War II and the Korean War and had retired as a



Lockheed Martin in May unveiled the first fully modernized C-5 Galaxy test aircraft. The Lockheed-USAF partnership resulted in a number of aircraft improvements, including an upgraded avionics system and upgraded engines.



## Kagan: Outspoken Generals Within Their Rights

Retired generals who made headlines this spring by calling on Defense Secretary Donald H. Rumsfeld to step down for bad management of the wars in Afghanistan and Iraq are within their rights and don't have to be publicly silent on such matters.

That was the conclusion of military commentator Frederick W. Kagan, writing for the *Weekly Standard*. Kagan, a scholar at the conservative American Enterprise Institute and former associate professor at West Point, noted in the May 8 edition that no retired generals have ever been prosecuted for making negative comments about the military's senior leadership, under the Uniform Code of Military Justice, Article 88 of which bars such speech by active duty personnel.

While he acknowledged, in the May 22 edition of the *Standard*, that the UCMJ does cover retired personnel, "to prosecute a retired officer, the military would have to show that the words used 'create a clear and present danger,' leading to evils 'that Congress has a right to prevent.'" That's a lot tougher for a prosecutor, Kagan wrote, than proving that such speech by an active duty service member interfered with "loyalty, discipline, mission, or morale of the troops."

Generals, Kagan said, have taken an oath to protect the Constitution, "not to be loyal to the present occupants of the executive branch." Even serving officers, Kagan wrote, are "forbidden ... to carry out orders that they believe to be unlawful."

The nation needs the unvarnished opinion of retired generals as a counterweight to the dwindling military experience among the Pentagon's civilian leadership and those serving in Congress, Kagan argued. The outspoken generals didn't "cross the line," he said, and "no one benefits from silencing them in the name of civilian control of the military."

major general in the Mississippi National Guard.

### Boeing To Pay Huge Fine ...

Boeing and federal prosecutors have reached an accord that could end a number of high-profile civil and criminal cases.

Under the agreement, announced in May by Boeing and the Justice Department, the defense contractor would pay

a fine of \$615 million, and the government would drop further pursuit of two major acquisition abuse cases.

The fine is believed to be the largest ever assessed against a defense contractor.

The deal, if it holds up, would end a three-year investigation into possible criminal activity within the company and return it to a status wherein it can freely do business with the government.

The fine includes \$565 million to cover civil claims and \$50 million to end a criminal inquiry.

Part of the agreement constrains Boeing from procurement misdeeds for the next two years; if it does not comply, the government would be free to resume the investigation into previous charges.

Some \$565 million of the Boeing fine would be transferred to accounts of the Air Force and the National Aeronautics and Space Administration.

### ... Stemming From Two Cases

The company's troubles stemmed first from its use of stolen proprietary Lockheed Martin data on the Evolved Expendable Launch Vehicle program.

During an October 1998 EELV competition, Boeing employees illegally obtained 25,000 pages of Lockheed Martin rocket data. (See "Washington Watch: The Boeing Case," September 2003, p. 12.)

Boeing was subsequently stripped of \$1 billion in DOD launch contracts and was suspended from the rocket business for 20 months.

The second case began several years later, when Boeing improperly recruited a top career Air Force acquisition official, Darleen A. Druyun, while she was still picking winners and losers of Air Force contracts.

Druyun was prosecuted for steering Air Force contracts to Boeing in exchange for a job deal negotiated with Boeing's former Chief Financial Officer Michael M. Sears. Both Druyun and Sears were later fired and served time in prison.

Boeing has agreed to cooperate with the investigation and "will accept responsibility for the conduct of its employees and make additional commitments regarding ongoing compliance."

The company has put numerous programs in place to educate its employees on what is and isn't legal in competing for government work.

## JEFX Enhances Battlefield Communication

The Air Force, Army, Navy, and Marines joined coalition partners from England, Australia, and Canada in late April for an exercise focused on improving network-centric technology on the battlefield, held primarily at Nellis AFB, Nev.

The Joint Expeditionary Force Experiment 2006 used live-fly, live-play ground and naval forces, simulation, and new technology demonstrations. JEFX 2006 specifically introduced eight new technology initiatives to explore ways to streamline data processing and command and control functions on the battlefield.

Gen. Kevin P. Chilton, then commander of 8th Air Force and the combined force air component commander, described this year's key goal—to enhance the performance and capability of combined air and space operations—during a briefing at the Pentagon's Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance Visualization Center.

Chilton explained that testers employed data links, extended networks to link operational and tactical levels of execution, and refined the coordination process for collecting, fusing, and distributing information.

At Nellis, a NASA WB-57 flying at 60,000 feet carried a payload to link tactical data and communications systems using the Battlefield Airborne Communications Node. The BACN is an Internet protocol-based airborne communications and information server that enables data sharing and provides tactical and strategic air pictures for situational awareness.

JEFX was supported by personnel at Naval Station Norfolk, Va., Hurlburt Field, Fla., Vandenberg AFB, Calif., Scott AFB, Ill., and Langley AFB, Va.

JEFX began in 1998, focusing on the concept of reachback, to move information forward, instead of people and equipment, and to provide situational awareness to deployed commanders. The experiment is held every two years.

Planning for JEFX 2008 is already under way, according to Lt. Col. J.J. King, deputy director of the Air Force Experimentation Office, the lead agency for the experiment. King told reporters at the Pentagon's C4ISR Visualization Center that the next experiment will focus on space and global strike missions.

### Panel Cuts Army's JCA Budget ...

The Senate Armed Services Committee opted to cut nearly all of the Army's budget request for a new small airlifter, insisting the service wait and work with the Air Force on the program.

Of \$113 million requested for a new small cargo airplane to replace the C-23 Sherpa and C-12 Huron, the Senate cut \$109 million.

The Senate Armed Services airlift subcommittee, chaired by Sen. John McCain (R-Ariz.), said in making the cut that the Air Force hadn't set its requirements for a similarly sized aircraft yet, even though the two services have agreed to pursue the program, called the Joint Cargo Aircraft, cooperatively.



## World War II Airmen Finally Are Identified

Two Army Air Forces airmen carried as missing in action since World War II were identified in May, and their remains were returned to their families for burial with full military honors.

First Lt. Herbert W. Evans of Rapid City, S.D., and Pfc. Gerald L. Rutgers Jr. of Tacoma, Wash., were individually identified. They were part of a four-man crew, but the remains of their crewmates, Capt. Douglas R. Wight of Westfield, N.J., and Cpl. John W. Hanlon of Arnett, Okla., could not be identified.

Group remains that are presumed to include Wight and Hanlon were buried at Arlington National Cemetery on May 9.

On March 27, 1944, the four airmen, flying a C-46 Commando, departed a base in Kunming, China, en route to Sookerating, India, as part of the Allied resupply missions over the Himalayan Mountains. Such missions were called "Hump" flights.

The crew requested a radio bearing, but there was no further communication. The aircraft did not reach its destination, and searches during and after World War II produced no results.

Chinese officials notified the US in 2001 that the wreckage of an American World War II aircraft had been found on Meiduobai Mountain in Tibet. In 2002, a joint US-Chinese team, led by the Joint POW/MIA Accounting Command (JPAC), excavated the site, where they found human remains, aircraft debris, and personal items.

JPAC scientists and Armed Forces DNA Identification Laboratory specialists used mitochondrial DNA from the remains to identify Evans and Rutgers.

(See "Aerospace World: News Notes," May, p. 23.) The Senate panel does not want the aircraft to be skewed to Army requirements that would not meet Air Force needs.

The two services want the JCA to support widely dispersed ground forces that would be using short, austere runways lacking typical airfield navigational aids. The Army, citing an "urgent need," wants to field something starting in 2008, because its Sherpas and Hurons are old and increasingly unreliable, but USAF plans to wait until 2010. The Air Force requested just \$15 million for the JCA in its 2007 budget request.

The House authorization bill fully funded the Army's request, leaving a resolution to the budget conference in August.

### ... While JCA Battle Emerges

While the Air Force and Army develop their requirements for the Joint Cargo Aircraft program, contractors have set up a number of industry teams to compete for the program.

Boeing said on April 30 it would join as a subcontractor a US-Italian venture headed by L-3 Communications and Finmeccanica's Alenia unit to offer the C-27J Spartan aircraft. Boeing's role in the venture was undisclosed as of late May. Rolls Royce also is on the team, as the engine supplier.

Raytheon is heading up a team offering the C-295 and CN-235 aircraft along with European Aeronautic Defence and Space Co.'s CASA unit, based in Spain. The aircraft would be built at an EADS plant in Mobile, Ala.

Lockheed Martin has decided to offer a version of the C-130J Hercules. Separately, Lockheed also is involved

with the C-27J program as a cockpit electronics supplier.

The Air Force and Army hope to open the Joint Cargo Aircraft Program office in October and expect to see deliveries of the first aircraft not later than 2010.

### Krieg: 20-Year Tanker Replacement

It will take about 20 years to replace the Air Force's fleet of KC-135 tankers, the Pentagon's acquisition chief said in May.

Kenneth J. Krieg, the undersecretary of defense for acquisition, technology, and logistics, told Reuters that the "evolving" Pentagon plan to recapitalize the tanker fleet calls for buying 15 to 20 tankers per year.

He said the Air Force requirement is about 400 to 500 aircraft. He also said that there are advantages to buying more than a single kind of airplane.

"It gives you management options when you have a mixed fleet of size," he said.

A RAND analysis of alternatives earlier this year said there was little cost difference between current generation airliners that could be converted to use as an aerial tanker (see "Charting a Course for Tankers," June, p. 64), and that competition would probably spur contractors to make better deals on an annual tanker buy.

The two top competitors for the tanker replacement so far are Boeing or a joint Northrop Grumman-EADS team. Boeing is expected to offer its KC-767 aircraft, and the Northrop Grumman-EADS team has been readying an entry based on the Airbus A330. (See "The European Invasion," June, p. 68.)

The Air Force expects to award a tanker contract in summer 2007.

### GPS Hits a Slowdown

The next generation Global Positioning System, GPS III, will shift to a slower track in order to employ new, less-risky policies governing space acquisition. The new policies have been laid down by Air Force Undersecretary Ronald M. Sega.

The Air Force has decided not to award a GPS III contract for Fiscal 2006, and the contract may be delayed a year or more. The program, for which both Lockheed Martin and Boeing are competing, likely will be altered to implement a more incremental approach to adding new capabilities. Sega has said that the unbridled growth of requirements

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and technical change has caused many USAF space projects to go over budget and schedule in the past few years.

Sega's new policy comprises a four-stage space program development cycle—science and technology, technology development, systems development, and then systems production—intended to ensure that space technologies are matured at a manageable rate. Once the first few programs to be affected get going, USAF is hoping for reduced acquisition cycle time, reduced technical and budget risk, and more stability in production.

The Air Force also is hoping to make the next generation GPS smaller, lighter, and less complex.

Current generation GPS satellites are still being delivered. The Air Force believes it can afford to delay their replacement because GPS satellites already on orbit are lasting longer than expected.

### ANG Declares Sniper ATP IOC

The New York Air National Guard's 174th Fighter Wing is the first individual unit to declare initial operational capability with the Sniper Advanced Targeting Pod. Ceremonies marking the event were held with the Syracuse-based unit on April 21.

Since Air Combat Command declared Sniper ATP to be operational command-wide in August 2005, the pods have been in high demand and have been moved around from unit to unit, particularly those deploying to Southwest Asia.

The 174th is the first unit to have the full range of pods, support equipment, and documentation—"the full checklist"—to be individually IOC, program director Ken Fuhr said. The unit has about a dozen of the pods. The Air Force has accepted delivery of about 100 of the systems.

Sniper is an electro-optical device that permits visible and infrared viewing and targeting of the ground in a way that can be shared digitally with ground forces and others. It has been used extensively to conduct video reconnaissance in the Southwest Asia theater. (See "Eyes of the Fighter," January, p. 40.)

Fuhr said the system is being adapted for a range of platforms and will begin flight-testing on the B-1B bomber this month.

### Hybrids Head to Space

The Air Force has awarded four contracts to explore the development of a "hybrid" launch vehicle—one that would have a winged, reusable first stage.

Lockheed Martin, Northrop Grumman, Orbital Sciences of Virginia and Andrews Space of Seattle each were awarded "studies and analysis" contracts worth

## Senior Staff Changes

**RETIREMENTS:** Brig. Gen. Michael N. Madrid, Maj. Gen. Richard A. Mentemeyer.

**NOMINATIONS: To be Lieutenant General:** James N. Soligan. **To be Brigadier General:** Theresa M. Casey, Garbeth S. Graham, Byron C. Hepburn. **To be ANG Major General:** Robert B. Bailey, William H. Etter, Douglas M. Pierce, Jose M. Portela, Donald J. Quenneville, David A. Sprengle. **To be ANG Brigadier General:** Steven L. Adams, Robert L. Boggs, Peter A. Bonanni, Timothy J. Carroll, Timothy J. Cossalter, Michael L. Cunniff, James E. Daniel Jr., John M. Del Toro, Gregory A. Fick, Steven J. Filo, Robert V. Fitch, William E. Hudson, Cora M. Jackson-Chandler, Richard W. Johnson, Gary T. Magonigle, Craig D. McCord, Kelly K. McKeague, Thomas R. Moore, John D. Owen, Deborah S. Rose, Gregory J. Schwab, Jonathan T. Treacy, Charles E. Tucker Jr., Roy E. Uptegraff III, Edwin A. Vincent Jr., James C. Witham.

**CHANGES:** Maj. Gen. Ronald J. Bath, from Dir., AF Strat. Planning, DCS, Strat. P&P, USAF, Pentagon, to Spec. Asst. to the Vice C/S, USAF, Pentagon ... Brig. Gen. Francis M. Bruno, from Cmdr., 76th Maintenance Wg., Oklahoma City ALC, AFMC, Tinker AFB, Okla., to Dir., Log., PACAF, Hickam AFB, Hawaii ... Brig. Gen. (sel.) David S. Fadok, from Commandant, College of Aerospace Doctrine, Research, & Education, AU, AETC, Maxwell AFB, Ala., to Dep. Dir., AF Studies & Analyses, Assessments & Lessons Learned, USAF, Pentagon ... Brig. Gen. Judith A. Fedder, from Dep. Dir., LL, OSAF, Pentagon, to Cmdr., 76th Maintenance Wg., Oklahoma City ALC, AFMC, Tinker AFB, Okla. ... Brig. Gen. Silvanus T. Gilbert III, from Dep. Dir., AF Strat. Planning, DCS, Strat. P&P, USAF, Pentagon, to Dir., AF Smart Ops. 21, OSAF, Pentagon ... Gen. Michael V. Hayden, from Principal Dep. Dir. of Natl. Intel., Washington, D.C., to Dir., CIA, Langley, Va. ... Brig. Gen. (sel.) John W. Hesterman III, from Spec. Asst. to the DCS, Air, Space, & Info. Ops., P&R, USAF, Pentagon, to Dep. Dir., LL, OSAF, Pentagon ... Maj. Gen. (sel.) Ronald R. Ladnier, from Dir., Resource Integration, DCS, Log., Instl., & Mission Spt., USAF, Pentagon, to Cmdr., Tanker Airlift Control Center, AMC, Scott AFB, Ill. ... Brig. Gen. Kay C. McClain, from Dep. Dir., Plans & Integration, DCS, Manpower & Personnel, USAF, Pentagon, to Dir., Force Mgmt. Policy, DCS, Manpower & Personnel, USAF, Pentagon ... Brig. Gen. Darren W. McDew, from Cmdr., 43rd AW, AMC, Pope AFB, N.C., to Vice Cmdr., 18th AF, AMC, Scott AFB, Ill. ... Brig. Gen. Stephen P. Mueller, from C/S, Jt. Warfare Center, Strategic Allied Command for Transformation, Stavanger, Norway, to Dep. Dir., Operational Capability Rqmts., DCS, Air, Space, & Info. Ops., P&R, USAF, Pentagon ... Maj. Gen. Richard Y. Newton III, from Dir., P&P, STRATCOM, Offutt AFB, Neb., to Asst. DCS, Air, Space, & Info. Ops., P&R, USAF, Pentagon ... Maj. Gen. Roosevelt Mercer Jr., from Dir., Combat & Info. Ops., STRATCOM, Offutt AFB, Neb., to Dir., P&P, STRATCOM, Offutt AFB, Neb. ... Maj. Gen. (sel.) Polly A. Peyer, from Dir., Log., PACAF, Hickam AFB, Hawaii, to Dir., Resource Integration, DCS, Log., Instl. & Mission Spt., USAF, Pentagon ... Maj. Gen. (sel.) Jeffrey A. Remington, from Dep. Dir., Politico-Mil. Affairs (Asia), Jt. Staff, Pentagon, to Spec. Asst. to the Cmdr., PACAF, Hickam AFB, Hawaii ... Brig. Gen. (sel.) Philip M. Ruhlman, from Dep. Dir., AF Studies & Analyses, Assessments, & Lessons Learned, USAF, Pentagon, to C/S, Jt. Warfare Center, Strategic Allied Command for Transformation, Stavanger, Norway ... Maj. Gen. Winfield W. Scott III, from Cmdr., Tanker Airlift Control Center, AMC, Scott AFB, Ill., to Dir., Ops. & Plans, TRANSCOM, Scott AFB, Ill. ... Maj. Gen. (sel.) Paul J. Selva, from Dir., Ops., TRANSCOM, Scott AFB, Ill., to Dir., AF Strat. Planning, DCS, Strat. P&P, USAF, Pentagon ... Maj. Gen. Glenn F. Spears, from Dir., Force Mgmt. Policy, DCS, Manpower & Personnel, USAF, Pentagon, to Dep. Cmdr., SOUTHCOM, Miami ... Brig. Gen. (sel.) Lawrence A. Stutzriem, from Dir., Office of Intl. Security Ops., OSD, to Dir., Weather, DCS, Air, Space, & Info. Ops., P&R, USAF, Pentagon.

about \$2.5 million apiece for the Hybrid Launch Vehicle program.

A hybrid rocket would be able to deploy satellites with as little as 24 to 48 hours of notice. It could boost the rest of the rocket stack to about 28 miles before returning like an airplane. It would be unmanned.

The Air Force thinks the idea could sharply reduce the cost of a missile launch—perhaps as much as two-thirds, versus today's evolved expendable launch vehicles built by Boeing and Lockheed Martin. The rocket also could be used to boost a weapon into an orbital or suborbital trajectory.

After reviewing each company's studies, the Air Force plans to pick two competitors to go on to develop their concepts

by Fiscal 2007. An operational hybrid rocket could be in service by 2018.

### RED HORSE Goes Airborne

Airmen practiced a new skill in April: Parachuting with Army troops into a fight, then seizing an undeveloped airfield and quickly turning it into a usable one.

Air Force RED HORSE engineering specialists and soldiers from the 82nd Airborne Division parachuted into a field at Pope AFB, N.C., where there was an old runway in disrepair and unusable. Some 2,000 soldiers and more than 30 airmen participated in this exercise called Joint Force Entry. The airmen cleared the runway and got it ready for use, so that a C-17 could land on it and offload supplies and equipment.



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### Operation Iraqi Freedom—Iraq

#### Casualties

By June 12, a total of 2,493 Americans had died in Operation Iraqi Freedom. This total includes 2,486 troops and seven Defense Department civilians. Of those fatalities, 1,965 were killed in action by enemy attack, and 528 died in noncombat incidents.

There have been 18,356 troops wounded in action during OIF. This includes 9,920 who returned to duty within 72 hours and 8,436 who were unable to quickly return to action.

#### First Iraqi Joint Operations Center Opens

The Iraqi Ground Forces Command Joint Operations Center opened on May 3 at Camp Victory, Iraq, the first of its kind for the Iraqi Army.

The center is a state-of-the-art command and control facility responsible for directing all 10 Iraqi Army divisions. Once the center assumes operational control, it will plan and direct operations to defeat the insurgency.

#### Coalition Forces Raid Safe Haven

On May 14, coalition forces attacked a trio of suspected terrorist safe houses in Yusifiyah, south of Baghdad. The raid killed approximately 25 terrorists and destroyed the three targeted buildings and a vehicle loaded with weapons and ammunition, according to a Multi-National Force-Iraq news release. Afterward, the area was searched by ground troops, and four suspected terrorists were detained.

The air strikes were prompted when small-arms fire was spotted coming from one house.

Three female Iraqi civilians were treated for wounds after the raid. Two were medically evacuated and one girl was treated on site and released.

Terrorists fired at coalition forces and the injured civilians as they left the scene. The ground forces called in close air support and air units fired back, killing 20 terrorists.

### Operation Enduring Freedom—Afghanistan

#### Casualties

By June 12, a total of 292 Americans had died in Operation Enduring Freedom, primarily in and around Afghanistan. The total includes 291 troops and one Defense Department civilian killed in action and 147 who died in nonhostile incidents such as accidents.

A total of 750 troops have been wounded in Enduring Freedom. They include 296 who were able to return to duty in three days and 454 who were not.

#### Air Force Strikes Enemy Caves

Air Force F-15E Strike Eagles struck two caves inside a mountain north of Jalalabad, Afghanistan, in Operation Mountain Lion on May 2.

The caves, dug into a 7,000-foot tall mountain, were used to store munitions and launch mortar and rocket attacks against coalition forces.

One F-15E dropped a JDAM into the opening of a cave, causing multiple secondary explosions from the weapons hidden inside.

Another F-15E destroyed a second cave with several accurate hits. Both aircraft then flew battle damage assessment passes to make sure they destroyed the targets.

The aircraft and pilots were deployed with the 336th Expeditionary Fighter Squadron from Seymour Johnson AFB, N.C.

#### Airmen Help Rebuild Afghanistan

About 180 airmen will be going out into remote areas of Afghanistan to offer medical and reconstruction aid and help stabilize the local economy, the Air Force said.

Divided among six 80-member Army-Air Force teams, the 30 airmen on each team will deploy for about a year, handling a wide variety of civil affairs functions, from political to engineering. In many places, they may face considerable danger.

The units trained for several months at Ft. Bragg, N.C., where they received instruction on combat skills, weapons training, Afghan culture, land navigation, information operations, first aid, and driving in rugged terrain.

The units are called Provisional Reconstruction Teams. They are taking over from Army-led units in order to reduce the strain on heavily employed Army specialists in the PRT field.

In addition to the Air Force PRTs, there are also six Navy and nine NATO-commanded teams in northern and western Afghanistan.

The specialists were from Nellis AFB, Nev., Hurlburt Field, Fla., and Langley AFB, Va., while the 82nd is based at Ft. Bragg, N.C., adjacent to Pope.

One of the airborne RED HORSE

units will use training from Joint Forced Entry this summer when it deploys with the Army to Afghanistan.

RED HORSE engineers are experts in runway and ramp construction, main-

tenance, and repair. They got their start in 1966 during the Vietnam War. (See "The RED HORSE Way," February 2003, p. 70.)

#### F-22A Fix Pegged at \$100 Million

It will cost \$100 million to fix structural flaws discovered in 73 F-22A Raptors, according to the Air Force.

The structural flaws involved were found on the aft boom—where the horizontal tail attaches to the fuselage—and on the forward boom, where the wing attaches to the fuselage. Cracks in both areas were discovered during fatigue testing. The Air Force said the forward titanium booms received improper heat treatment during manufacturing, reducing their strength.

Flaws found on the aft boom of 41 aircraft would be fixed beginning in January, while the other 32 airplanes would be corrected on the production line.

The flaws did not affect the flight safety of the aircraft, the Air Force said, and no redesign of the aircraft is necessary.

#### Intruder Hacks Tricare System

A computer hacker gained unauthorized access to one of the Tricare public servers, the Defense Department announced April 28.

An investigation of the intrusion showed that information had been compromised. Investigators didn't know the source of the crime nor did they know if the information was misused.

"As a result of this incident, we immediately implemented enhanced security controls throughout the network and installed additional monitoring tools to improve security of existing networks and data files," said William Winkenwerder Jr., the assistant secretary of defense for health affairs.

Tricare Management Activity sent letters to all people who may be at risk of identity theft. The crime is under investigation.

#### Admiral Nominated for SOUTHCOM

A Navy admiral has been nominated to head US Southern Command, which is responsible for military operations in Latin America and the Caribbean.

The Pentagon announced May 4 that President Bush had nominated Vice Adm. James G. Stavridis to be commander of SOUTHCOM and to be promoted to four-star rank.

As SOUTHCOM chief, Stavridis would be responsible for democracy stability operations in Latin America and also would oversee the detention facility at US Naval Station Guantanamo Bay, Cuba.

If confirmed by the Senate, Stavridis would succeed Army Gen. Bantz J. Craddock, who has served as SOUTHCOM chief since November 2004.



## News Notes

■ The F-22A was to make its Pacific debut during Northern Edge 2006, a joint military training exercise in Alaska held to prepare for crises in the Pacific region. Twelve Raptors from Langley AFB, Va., were to deploy for the June 5-16 exercise. A permanent Raptor wing is to be established at Elmendorf AFB, Alaska, in fall 2007.

■ Active duty military personnel who can speak a foreign language are now eligible for a pay raise of up to \$12,000 per year effective June 1, the Defense Department announced in May. Qualified Guard and Reserve members are eligible for a \$6,000 yearly bonus. The increase in Foreign Language Proficiency Pay ranges from \$300 per month to \$1,000 per month, depending on the level of proficiency and the need for the language.

■ USAF awarded Boeing and Raytheon contracts in April to develop the Small Diameter Bomb Increment II. Boeing was awarded \$145.8 million and Raytheon received \$143.9 million for the work. After a 42-month risk reduction phase, one contractor will be picked to develop the program. Work for the two contracts is scheduled to be completed in October 2009.

■ A 16-year-old Civil Air Patrol cadet was awarded the Gen. Carl A. Spaatz Award in May. It is the highest CAP cadet award, given for excellence in leadership, character, fitness, and aerospace education. Gen. T. Michael Moseley, Air Force Chief of Staff, presented the award to CAP Col. Katrina Litchford. Spaatz was the first Air Force Chief of Staff; after retirement, he was also the first chairman of the board of CAP.

■ The Air Force Research Laboratory plans to test fly a B-52 bomber with alternative fuel at Edwards AFB, Calif., in September. The experiment was prompted in part by rising fuel costs and the service's reluctance to rely on foreign petroleum products, the Air Force said in May. Two of the bomber's eight engines will be powered in part by a natural gas jet fuel that is made using the Fischer-Tropsch process, a special technique that can convert natural gas, coal, and shale to liquid fuel products.

■ Tyndall AFB, Fla., received an early version of the F-22A Raptor in April to be used as a permanent ground trainer for students learning aircraft maintenance. The aircraft, previously used in testing to determine the F-22's airworthiness, had its engines removed along with certain sensors and wire bundles to meet Tyndall training requirements.

■ Boeing received a \$180 million contract from the Air Force in May to upgrade

the fire-control radar on the service's fleet of B-1B bombers. Modification kits are to be built by subcontractor Northrop Grumman and will be tested through 2009. Boeing plans to flight test a fully upgraded B-1 at Edwards AFB, Calif., in 2010. The full fleet of B-1Bs is to be equipped by 2014.

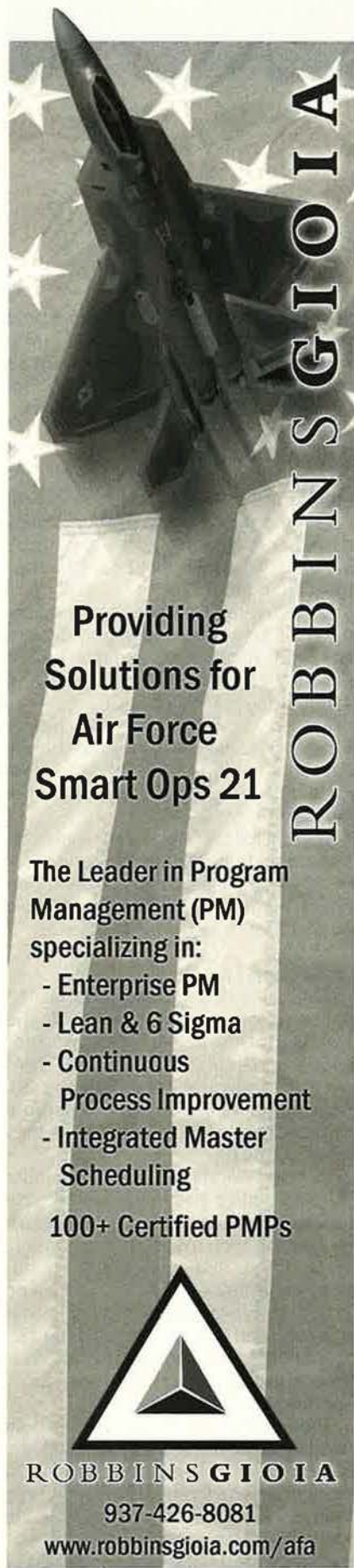
■ Warner Robins Air Logistics Center, Ga., won an operations research competition on May 1 for its superior C-5 repair work. The ALC will receive the Franz Edelman Award in November for using operations research—a method of using analytical techniques to make better decisions—to streamline C-5 maintenance, reducing the aircraft's repair and overhaul time by 33 percent. The Edelman Award is given by the Institute for Operations Research and the Management Sciences, a Maryland-based professional society.

■ USAF awarded a \$90 million contract on April 21 to General Dynamics, L-3 Communications, and Science Applications International Corp., for modeling, simulation, and analysis and for infrastructure for a replicated battlefield environment. Work is scheduled to be completed by December 2008.

■ Boeing announced plans on May 1 to buy Aviall, the largest provider of new aviation parts and services, for \$1.7 billion. The acquisition is Boeing's biggest in a decade. Boeing will take on \$350 million in net debt as part of the acquisition. Plans called for the deal to close at the end of the third quarter in the fall, but Boeing did not expect to see any extra earnings as a result of the acquisition until 2007.

■ US and Canadian military forces practiced coordinating federal and local responses to man-made and natural disasters in Exercise Ardent Sentry 2006, held in May. Exercise events took place throughout the US and Canada, with local field training conducted at Selfridge ANGB, Mich., Tyndall AFB, Fla., and Playas, N.M.

■ TSgt. James Mazurek from Minot AFB, N.D., was awarded \$10,000 in April for a money-saving and safety-enhancing suggestion. Mazurek recommended inserting a warning paragraph in B-52 bomber technical orders describing how to correctly hook a tow bar to the landing gear on the aircraft. The tip prevents main landing gear damage and could save the Air Force an estimated \$95,740 annually. All active duty military and appropriated fund personnel are eligible for cash awards of up to \$10,000 for good ideas submitted to the Air Force Innovative Development Through Employee Awareness program. ■




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# Action in Congress

By Tom Philpott, Contributing Editor

## Uncertainties on Pay and Benefits; Another Force Cut; OMB Angry About Tricare ....

### Authorization Bill Highlights

House and Senate actions on the 2007 defense authorization bill appear to have locked in some pay and benefit gains, but by early June, much was still in doubt.

The House, in passing its bill (HR 5122), endorsed a military pay raise for next January of 2.7 percent, half a percentage point higher than requested by the Bush Administration. It would be an eighth straight annual increase set a half percentage point above wage growth in the private sector and would narrow a perceived pay gap of 4.5 percent down to four percent.

The Senate Armed Services Committee voted for a 2.2 percent raise, the figure sought by the Administration to keep pace with private sector wages. (See "Action in Congress: Pay Raise Pace Slows," April, p. 24.) With floor amendments still to come, the full Senate was not expected to finalize its own authorization bill (S 2766) until mid-June, at the earliest.

Each chamber approved a number of initiatives that the other did not, with the differences to be reconciled in conference. Below are highlights of personnel initiatives that are found in both the House and Senate bills and therefore are likely to be enacted.

### Pay and Manpower Changes

■ **Manpower Levels**—Both bills would lower active duty Air Force strength by 23,200, to 334,200, and active duty Navy strength by 12,000, to 340,700. Army active duty end strength would be set at 512,400, which is 30,000 above what the Administration sought. Marine Corps active strength would rise by 5,000, to reach 180,000 next year.

■ **Special Raise**—an unusual pay raise will be coming next April—only for warrant officers and longer-serving enlisted members in grades E-5 through E-7. Proposed by the Administration, the special raise would come atop whatever January pay hike is approved. The raise, with details still to be finalized, would range from a low of 1.1 percent for E-5s up to 8.3 percent for warrants (W-1) with 20 years of service or more.

■ **Flag Officer Pay**—Current ceilings on basic pay for flag officers would be raised by \$13,200 a year by applying a new maximum equal to Level II (\$165,200 a year) rather than Level III (\$152,000) of Senior Executive Service pay.

■ **Bonus Ceilings**—Various bonuses for medical skills and other high-demand job specialties in short supply would be raised, but compromises on amounts are still necessary.

### Benefits Rise

■ **Tricare Fees**—Blocked for at least one year are Administration plans to raise Tricare enrollment fees, deductibles, and co-payments for under-65 retirees. Pentagon leaders had argued for increases that would double or triple out-of-pocket costs for many within two years. They argued that the fees needed a "re-norming" of beneficiary costs that had been frozen since 1995. (See "Action in Congress: Keeping Pace With Costs," April, p. 25.) Lawmakers balked and are directing Congressional auditors instead to study the accuracy of the projected cost savings.

■ **Retail Drug Fees**—Co-payments for users of the Tricare retail pharmacy network will increase, and the House bill also would add a dollar to drug fee hikes sought by the Administration. The current \$9 co-pay for brand-name drugs on the military formulary would increase to \$16. The \$3 co-pay for generic drugs would double. (The Administration sought fee increases to \$15 on brand drugs and \$5 for generics, which the Senate matched.)

■ **Mail-Order Drug Fees**—These fees would end for drugs on the military formulary. The House bill would eliminate the \$9 charge for a three-month supply of brand-name drugs and the \$3 charge for generics. The Senate committee voted to end the fees if a physician confirms medical necessity.

■ **Federal Drug Pricing**—Federal pricing rebates would be mandated for medicines bought to stock the Tricare retail network. The change, strongly opposed by the pharmaceutical industry, would save DOD \$256 million in 2007 alone.

■ **Employer Tricare Incentives**—Em-

ployers of Tricare beneficiaries would be banned, by January 2008, from offering financial incentives to entice employees to use Tricare instead of employer-provided health insurance.

### White House Dislikes

The White House's Office of Management and Budget weighed in with a statement of Administration policy to explain what it liked—and more specifically disliked—about the authorization bill.

OMB leveled its strongest criticism at the House rejection of higher Tricare fees and at plans to expand Tricare eligibility to all drilling Reserve and National Guard members.

The expansion of reserve health benefits, said OMB, "dramatically worsens" defense health program costs by adding \$1.2 billion to annual costs by Fiscal 2011.

"It is critical for Congress to eliminate these unfunded expansions and work with the Administration to place the system on a sound fiscal foundation," said the OMB letter to House leaders.

### Ex-Spouse Law

OMB also is disappointed that the House ignored a proposal to amend the Uniformed Services Former Spouses' Protection Act (USFSPA) to prohibit divorce court judges from ordering service members to share a portion of their retired pay before they actually retire.

"Courts requiring such payments fail to recognize that retirement-eligible service members do not necessarily control their date of retirement," OMB noted. "Further, some of our most experienced leaders are being forced to leave active duty in order to meet their court-ordered financial obligation." (See "Action in Congress: New Scrutiny of Ex-Spouse Law?," September 2005, p. 34.)

Though both the House and Senate failed to act on the retired pay issue, the Senate bill has taken its first steps in 14 years to amend the USFSPA with three changes aimed at improving how the controversial law is administered. These changes were among those endorsed by



a comprehensive DOD review of the ex-spouse law in 2001. The more sweeping changes found in the report have been ignored, as lawmakers remain wary of taking any steps that might be perceived as favoring either ex-spouses or divorced retirees.

#### Tricare Fee Regrets

William Winkenwerder Jr., assistant secretary of defense for health affairs, said in an interview that DOD erred by not making a stronger argument to Congress and beneficiaries that the planned Tricare fee increases truly are reasonable for retirees under age 65.

The proposed increases often were described in news reports as a doubling or tripling of current Tricare enrollment costs. But Winkenwerder and his staff have prepared new charts for lawmakers that compare the higher Tricare costs to increases in monthly retired pay resulting from annual cost of living adjustments or COLAs.

"We want beneficiaries to understand that even though their health care contribution might go up, it would only be a fraction of the amount by which retiree pay is going up," said Winkenwerder.

The monthly increase in Tricare enrollment fees would be \$6 for lower grade enlisted retirees in 2007, he said, versus a \$38 a month increase

in their annuities next year, assuming a three percent COLA.

"So the increase in retirees' pay would cover by a factor of six the increase in health care fees," said Winkenwerder.

For senior enlisted members, the Tricare fee increase would be \$13 a month, but retired pay would go up \$46 a month.

"And for officers, the pay increase would go up \$95 a month while their fee for Tricare would only go up \$24 a month," said Winkenwerder.

#### Unified Medical Command?

There is growing support among lawmakers and Pentagon leaders for reorganizing military health care around a new unified medical command.

The House Armed Services Committee backs the concept in its report on the 2007 defense authorization bill. The HASC clearly favors a single command, backed by the Army and Navy surgeons general, versus the alternate idea of two separate unified commands.

The command would be led by a four-star medical officer given unprecedented authority to oversee what now are service-unique responsibilities for medical staffing, training, purchasing, operations, and medical readiness.

The Army and Navy surgeons general favor a major combatant command, similar to US Special Operations Command, that would report directly to the Defense Secretary. Medical personnel still would be trained for service-unique missions and in the culture of their parent service. But overall medical training, assignments, procurement, and operational support would be centrally controlled.

Lt. Gen. George Taylor Jr., the Air Force surgeon general, told a Senate subcommittee in May of the Air Force's great success story in airlifting wounded from Iraq and Afghanistan. He expressed the desire to avoid a change in command structure that might diminish such service-unique capabilities.

Senior defense officials oppose the inclusion of the Tricare Management Activity under the new command, including \$11 billion a year in regional support contracts. The contracts run vast networks of civilian health care providers and represent 70 percent of funds spent for care to the military's nine million beneficiaries.

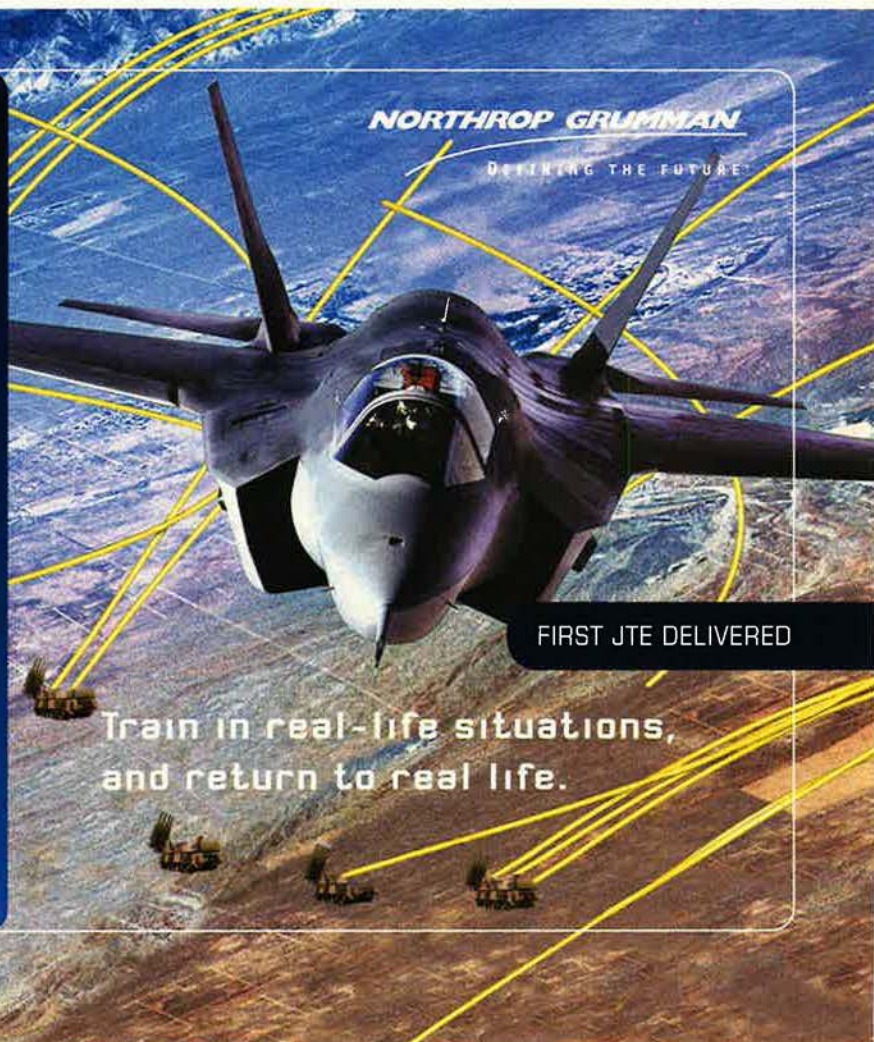
If two separate unified medical commands were established, one could oversee private sector military health care with the second, military-led command overseeing operational medicine. ■



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# The Keeper File

## The Blast From Billy Mitchell

*Brig. Gen. William Mitchell is the most famous figure in the history of US airpower. In World War I, he gained fame as a fiery leader but alienated almost everyone. He returned to Washington and soon angered the Navy by demonstrating you could sink battleships with airplanes. He ripped both the Army and Navy for what he saw as their negligence of airpower. By 1925, the Army had had enough of "Billy," and it shipped him off to a dead-end post in Texas.*

*It was from exile that Mitchell launched the most famous verbal attack of his career. The trigger was the Sept. 3, 1925 crash of a Navy airship, Shenandoah, killing 14 crew members. In a 6,000-word press statement, Mitchell pinned the disaster on Army and Navy leaders, whom he accused of "incompetency," "criminal negligence," and "almost treasonable administration" of military aviation. The remarks enraged Washington and landed Mitchell in a sensational court-martial. He was convicted of insubordination and suspended from active duty, but Mitchell resigned and continued to speak out.*

*Mitchell made many controversial statements in his time, but only one got him court-martialed. This is the one.*

I have been asked from all parts of the country to give my opinion about the reasons for the frightful aeronautical accidents and loss of life, equipment, and treasure that has occurred during the last few days. This statement, therefore, is given out publicly by me after mature deliberation and after a sufficient time has elapsed since the terrible accidents to our naval aircraft, to find out something about what happened.

My opinion is as follows:

These accidents are the direct result of the incompetency, criminal negligence, and almost treasonable administration of the national defense by the Navy and War Departments. In their attempts to keep down the development of aviation into an independent department, separate from the Army and Navy and handled by aeronautical experts, and to maintain the existing systems, they have gone to the utmost lengths to carry their point. All aviation policies, schemes, and systems are dictated by the nonflying officers of the Army or Navy who know practically nothing about it. The lives of the airmen are being used merely as pawns in their hands.

The great Congress of the United States, that makes laws for the organization and use of our air, land, and water forces, is treated by these two departments as if it were an organization created for their benefit, to which evidence of any kind, whether true or not, can be given without restraint. Officers and agents sent by the War and Navy Departments to Congress have almost always given incomplete, misleading, or false information about aeronautics, which either they knew to be false when given or was the result of such gross ignorance of the question that they should not be allowed to appear before a legislative body.

The airmen themselves are bluffed and bulldozed so that they dare not tell the truth in the majority of cases, knowing full well that if they do, they will be deprived of their future career, sent to the most out-of-the-way places to prevent their telling the truth, and deprived of any chance for advancement unless they subscribed to the dictates of their nonflying bureaucratic superiors. These either distort facts or openly tell falsehoods about aviation to the people and to the Congress.

Both the War and Navy Departments maintain public propa-

### "Statement of William Mitchell Concerning the Recent Air Accidents"

Brig. Gen. William Mitchell  
Statement to the Press  
San Antonio  
Sept. 5, 1925

Find the full text on the  
Air Force Association Web site  
[www.afa.org](http://www.afa.org)  
Air Force Magazine  
"The Keeper File"

ganda agencies which are supposed to publish truthful facts about our national defense to the American people. These departments, remember, are supported by the taxes of the people and were created for the purpose of protecting us from invasion from abroad and from domestic disturbance from within. What has actually happened in these departments is that they have formed a sort of a union to perpetuate their own existence, largely irrespective of the public welfare—and acting, as we might say about a commercial organization that had entire control of a public necessity, "as an illegal combination in restraint of trade."

The conduct of affairs by these two departments, as far as aviation is concerned, has been so disgusting in the last few years as to make any self-respecting person ashamed of the cloth he wears. Were it not for the great patriotism of our air officers and their absolute confidence in the institutions of the United States, knowing that sooner or later existing conditions would be changed, I doubt if one of them would remain with the colors—certainly not, if he were a real man. ...

As a patriotic American citizen, I can stand by no longer and see these disgusting performances by the Navy and War Departments, at the expense of the lives of our people and the delusion of the American public.

The bodies of my former companions in the air molder under the soil in America and Asia and Europe and Africa, many, yes a great many, sent there directly by official stupidity. We all may make mistakes, but the criminal mistakes made by armies and navies, whenever they have been allowed to handle aeronautics, show their incompetency. We would not be keeping our trust with our departed comrades were we longer to conceal these facts.

This, then, is what I have to say on this subject, and I hope that every American will hear it. ■





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# The New Air Force Program

**The Air Force that was planned just a few years ago may not come to fruition.**

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





**A**fter long uncertainty about its future shape and size, the Air Force now has a program that should hold up for a while.

The ongoing conflicts in Southwest Asia and a six-year transformation effort pushed by top Pentagon civilians created an exceptional amount of instability in recent years. Compounding the problem was turbulence from the Base Realignment and Closure round and the Quadrennial Defense Review, both in 2005.

Today, however, there is hope for getting on with decisions and actions governing everything from fighter upgrades to tanker recapitalization and new bomber production. These decisions will affect the Air Force for decades to come.

Much uncertainty remains, but USAF at least has a rough concept of which bases it will occupy, what kind of budget it can expect, and how many troops will be available to carry out its mission.

The Air Force will be smaller. It will have the equivalent of 40,000 fewer troops after six years. In May, USAF prescribed a reduction in force of more than 2,000 second lieutenants.

Accessions will be reduced, retirements accelerated, and positions eliminated, mostly in specialties now considered to be obsolete, losing importance, or being outsourced.

The reductions are expected to be taken across the total force—active, Air National Guard, and Air Force Reserve as well as the civilian force.

These cuts include the elimination of dozens of general officer billets.

The aircraft fleet will be smaller. The fighter force will be reduced by about 25 percent over 10 years, and the total number of aircraft will be reduced by 10 percent in the same period. The fleet will become older; even if USAF receives all the aircraft now planned, the fleet average age will continue to rise. For example, the tanker fleet's KC-135s, which were built in the 1960s, can be expected to be in use until the 2040s—after more than 80 years of service.

Formerly, capabilities resident in several services were called complementary. Now they are considered redundant and in need of rationalization. The armed forces have marching



*A four-ship formation of F-22As flies across the country in May. The new Air Force program calls for 183 Raptors, but the number could go higher if there are delays in the F-35 Joint Strike Fighter program.*

Photo by Rick Schmitt





**Weapons loaders prepare to mount an inert AIM-9 Sidewinder onto an A-10 Warthog at Davis-Monthan AFB, Ariz. The Air Force will shrink by 40,000 full-time equivalent positions over the next six years, and the fighter fleet will be 25 percent smaller.**

orders not only to cooperate but also to become interdependent.

That means they'll have to trust each other to provide certain enabling capabilities. The Army, for example, has shifted its air defense portfolio almost entirely toward defense against missiles, relying chiefly on the Air Force to prevent aircraft attack of US ground troops.

Increased efficiency is not the only reason for this. The wars in Iraq and Afghanistan pose a constant funding challenge, requiring elimination of nice-to-have capabilities. The Air Force, with many system retirements

### **"Back to Basics" on Military Space Systems**

The Evolved Expendable Launch Vehicle program is providing reliable access to space, reported Air Force Secretary Michael W. Wynne and Air Force Chief of Staff Gen. T. Michael Moseley, noting that there will be about a dozen EELV launches this year. The service has taken steps to clean up acquisition problems on the Space-Based Infrared System and other space programs that have been late or over budget. USAF Undersecretary Ronald M. Sega has promised a "back to basics" approach to contracting for space systems that will emphasize lowering risk, avoiding the creep of expensive new requirements, and an incremental approach to improvements.

The Air Force also made a pitch to continue the Space Radar program, anticipating that the eventual constellation can at least supplement and possibly even replace a large portion of the airborne ISR fleet. The Space Radar would be an orbiting version of Joint STARS, providing ground moving target indication, synthetic aperture radar, ocean surveillance, and other capabilities.



**A C-17 performs touch-and-go practice at McGuire AFB, N.J. While USAF wants to curtail the C-17 program at 180 aircraft, Congress seems determined to keep the line going at least another year. The Air Force says tankers are now a higher priority.**

and truncated technology programs, will pay a hefty share of the bill.

### **Vision Unfulfilled**

Air Force Secretary Michael W. Wynne, after the QDR was finished but before it was unveiled, said, "We're going to have to take into account that the Air Force that we had planned on a few years ago may not come to fruition."

Those plans envisioned a fighter force built around more than 2,000 stealthy airframes, an airlift fleet comprising more than 700 upgraded machines, a collection of some 30 battle management and intelligence-surveillance-reconnaissance aircraft, and as many as 200 medium bombers to go with the heavyweight B-1, B-2, and B-52 aircraft.

All of the new or upgraded aircraft were to take over for airplanes designed in the 1960s and 1970s that should have been—but were not—replaced

over the last 10 years. The so-called "peace dividend" of the 1990s and the needs of the Global War on Terrorism in the 2000s took priority.

According to Air Force leaders, the newly emerging USAF program is a balance of portfolios that address issues of global strike, global mobility, and global awareness.

Gen. T. Michael Moseley, Air Force Chief of Staff, speaking with defense reporters in April, said the Air Force has not simply kicked the can down the road on new systems, but is taking steps to ensure the long-term affordability of the program. (See "Editorial: Wing-Walking Into the Future," May, p. 2.)

"We have flat-lined our allowance and we have not presented a bow wave outside of our program authority," Moseley said.

"We keep inside each of those portfolios; we attempt to balance that," he said, meaning that, for instance, after



air dominance was assigned a certain share of the budget, shifts within that mission area will be paid for from within and won't cannibalize other aspects of the overall program.

"If we get additional bills that continue to play through the summer, then we're going to have to go back and make some other hard choices," he added.

Moseley said USAF takes seriously the need "to be able to pay those bills" across the five-year spending plan.

Wynne and Moseley, in testimony before Congress on the Fiscal 2007 defense budget, said that the program they have crafted will preserve the Air Force's ability to provide American leaders "sovereign options"—meaning the ability to act swiftly and independently anywhere in the world.

Those options, Wynne explained late last year, include "the option of forced entry and the option of negotiation; ... the option of knowledge, i.e., that something is going on, but [the President] can reserve action; or the option of going in kinetic or non-kinetic or through a cyber medium, if that's the desired outcome."

The QDR determined—and the Air Force publicly agreed—that a smaller force and fewer systems can do the job with acceptable risk, given a few hedging moves.

However, Wynne and Moseley, in their joint testimony, said the Air Force is operating "the oldest inventory of aircraft in our history" and that "we must act now to preserve our nation's freedom of action in the future." They added that, while the Air Force can "command the global commons of air and space," as well as the sea and cyberspace, "we cannot indefinitely maintain this advantage using the current technology of the air and space systems and equipment comprising our existing force structure."

### The Fighter Force

The Air Force's long-stated requirement of 381 F-22s has given way to a force of only 183 Raptors, which



Photo by Richard VanderMeulen

**An F-15E flies a practice mission. Now that the Air Force knows how many F-22s to expect, it can begin to make decisions about how much of the legacy fleet it can keep. Costly upgrades—mission, structural and otherwise—will be needed to keep it viable.**

Moseley said adds up to seven deployable squadrons. The QDR judged the threat from potential adversary air forces to be manageable with a smaller number of F-22s, complemented first by legacy F-15s and F-16s still deemed to be adequately capable against modern threats, and later by the stealthy F-35 Joint Strike Fighter.

However, the Air Force won a major concession in that, if the F-35 program is delayed, F-22s will remain in production until the F-35 is ready to be built. It was deemed necessary that the nation maintain a warm production line of modern "fifth generation" fighters, and a bridge buy of F-22s is possible if the F-35 program hits any lengthy snags in development.

"Many of the F-15s have not even passed half their life" expectancy, Wynne told reporters in late 2005. "So we really have quite a phenomenal weapon system in that regard, that can be ... quite a partner to an F-22."

Moseley told reporters in April that the Air Force is considering maintaining a force of 196 F-15Cs for the foreseeable future but that it hasn't been decided yet

whether these aircraft would receive a major upgrade, such as advanced radars, to improve their reach. The Air Force in late spring was working on a number of fighter roadmaps to determine the best course of action to take on these legacy fighters, Moseley said.

Both the House and Senate Armed Services Committees, in their Fiscal 2007 budget deliberations, approved the Pentagon's plan to give the Air Force more Raptors, but the Senate Armed Services Committee didn't go along with USAF's plan to enter a multiyear contract on the airplane. The House, however, OK'd the multi-year plan on the condition that DOD provides the requested justification. The two houses have not yet ironed out their differences.

The Air Force's requirement for the F-35 strike fighter has notionally hovered around 1,700 aircraft for several years, but the QDR seemed to set the stage for a smaller number. Moseley said acquisition could fall to between 1,100 and 1,400 aircraft, but he added that the program still is too new for the Air Force to make a final decision. If the program is delayed, and more F-22s are purchased, fewer F-35s might be needed.

Such a scenario moved one step closer to reality when the Senate Armed Services Committee deleted \$1.2 billion from the F-35 program, saying the aircraft is behind schedule.

### Interconnected Decisions

The F-22 and F-35 buys also will

### Holding the Line on Strategic Nuclear Forces

The Air Force will continue to maintain and upgrade a proposed inventory of 450 Minuteman intercontinental ballistic missiles—to keep them capable beyond 2020—but will look increasingly toward the "new Triad," which also includes passive and active defenses against incoming missiles. Air Force Secretary Michael W. Wynne and Air Force Chief of Staff Gen. T. Michael Moseley reported that USAF is undertaking a service life extension of both the AGM-86B Air-Launched Cruise Missile and the AGM-129 Advanced Cruise Missile and reported that the Department of Energy may update the missiles' warheads.





*The prototype F-35A is readied for testing in Fort Worth, Tex. The Air Force unofficially projects a fleet of 1,100 to 1,400 F-35s, but many considerations will affect the final target buy. How effective the F-35 will be, and when it arrives, are two big ones.*

depend on how gracefully the rest of the fleet ages. Cracks have been discovered in the wings of most of the A-10 fleet, which already was due to receive precision attack upgrades as well as an engine upgrade. If USAF decides to invest in those upgrades, it will take money away from other parts of the global attack portfolio.

“So, between F-22 and F-35 is an interesting set of interconnected decisions on the rest of our tactical inventory,” Moseley said.

Congress also reversed the Pentagon’s plan to delete a second, competitive engine in the F-35 program, deciding that the benefits of having an alternate outweighed potential savings of pursuing a power plant from a sole-source supplier.

Wynne and Moseley told Congressional committees that some inventory reductions will be driven by changes in technology. The service’s weapon systems have become steadily more effective, and the exploitation of information technologies will permit a

### Science and Technology to Support “the Vision”

Air Force S&T efforts will get priority, depending on how they contribute to a new “vision” for research: furthering capabilities to “anticipate, find, fix, track, target, engage, assess ... anytime, anywhere,” Air Force Secretary Michael W. Wynne and Air Force Chief of Staff Gen. T. Michael Moseley reported.

New S&T efforts have to be “relevant” to the ongoing war against terrorists, as well as to furthering USAF’s capabilities in its traditional core missions. They noted efforts in hypersonics and nanotechnology as having particular leap-ahead possibilities, along with information technologies that can read the sensor network autonomously and detect and isolate attacks against the network as well as its components.

Research also will continue in directed energy. Wynne and Moseley said basic capabilities are already being fielded in the form of laser defensive measures, and they noted that the Airborne Laser system “continues to move DE technology forward.” The ABL, however, has been scaled back to be more of a technology demonstrator, rather than the prototype for a future weapon.

much smaller force to deliver the same punch as a larger, older one. More reliable aircraft will require fewer maintainers. Unmanned vehicles can be flown remotely from home base, half a world away, preventing the need for much of a forward “footprint.”

Some specialties that have been rendered obsolete by the march of technology can be abolished altogether.

The Air Force had requested that it be allowed to retire the stealthy F-117 strike aircraft in 2008. However, Moseley said after budget hearings that he was willing to rethink the plan, if Congress would prefer to have a replacement in hand before retiring the airplane, which was the first stealth attack capability in the Air Force.

The F-22 will have the ability to carry up to eight Small Diameter Bombs and now can hit a heavily defended target with two 2,000-pound satellite guided bombs. However, there are few F-22s in the inventory, so Moseley is willing to wait.

The F-16 will continue to receive both structural and avionics updates, and the youngest of those in USAF service can be expected to see use well into the 2020s. The F-16 will continue to be fitted with standoff weapons, but will require a permissive target area for reasonably safe operations.

Wynne and Moseley said that surface-to-air missile systems employed by potential adversaries have faster missiles, “with multitarget capability, greater mobility, and increased immunity to electronic jamming.” With ranges of more than 115 miles, these anti-access weapons will likely achieve ranges of more than 230 miles within four years.

The two Air Force leaders also forecast that, within just two years, there will be twice as many advanced SAMs as there were in the late 1990s. Poorer countries also are upgrading their older systems to more lethal variants.

### Special Operations and Rescue Aircraft Move Ahead

After a long delay, the Air Force is going ahead with plans to replace its aging HH-60G Pave Hawk combat search and rescue fleet with 141 new helicopters. The new aircraft are expected to provide better speed, range, survivability, cabin size, and high-altitude hover capabilities.

The Air Force has taken delivery of its first CV-22 Osprey tilt-rotor special operations aircraft, which will give the service the means to infiltrate and extract special operations troops at greater distances, higher speeds, and with better survivability. A total of 60 CV-22s are planned for USAF. The service decided years ago that the CV-22 was too large and expensive for the CSAR mission.

### Long-Range Strike

The fighter force will be shaped in part by another factor—the Air Force’s direction on long-range strike systems.



The anticipated capabilities of stealthy, long-range unmanned aircraft, which have long loiter time and the power to employ precision munitions, could well alter today's calculations as to how many manned fighters will be needed.

Unmanned systems offer opportunities "unforeseen 10 years ago," Moseley said.

The QDR determined that the Air Force should get right to work on developing new long-range strike capabilities beyond those offered by today's fleet of B-1Bs, B-2s, and B-52s. The QDR posited both a rapid precision global strike capability—something capable of striking anywhere in the world within an hour's warning—as well as a system that also could provide persistence and heavy payload, possibly in conjunction with high speed. The first capability suggests a conventionally tipped intercontinental ballistic missile, while the second implies some sort of long-range bomber.

The Air Force has until 2018 to get a new bomber-like capability fielded, under the QDR guidelines. It expects to launch an analysis of alternatives this summer to determine the best way to do it, and Moseley has expressed his desire to have a flyoff between competing designs.

Moseley said the 2018 deadline may seem like a long way off, but "that's when we ... have to have something on the ramp, operational," he said at a Capitol Hill seminar in April. "If you work backwards and give yourself a couple of years for test, ... we have to have a design in hand by about 2011.



Photo by Richard VanderMeulen

**The Air Force has marching orders to acquire and field a new long-range strike system by 2018. Initial studies indicate that something akin to these B-2s—featuring a big payload, stealth, and very long range—may be the best all-around option.**

That doesn't give us many months to do this thing."

In the meantime, the Air Force would like to reduce the size of its bomber fleet by retiring the most problem-prone B-52s and using the money to upgrade the remaining aircraft of all three types with new systems and weapons. It would reduce the size of the B-52 fleet from 94 to 56 aircraft, with 18 in Fiscal 2007 and 20 more in 2008.

Congress did not go along with the B-52 retirements, however, insisting that until a new capability is in hand, the Air Force shouldn't let go of any long-range strike capabilities, particularly since those capabilities would

be most in demand in confronting a threat far from the US homeland and US bases. The House authorization bill for Fiscal 2007 would only allow USAF to retire one B-52H lent to NASA.

### Mobility Forces

Although the Air Force has, within the last two years, voiced a need for at least 222 C-17s, the QDR found that a level of 180 called for in a 2005 mobility study is sufficient. The Air Force agreed, provided that it can get seven more airplanes to replace the C-17 service life used up during the almost nonstop use of every C-17 airframe since the wars in Afghani-



USAF Photo by SSgt. Matthew Hannen

**The U-2, in its various stages of evolution, has been the backbone of the manned reconnaissance mission for nearly 50 years, but the Air Force is anxious to move on with the Global Hawk unmanned drone. It can stay aloft for 24 hours or more.**





*Once the flagship of stealth, the F-117 is now officially in its sunset years. USAF has requested that the Nighthawk retire beginning in 2008, but Moseley said USAF can wait until more F-22s are on hand to take over the F-117 mission.*

stan and Iraq started. The Air Force considers those seven to be attrition replacements and put them at the top of its list of unfunded priorities.

Still, USAF asked for funding in its Fiscal 2007 budget request to shut down the C-17 line and put the tooling into storage.

Neither the House Armed Services Committee nor Senate Armed Services Committee agreed that C-17 production should end, with each panel diverting money requested to shut down the line toward buying more of the aircraft. The House panel added funding for three airplanes and the Senate committee for two, plus long-lead parts to keep open the option of continuing production past 2008. It remained for the authorization conference to determine the final add, but, along with foreign orders from Australia, there may be enough C-17 backlog to keep the line going another year.

The Air Force and US Transportation Command acceded to truncation of the C-17 line as long as funding remains constant for the Civil Reserve Air Fleet and if USAF can get some additional cargo capability out of the KC-X program, which is to deliver a new aerial tanker beginning in the next few years. TRANSCOM chief Gen. Norton A. Schwartz said a combination tanker—aerial refueling, with some cargo capability—provides him with enough flexibility to pick up the slack if QDR expectations about lift requirements turn out to be too rosy.

The Air Force released two requests for information on the tanker in the

spring and is expected to release the final request for proposal in the fall. Notionally, the service is looking at buying 10 to 15 tankers a year for up to 25 years, for a fleet of 300 to 450 tankers. Even though USAF is not planning to replace its KC-135Es and Rs one-for-one with new tankers (due to a smaller fighter fleet in the future), the replacement schedule will still not allow the last R model to retire until the 2040s.

In another airlift initiative, the Air Force is looking to partner with the Army on the Joint Cargo Aircraft, a smallish airplane or medium-size helicopter designed to resupply ground troops at far-flung locations with little or no airfield capabilities. The size of the aircraft still was being debated by the two services in late spring, but the Senate had moved to delete the Army's funding.

Moseley said USAF plans to keep at least 500 C-130s in the fleet for tactical airlift, but the service prefers to spend its money on new C-130Js rather than fixing up its oldest C-130Es, many of which have wing box cracks. Moseley said it will cost \$20 million apiece to fix up each old C-130E, while a new C-130J costs about \$70 million. The Air Force also has said that the C-130J, due to its greater power and reliability, is about as effective as two older-model C-130s.

#### **New ISR Aircraft**

Like the F-117, USAF may reconsider its request to retire the U-2 early, in about 2012. Moseley reported

that the Global Hawk UAV offers big advantages over the U-2 in terms of time on station, but that the sensor suite now available on the U-2 won't be ready on the Global Hawk for several years.

When the Air Force lost its E-10 battle management aircraft program in the Fiscal 2007 budget proposal, the service was left with just one aircraft on which to try out various new technologies and sensor suites that could be applied to an E-10 program in the future, should it be approved.

Wynne said it remains critical to develop the capability to detect stealthy aircraft or low-flying cruise missiles, which the E-10 would have provided. The Air Force will continue to explore that capability in the Multiplatform Radar Technology Insertion Program. The MP-RTIP radar will be developed and deployed both on the E-8 Joint Surveillance Target Attack Radar System aircraft and the Global Hawk unmanned aircraft.

Rather than pursue the E-10, the Air Force will seek to re-engine its E-8C Joint STARS aircraft. The E-8 has long suffered from inadequate power for optimal climb, time on station, and operation of its multitude of onboard sensors, processors, and radar. Re-engineing the E-3 AWACS fleet also remains a possibility.

The Air Force also will continue buying Predator unmanned aircraft, using the type as both an observation platform as well as a strike asset, especially for fleeting targets. The service will continue to buy Sniper targeting pods, which allow fighters to offer combatant commanders the same real-time video imagery as Predator. Aircraft upgrades will allow this imagery to increasingly be passed down to ground troops via data links and laptop-style displays.

Though it appears that the Air Force can now exhale and get on with its overall program, Pentagon officials warn that the reductions may not be over, yet. A private study commissioned by Deputy Defense Secretary Gordon England, due next month, will determine if there is more rationalization in store for the fighter fleet and for the F-22 in particular.

Also, England has told his lieutenants that next year's budget—the first in a new five-year plan—could see service reductions in "double digits." That, in turn, could well force the Air Force to recast its program yet again. ■





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# Preparing for a N

**The Air Force is training for a war on terror that bears little resemblance to conflicts of the past.**





# ew Way of War

By Adam J. Hebert, Senior Editor

USAF photo by Robbin Cresswell



**T**he Air Force may have paid a price for its highly efficient wars of the late 1990s. A series of campaigns in the Balkans and the constant patrols of the no-fly zones over Iraq were missions performed with skill, precision, and—for many observers and even participants—a sense of detachment. Air operations conducted from long range with guided weapons looked to some like video games.

Even the massive air campaign during Operation Allied Force ended with two fighters shot down but no airmen as combat fatalities. However, “Kosovo is not Afghanistan or Iraq,” noted CMSgt. Rodney E. Ellison, command chief for Air Education and Training Command at Randolph AFB, Tex.

The Air Force is now preparing its airmen for the new way of war, with updated training regimes spreading throughout the service.

The new way of war requires airmen on the ground, a focus on expeditionary forces, and the need to confront constantly evolving threats that often put airmen in danger even while they are working in the relative sanctuary of a nominally secure air base. Operation Iraqi Freedom and Operation Enduring Freedom in Afghanistan place heavy demand on ground-based combat support forces, not the pilots and “iron” that were heavily tasked in the 1990s.

The Cold War’s garrison force is no more. Ever-larger numbers of airmen deploy to austere settings, operate “out-

side the wire” in combat zones, and face an adaptive enemy that is constantly searching for vulnerabilities.

“There is no rear area” in the war on terror, Ellison said in an interview. Consequently, the Air Force is working to ensure that all airmen are prepared for what they might face while deployed. Nobody is immune from the effects of this war.

Gen. William R. Looney III, AETC commander, noted that Air Force medical personnel deploying from Stateside hospitals to Balad AB, Iraq, are likely to be subjected to mortar attacks while dealing with 120 days of nearly constant combat casualties.

The Air Force also has picked up a number of new missions, such as combat convoy support and prison guard duty,





**The Air Force is bolstering the combat skills of its airmen, from the newest recruit to the most highly trained specialist. Here, SSgt. Chris Uriarte (l) monitors pararescue candidates in screening at Davis-Monthan AFB, Ariz.**

so that the Army can have its troops concentrate on soldiering.

Consequently, USAF in the last year had more than 9,000 airmen go through some sort of training at Army forts and camps. Nearly five years after the 9/11 terrorist attacks, USAF does have the benefit of more combat veterans than at any time since the Vietnam War, and these “hardened” airmen make excellent instructors.

In Vietnam, there was a philosophy that every airman should be a ground-level defender, Ellison said. The Air Force has gotten back to that philosophy.

A large portion of the airmen receiving basic or technical training in Texas “will be in theater within a year,” observed Looney.

In the unlikely event that recruits aren’t aware of what it means to join the military, even basic military training (BMT) has been changed to emphasize war skills from the outset.

AETC’s perspective is that the United States will be fighting the war on terror for years. Even if the ongoing Iraqi insurgency comes to an end, Iraq is a battle in a larger war, Looney said. Airmen will need expeditionary combat skills indefinitely.

### Back to Basics

In 2004, a triennial basic military training review asked if BMT was meeting the theater commanders’ needs. “Quite frankly, it was not,” said Brig. Gen. Mary Kay Hertog, commander of the 37th Training Wing at Lackland AFB, Tex.

That determination set changes in motion. “Airmen were lacking in combat skills and just the [combat] culture,” she said. Some airmen were still coming into the Air Force with a notion that combat was not their responsibility.

Unfortunately, terrorists without uniforms, snipers, mortars, and improvised explosive devices put all airmen in danger. Iraq and Afghanistan have taught that “the war’s coming to you,” Hertog said.

“You can get mortared back in your tent, sleeping, ... just like you can hit an IED on a convoy. You are at risk, and you’d better know how to protect yourself,” she said.

For recruits, the change begins with

weapons familiarization. Instead of being issued an M-16 in the fifth week of BMT, recruits now are issued on the second day an M-16 that does everything but shoot.

“We’re trying to infuse a culture of warfighter,” Hertog said. The BMT review and conversations with the combatant commanders revealed that the Air Force had people who were “very uncomfortable carrying weapons,” unless they were part of a career field “where you carry it every day.” For most airmen, carrying a weapon felt foreign.

Airmen must “be as familiar and comfortable with a weapon as [they] are with a computer—that’s the bottom line,” said Hertog.

Not only do basic trainees carry the M-16s around, they quickly learn to tear the carbine down, clean it, and reassemble it. When young airmen are deployed and chopped to Army units, these skills are “the expectation,” Hertog said.

In November 2005, BMT was modified and resequenced. Basic training now mimics the Air and Space Expeditionary Force (AEF) cycle, in that airmen prepare, “deploy,” and reconstitute over their course, all to familiarize them with the Air Force’s expeditionary nature. Beginning in the fall of 2007, BMT will make its expeditionary point in an “even more clear and concise manner,” said Looney. Airmen soon will get a lifelike introduction to combat operations by living in tents for days on end, being attacked, and fending off “aggressors.”

This will become possible when basic training expands from 6.5 weeks to 8.5 weeks at the beginning of Fiscal



**Airmen in basic military training, such as those shown here, are given M-16s on the second day of BMT and quickly learn to tear the rifle down, clean it, and reassemble it.**



2008, bringing BMT more in line with the basic training programs of the other services.

Officials had proposed expanding BMT to 8.5 weeks more than 30 years ago, but the proposal was rejected because of funding concerns. Today, the expansion is funded and must wait simply for new infrastructure to be built.

The core of the expanded BMT program will be the Basic Expeditionary Airman Skills Training exercise, or BEAST. It will be an intense, four-day field training exercise held in the sixth week of basic training. Combat skills training will take place before and lead up to BEAST.

The BEAST area will cost \$25 million to construct and will house 1,000 airmen at any given time.

Traditional basic training activities (folding, marching, and shining) will be de-emphasized but will not go away completely. These rituals are still useful in building discipline, teamwork, and a military mind-set, officials say.

Military training instructors are less concerned than they once were about clean rooms, however. The hours spent cleaning are better used developing more useful skills.

"We need to bring more warfighting skills to BMT and care more about that aspect of training than how an airman folds his underwear," Looney said earlier this year. To that end, trainees have begun rolling shirts and underwear, as they would do in theater.

The curriculum in the final two weeks of the expanded BMT, after the expeditionary skills training, will focus on academic topics such as Air Force organization and history, said Col. Gina M. Grosso, commander of the 737th Training Group at Lackland, which runs BMT.

With four days devoted to BEAST (as opposed to a single day of field training today), the two-week expansion will allow for some much-needed depth and reinforcement in the BMT regime, Grosso explained. Currently, many topics are touched on but not covered in depth.

"That's what these additional two weeks are all about," added Hertog, "bringing up that proficiency level, showing them how to do low crawls, high crawls, Russian rolls"—all the combat skills that could come in useful in a fight.

### Deployment Training Gets Real

Unlike basic trainees who know of

## Beyond the Heavy Equipment Operators

The Air Force is attempting to use the demands of the new wars to instill a common warrior culture. Officials say the service is still battling the effects of the "heavy equipment operator" mind-set, observed by former Chiefs of Staff Gen. Michael J. Dugan and Gen. John P. Jumper, in which airmen relate to their personal piece of equipment instead of to a larger sense of the Air Force.

"Ask a Marine, 'What do you do?' and they say, 'I'm a Marine,'" said Brig. Gen. Mary Kay Hertog, commander of the 37th Training Wing at Lackland AFB, Tex.

Ask an airman the same question, and the answer is likely to be, "I'm a comm troop," a BUFF pilot, an Eagle driver, or a cop.

"We break down by tribal lines," she said, and the Air Force has "got to change this whole culture to say, 'I'm an airman first.' I think that's the goal of this growth in combat skills"—to create a common warrior mind-set that all the airmen can relate to.

Hertog said the culture is "slowly changing. ... Airmen can't go into a deployment thinking, 'I'm just here to serve food.'"

nothing else, some experienced airmen can find expeditionary training an eye-opener.

The new combat skills emphasis begins at BMT, but the change is felt throughout the Air Force. Training today is more tactical, responsive to the demands in Iraq and Afghanistan, and tied to the Air and Space Expeditionary Force deployment cycle. There are numerous examples. Even training for military working dogs has changed.

■ After 9/11, the Air Force "stopped training drug dogs altogether and just concentrated on bomb dogs, to meet the new demands," said Hertog. The Air Force trains all DOD and Department of Homeland Security working dogs at Lackland. The priority now is on

explosive-detection dogs "and always will be."

■ The Chief of Staff has ordered that all airmen deploying to war zones receive a minimum of 19 hours' worth of expeditionary combat skills training. Typical ECST skills include convoy procedures, rifle fighting, field hygiene, and IED recognition.

■ A new contingency skills course taught by the Air Mobility Warfare Center at Ft. Dix, N.J., includes representatives from the combat camera, finance, legal, chaplain, contracting, and public affairs career fields. Attendees learn combat first-aid, land navigation, and other practical skills.

■ USAF's security forces training courses were expanded in 2002. A 51-day course for enlisted security forces

*Basic military training now tracks with actual AEF deployments. To familiarize them with the deployment cycle, BMT airmen prepare, "deploy" on field training exercises (including the combat tactics course pictured here), then reconstitute.*



USAF photo



was expanded to 65 days, while security forces officers now have a 78-day training course.

■ The Air Force recently opened a new combat dive school at a Navy facility in Panama City, Fla., to meet the increased demand for pararescue jumpers, combat controllers, and other battlefield airmen with dive skills.

■ Plans call for Moody AFB, Ga., to become the Air Force's Center of Excellence for Common Battlefield Airman Training, which will "further instill the warrior mind-set" in USAF's battlefield airmen and give them all a baseline skill set.

Basic battlefield airman training for multiple specialties is moving to Moody AFB, Ga., while enlisted aircrew training is being consolidated at Lackland.

"Whenever you have training at multiple locations," there are a variety of costs associated with that arrangement, said Looney. The advantages to consolidating similar types of training include financial economies of scale and avoiding the cost that comes from having airmen constantly move around. Travel time and mismatched course schedules create time breaks that could be filled with more productive activity.

Ground training for seven of the eight enlisted aircrew specialties, including aerial gunners, airborne battle managers, and loadmasters, will come to Lackland



Photo by Nate Leong

*The 65th Aggressor Squadron at Nellis AFB, Nev., recently began flying aggressor F-15s, such as the one above, so that pilots would have experience battling a variety of high-performance aircraft in Flag exercises.*

from locations currently spread across the United States.

The linguist specialty, which requires 18 months of ground language training, will not move to Lackland, nor will flight training. Officials say moving the ground-based enlisted aircrew courses will help create a "common aircrew culture."

### Combat Convoys

Perhaps no mission better exemplifies the Air Force's changed mission

than combat convoys in Iraq. USAF has long had transporters—airmen who would drive buses around secure Air Force bases, or take VIPs to the airport.

But since 2004, the Air Force has been supplying drivers and force protection for convoys operating on Iraq's deadly streets. This is an all-new mission for the service. Not even security forces did this very frequently in the past—traditional security patrols are "presence patrols," not high-speed convoys operating under fire, noted TSgt. Doug Hatfield, a combat convoy instructor.

USAF quickly spent \$11 million to create the Basic Combat Convoy Course (BC3) at Camp Bullis, Tex., to give deploying transporters the skills they need. Security forces and transporters that will deploy and operate as teams undergo 30 10-hour days of training. Half the simulated convoy missions are at night, and the course is realistic and intense.

The BC3 instructors are all veterans of the mission in Iraq. Airmen are trained to use the M-4 carbine, M-249 automatic rifle, and the .50 caliber machine gun, said SSgt. Jake Vail, a combat arms training and maintenance team leader. These are the weapons that meet "the specific needs of the students," he said. Defenders must be able to fire from moving vehicles, which is a different skill than stationary shooting.

Medical training is also important. "Anybody can get shot," noted TSgt. Jason D. Hohenstreiter, BC3 lead instructor, who was part of the initial

USAF photo by Robbin Crosswell



*Deployed airmen can come under attack at almost any time, so troops are receiving emergency medical skills training through a number of predeployment courses. At left, airmen in the Basic Combat Convoy Course at Camp Bullis, Tex., start an IV line for an "injured" comrade.*



USAF combat convoy detachment that operated out of Mosul, Iraq.

"By the time you go over the berm and into Iraq, it's too late" to be learning on the job, said MSgt. Martin Lund, the BC3 superintendent. "When you're in charge of that convoy, you need to know what to do if you're hit."

After completing BC3, the airmen go on to additional training at Ft. Sill, Okla., before deploying on a six-month assignment.

A challenge in the field is overcoming cultural differences with the Army, said Hohenstreiter. Air Force and Army language, terminology, and procedures all differ and take some acclimatization. Nonetheless, when BC3 began, the Army was the subject matter expert and continues to certify the Air Force course.

Now, Looney said, the convoy airmen are so well-prepared that Army commanders frequently say the best truck company in their unit is the Air Force truck company.

The mission and the BC3 training are constantly evolving. There are trends in "certain ways that they hit you. ... Vehicle-borne IEDs were huge for a while," Lund said, then the convoys learned to counter that threat. The enemy adapted in kind.

"They're very smart. They watch what you do; there are videos out there," Lund said. "They knew, when we got hit, what we were going to do next, and that's where they were setting other IEDs," in order to attack responding units.

The June through November 2005 iteration of the course "went through some big changes," Lund said. At the time, vehicle-borne IEDs, suicide bombers, and IEDs in potholes were emerging as new threats that needed countermeasures.

Hatfield noted that there is an entire block of instruction on how to identify IEDs.

The instructors noted that they can update a course in as little as 24 hours, as soon as lessons or threats are identified in Iraq.

IEDs continue to pose the deadliest problem. Officials would not discuss counter-IED tactics, but Lund did say that "the best thing right now is armor." Initially, armor consisted of "stuff slapped on the sides of 923s [five-ton trucks] and Humvees," he said. Today, "everything has to be armored before it goes outside the wire."

The BC3 program has been an un-



USAF photo by Robbin Cresswell

**Transporters and security forces airmen deploying for combat convoy duty must first pass an intense 30-day preparatory course. As threats in Iraq change, the curriculum changes. Here, BC3 airmen connect a tow bar while security forces provide cover.**

qualified success. More than 1,800 airmen have been through it, and while graduates have received more than 100 Purple Hearts, Lund notes that there is a fatality rate of less than one percent.

### Tough Enough

Officials say examples like the success of USAF's combat convoys refute occasional criticisms, still heard, that airmen are "soft," or members of the "chair force."

"Our airmen have been at war since 1990, whether it be in Iraq, Kosovo, Bosnia, or Afghanistan," Looney noted. They have taken on new missions, "measured up to the task, and exceeded all expectations."

He added that, when it comes to ground combat, "airmen need to learn some new skills," but to equate that to a requirement to be "hardened" is ridiculous. "When it comes to toughness and the ability to get the mission done, our airmen stand just as tall as all the rest," Looney said.

Flag training exercises now are used as final spin-ups for units about to deploy overseas. USAF Warfare Center Vice Commander Col. Terry L. New, now retired, said in November that, "even in a pretty heavily engaged combat environment," some combat skills will go unused and "fall by the wayside." Flag exercises ensure that airmen see a full breadth of operations and are "better able to go into combat."

Looney said the Air Force has to strike a balancing act between today's needs and the worst-case scenario of major

theater war. Current demands call for skills needed against a persistent but low-level insurgency. USAF does not have to contend with another air force, army, or navy at this time, he said, but "there are also state actors out there."


The challenge is to remain proficient in the full range of Air Force missions while one type of mission generates the most attention. "This is a full-spectrum Air Force" that must be ready for everything from disaster relief to major theater war, Looney said. "If you put all of your time and energy" into one area, the other skills will atrophy.

Fortunately, training for many of the skills needed in Iraq, such as close air support in an urban environment, is also beneficial in other situations.

Sometimes it is difficult to prepare, however. Gen. Ronald E. Keys, Air Combat Command chief, said in February that fighter pilots tasked with spotting IEDs in Iraq need better Stateside training. A pilot searching for IEDs with an advanced targeting pod "may not have had the opportunity to actually see any of these" until the pilot arrives in theater, Keys said. "We've got to fix that."

Looney said AETC would "love to train all F-16 pilots" to use the latest Sniper pods, but there simply aren't enough to go around. In fact, there are barely enough to meet the needs in theater, and many of the pods stay put as aircraft rotate in and out. So for the time being, pilots at home station will continue to hone their skills using more readily available Litening pods. ■





**The Air Force is producing sufficient numbers, but gaps remain.**

*Capt. Matt Johnson prepares for a mission from Langley AFB, Va. In general, pilot shortages have eased, but key staff positions that require rated pilots are still undermanned.*

USAF photo by Tsgt. Ben Binkler

# The Pilot Shortage Abruptly Ends

By **Bruce D. Callander** and  
**Adam J. Hebert**, Senior Editor

**T**he Air Force's long-standing pilot shortage is over. More or less.

After years of shortfalls in the number of rated fliers needed to fill positions, the Air Force now has enough pilots to fill its cockpits and enough total pilots overall.

Technically speaking, there is no shortage, explained Lt. Col. Jefferson S. Dunn, chief of rated force policy on the Air Staff. Overall, the service has 13,652 pilots assigned against 13,465 authorizations. This is an unexpected development. In 1999, USAF projected it would be at least 2,000 pilots short of its needs from 2002 through 2007.

The issue remains complex, however, because shortages remain in some

key areas, such as fighter and special operations fixed-wing pilots. Key staff positions that require rated pilot expertise also remain undermanned. In fact, it is Air Force policy to ensure that cockpits remain filled, so the shortage plays itself out in staff, command, and those nonflying operational positions that require rated pilots.

Most of the specific area shortages include well-trained and high-experience year groups, however, so pilot levels are still something USAF continues to "watch very closely," Dunn said in an interview.

If the service is able to breathe easier about pilot manning, it is because the Air Force in recent years made

a conscious effort to improve both accessions and retention. Since 1999, USAF has produced new pilots at a rate of about 1,000 per year, double what was produced when pilot production bottomed out between 1994 and 1996.

Meanwhile, a number of factors such as healthy retention bonuses, more predictable deployments, and renewed patriotism and sense of purpose since 9/11 have kept greater numbers of pilots in uniform. (See "New Gains on the Pilot Retention Front," February 2003, p. 54.)

The net effect is that the pilot shortage, which was supposed to linger until at least 2011, had quietly disappeared



by 2004. It is not expected to return, but as recent history shows, the numbers can move in unexpected ways.

The service is currently studying whether a goal of 1,100 new pilots a year is the correct number, Gen. William R. Looney III, chief of Air Education and Training Command, told *Air Force Magazine* in April. The number may be revised either upward or downward, he said, and a decision will probably come by the end of 2006.

The requirement for pilots outside the cockpit is growing, Looney said, which makes planning complex. There is increased need for pilots as unmanned aerial vehicle operators and as experts staffing air operations centers, he noted.

### Not All Roses

The higher training rate of recent years does not solve the challenge of younger pilots not being ready to take on the responsibilities of more experienced pilots, Dunn said. It is in the command and staff positions where shortages remain, brought on by slashed pilot production a decade ago.

The current situation had its roots in the post-Cold War drawdown when the Air Force was trimming its manpower and reinventing itself to tackle new missions. When it reduced the force, USAF discovered that it had more pilots than needed.

Rather than let go of the pilots already on board, the Air Force decided to slash new accessions from a 1991 high of about 1,500 new pilots a year to less than 500 per year in 1995.

That action proved to be a mistake.

Like a pig through a python, the shortage gradually will work its way through the system. True, the pilot inventory came down, but the unintended and long-term consequence was not



Capt. D.J. Vollmer (left) and Capt. Jon Beatty exit their F-15E at Berlin-Schoenefeld Apt., Germany. USAF has many more applicants than it has cockpit seats.

USAF photo by Maj. Pamela A. Q. Cook

having enough fliers in certain year groups. Ten years on, there is a shortage of senior captains and junior majors to fill supervisory positions.

In the late 1990s, the service was doing more with a smaller force, and that was being reflected in retention rates. Further compounding the problem, the airlines were doing well, and the lure of high-paying jobs with the carriers had a historic impact.

The surplus of older pilots began to dwindle, and this meant that those who remained were under greater pressure. They had to supervise the less experienced and carry more of the load until the junior members gained experience.

A classic Catch-22 was developing. Experienced pilots had to do more, making them increasingly overworked and driving more to leave.

The upshot was that the Air Force was short 1,355 pilots in 1999 and still 1,200 below requirements in September 2001.

At the same time, new pilots were able to fly less often, and were slower to gain experience, because of the shortage of

pilots qualified to serve as instructors and as mentors in the operational units.

### New Solutions

Advanced simulators help with some of the initial training, Looney noted. For example, rookie C-17 pilots must perform 25 high-fidelity simulator sorties—but only four actual flying missions—during their qualification period.

As the Air Force emerged from a decade-long strength drawdown, it became apparent that manning was getting dangerously low in the service's most critical specialty.

Finding pilot candidates never was a problem. Being a pilot is prestigious, glamorous, and the route to top leadership for the vast majority of Air Force officers.

The service has had many more applicants for flight training than it has slots for them, so pilot candidate quality never suffered.

Looney said the demands of the war on terror have not had any significant impact on the types of pilots the Air Force needs—he has not seen major changes in requirements for new fighter pilots compared to airlift pilots, for example.

UAV operators remain an unanswered question, however. Air Force leaders agree that airmen flying UAVs—in particular armed ones such as the MQ-1 Predator—must understand the flying environment, rules of force, and culture, Looney explained.

An open issue, however, is whether UAV pilot-operators must continue to spend two tours and six years in a cockpit before becoming Predator operators.

During the shortage period, the

## Shortages and Surpluses in the Pilot Force

The largest current gap is in the fighter pilot force. According to figures from October 2005, the most recent available, the Air Force needed 4,311 pilots but had only 4,028 assigned.

Air Force special operations forces also was short of pilots, with fixed-wing aircraft requiring 583 pilots and only 567 assigned. For SOF pilots overall, 1,410 were authorized and 1,380 assigned.

In most aircraft types, USAF has moderate surpluses in overall numbers. For bombers, the ratio was favorable. The Air Force had 817 authorized pilots and 947 assigned.

The situation with tankers and airlift personnel was similar. For tankers, there were 1,517 authorizations, with 2,231 assigned to those positions. In airlift, it was 3,434 authorizations with 4,025 assigned.

Finally, for battle management and intelligence-surveillance-reconnaissance aircraft, the mix was 732 authorized pilots with 943 assigned.



Air Force coped as best it could. The service recalled retired pilots to active duty to take staff jobs, freeing other pilots for essential flying assignments. The Air Force also used navigators in some slots previously held only by pilots.

The Air Force also has used Air National Guard and Reserve pilots to take over formerly active duty missions. Air Force Reserve Command established seven units to perform aircraft test support and functional check flights for Air Force Materiel Command, replacing active duty units in the positions. Two more Reserve units came on line to conduct functional check flight testing. At Edwards AFB, Calif., Reservists stood up an associate unit, to integrate with the Air Force Flight Test Center, in carrying out test support for developmental test and evaluation.

Another quick solution was to impose temporary Stop-Loss restrictions on pilots and members in other critical skills. There was some fear that, when the Stop-Loss restrictions were lifted, there would be a rush of members to separate. That did not happen.

The recall actions were short-lived, and some of the pilots brought back still are on board. In December 2000, for example, the service was given authority to recall 200 retired aviators to active duty. The original plan was to keep them on active duty for about three years, but the service of some has been extended. The Air Force no longer is recalling retirees.



*The Air Force slashed the pilot accession rate from a 1991 high of 1,500 per year to fewer than 500 per year in 1995. Here, a pilot climbs into the cockpit of his aircraft during Operation Desert Shield in 1990.*

A similar, more recent program was launched in 2004, when AFMC announced it would hire 20 civilians to serve as test pilots. Some of these were former Air Force pilots. Dunn said that civilians, along with active duty and reserve members, also are being used as instructors in undergraduate pilot training.

Again, the problem is not just one of finding pilots who are willing to do the work. The difficulty is getting pilots with the experience and background to be of use to the service. The lack of seasoned fliers remains a problem.

While the Air Force has no plans to use civilian contractors as it did in World War II and the post-war period to

give students their initial pilot training, Dunn said civilian schools do some initial flight screening.

The Air and Space Expeditionary Force construct, adopted to help schedule deployments more equitably and give airmen more notice of when they are likely to be tapped for overseas duty, may be playing a major role in solving the pilot shortage.

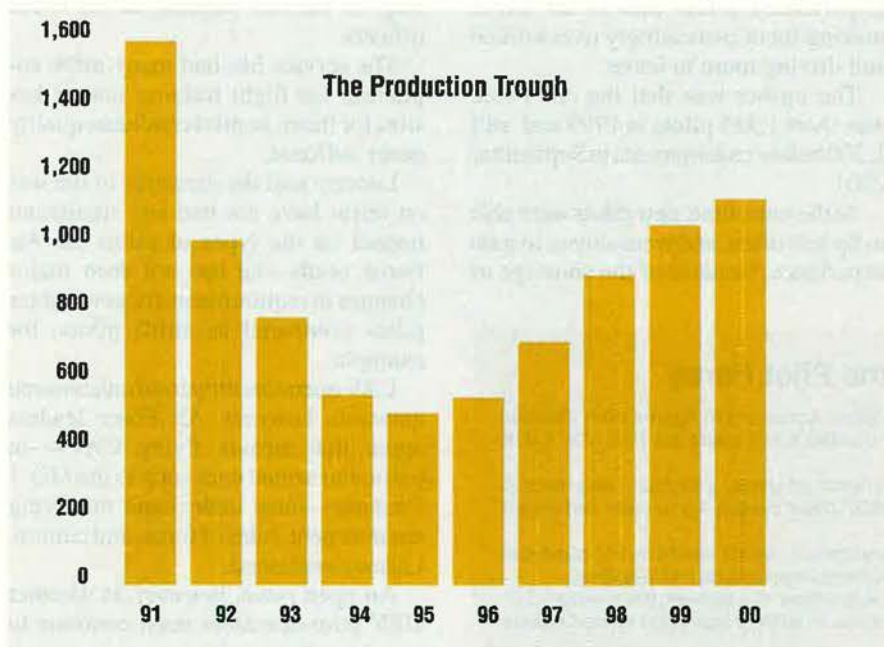
"I think that as the AEF concept has matured in the Air Force, it has helped to spread the work load across the Air Force to include the rated community," Dunn said. "Retention in all the rated fields is up, and has been for several years, even though our opstempo remains high."

Pilot retention has varied widely over recent years. Retention for pilots and navigators is measured by how many entering their sixth year of service will complete their 11th year of service. This figure is referred to as the cumulative continuation rate (CCR). In the mid-1990s, the Air Force counted on a healthy 75 to 80 percent rate. In the late 1990s and early 2000s, the rate slipped to less than 50 percent.

With the terrorist attacks of 9/11 and the war on terrorism, the heavy loss rates quickly and dramatically turned around. Pilot retention now is consistently back to approximately 70 percent. Officials credit the turnaround to patriotism, improved deployment levels, and better financial re-enlistment rewards.

#### The Airline Factor

One threat to Air Force pilot retention that is always looming is commercial airline hiring. Civilian



*When the Cold War ended, USAF sharply cut pilot production. Since then, production has returned to a steady state of about 1,000 per year, but the shortages caused by the small-class years in the mid-1990s will affect the force for a long time.*



airlines offer an attractive alternative to continued military service. Over the years, the commercial carriers have taken most of their new pilots directly from the military services.

The primary lure is high pay. Despite recent belt tightening, some airlines still offer attractive salaries and benefits. Labor Department figures show that in May 2004, the median annual earnings of airline pilots, copilots, and flight engineers was \$129,250.

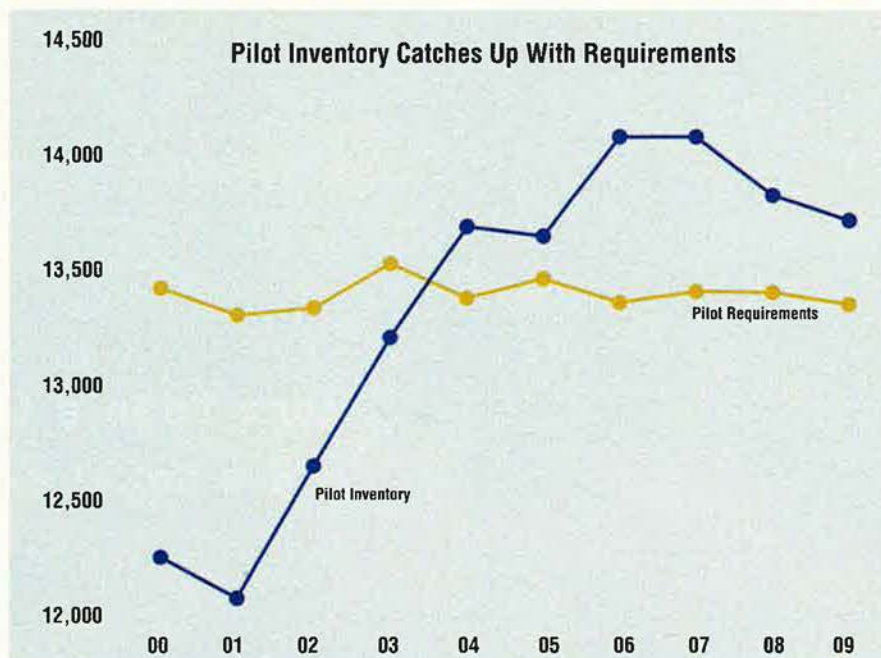
The airlines were also short of experienced pilots. In February 2001, *Airline Pilot* magazine said, "Not since the 1960s have so many 'Help Wanted' ads run in aviation magazines."

Then came the Sept. 11, 2001 terror attacks against the World Trade Center's twin towers and the Pentagon. Overnight, the hiring situation changed. The airlines experienced a significant drop in business. Carriers curtailed hiring and furloughed many of their experienced pilots. (See "Grim Days for the Airlines," February 2003, p. 76.)

During this period, the Air Force felt some easing of the "pull" on pilots to leave the service for airline jobs.

More recently, the airlines have shown signs of recovery. Having scaled back their operations, reduced the costs of providing in-flight meals and other amenities, and limited pilot salaries and benefits, they are in a better position to weather tough economic times. Some have recalled their furloughed pilots and expanded services to pre-9/11 levels.

If the commercial carriers are in better financial shape, they now are facing a



After years of shortfalls in the number of rated fliers needed to fill positions, USAF in mid-2003 gained the pilots to fill its cockpits.

pilot shortage problem similar to that of the Air Force. Many of the pilots they hired during the Vietnam era now are nearing mandatory retirement age and must be replaced.

Dunn said the Air Force again is watching the airline hiring situation closely for its potential impact on pilot retention. Airlines prefer those who have seasoned on the job, piled up flying hours, and gained experience—the very same pilots the Air Force is most interested in keeping.

Pilots choose to stay in the Air Force for basic reasons. "I go back to personnel surveys and I don't see anything that

suggests other than patriotism, quality of life—those types of things—as the reason pilots are staying," Dunn said. "It has never been my experience that that concern about money has been a problem."

For those pilots who choose to get out, the Air Force work load and optempo are cited as the primary reasons. A secondary reason appears to be frequency of moves. Dunn conceded that the stresses of Air Force life and the dangers of combat can be reduced only to a certain level, and that a certain percentage of pilots always will leave short of retirement. A natural attrition is expected and actually necessary. There always will be less of a need for senior commanders than for junior pilots.

Officials have previously said, however, that for the smallest of the mid-1990s pilot production classes, the Air Force would be happy with 100 percent retention rates.

"The bottom line is that they are here as an all-volunteer force," Dunn said, and airmen choose "to serve their country in time of war. I'm convinced that is why most stay." ■

*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, "The 'Doctor' Is In," appeared in the March issue.*



First Lt. Scot Zicarelli and Capt. Sang Kim lift off from Manas AB, Kyrgyzstan, in a C-17 loaded with cargo destined for Afghanistan. C-17 pilots in training must now perform 25 high fidelity simulator sorties and four actual flying missions.





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## Re-Made in China



*The American Volunteer Group in the China-Burma-India Theater was at the very end of a supply chain that stretched halfway around the world. Early supply problems continued when the AVF was absorbed by US Army Air Forces' Fourteenth Air Force in July 1942. This aircraft factory somewhere in China was modified to rebuild Curtiss P-40s for the AVF and help the group overcome some of its logistics problems. Pictured here is the plant's fuselage assembly area. The P-40*

*Warhawks needed all of their ruggedness and durability to survive austere conditions in the theater.*





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– **Chief Master Sergeant of the Air Force Gerald R. Murray**

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– **Chief Master Sergeant Jackson A. Winsett, Command Chief for Air Force Reserve Command**

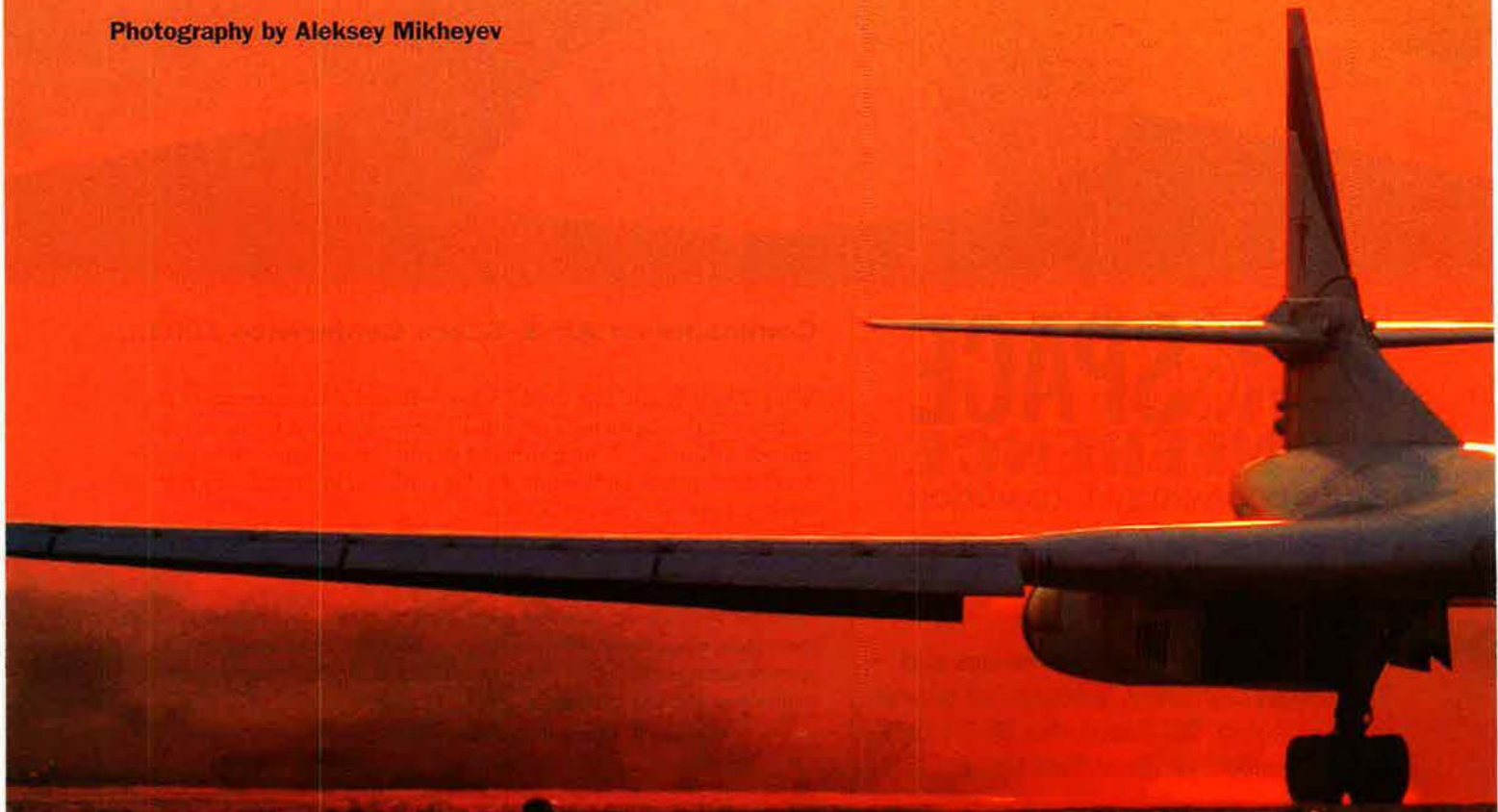
"Last year, more than 1,600 participants heard experts on air and space power present at 34 different conference addresses, workshops and forums, including a Four-Star Forum and Command Chief Master Sergeants Forum. Join us in 2006 for another first-class professional development experience!"



# New Dawn for Russia

Since the late 1990s, Moscow has conducted a slow but systematic restoration of its fleet of long-range Bears and Blackjacks.

Photography by Aleksey Mikheyev



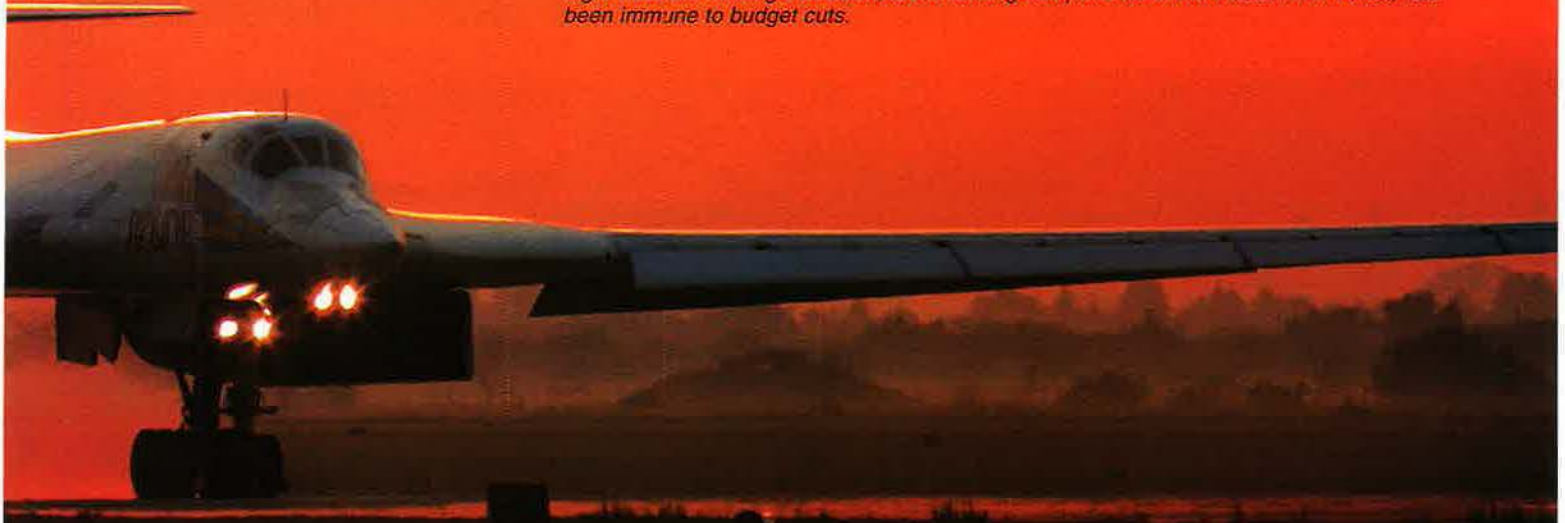
*Above, the crew of a Tu-160 Blackjack bomber finishes off a night training mission with an early morning landing at Engels Air Base. Such training has become more frequent and sophisticated in recent years. Engels is a prime bomber site on the east bank of the Volga River near the southern Russian city of Saratov, 450 miles southeast of Moscow.*



# n Bombers



*A Russian Air Force Tu-95MS Bear-H bomber starts its engines at the beginning of a night mission. Strategic aviation, alone among components of the Russian Air Force, has been immune to budget cuts.*





**T**he Soviet Union in its last days fielded 105 advanced bombers—19 Tu-160 Blackjacks and 86 Tu-95MS Bear-Hs. When the USSR disintegrated, three nations wound up with them—Ukraine with all the Blackjacks and 24 Bears, Kazakhstan with 40 Tu-95s, and Russia with the rest of the Bears. Moscow re-acquired some bombers and began to rebuild its bomber fleet. At right, technicians service a Bear-H. Below, 13 refurbished Bear-Hs grace the flight line at Engels, one of Russia's two major bomber bases. Parked in the background: a Tu-160 Blackjack.



Photos by Aleksey Mikhayev/ForabFiles.com



Above, six Blackjacks on the line. By tradition, Blackjacks bear names of famous pilots or "heroes of the Soviet Union," while Bears carry names of Russian cities. The first two Blackjacks shown here are named for revered pilots—Valeriy Chkalov (foreground) and Aleksey Plokhov. At right, airmen tow a Blackjack to a new position. Though in use since 1987, the Tu-160 did not officially achieve operational status until December 2005.







Photos by Aleksey Mikhayev/FoxbatFiles.com

The Tu-160 plant in the city of Kazan uses old parts to create new bombers, but production proceeds at a glacial pace. New Blackjacks rolled out in 1995, 1999, and 2005. There are enough parts to produce two more. Above, a Tu-160 ground crew fuels Pavel Taran, named for a Soviet hero. At right, a Tu-134UBL trainer, based on a civil airliner, takes off. This trainer is heavily used by Blackjack aircrew members such as the airman below.



Russia today fields a total of 14 Blackjacks and 64 Bear-Hs in four heavy bomber air regiments. The 121st regiment has only Blackjacks. The 79th, 182nd, and 184th regiments have only Bear-Hs. There are two big Russian bomber bases—Engels in the west and Ukrainka in the east, near China. As the host of the 121st and 184th regiments, Engels possesses both types of bombers, whereas Ukrainka has only Bear-Hs.

Below, the Pavel Taran takes off on a training flight. The Blackjack is the largest combat aircraft today, with a length of 177 feet, span of 182 feet, and maximum takeoff weight of more than 606,000 pounds. The big bomber can fly at speeds exceeding Mach 2, with a maximum range of more than 7,000 miles.





A commercial satellite snapped these images of Engels, with its large concentration of bombers. Inset at right: A closeup shot of the base's main parking area shows a single Tu-160 Blackjack and Bear-Hs on the Tu-95MS flight line. All 14 operational Blackjacks can be found in this background shot of the entire base.

*Inset below: A base museum has an outdoor display of aircraft of the Cold War era. Upper row, bottom to top, are an L-29 trainer, L-39 trainer, Tu-134UBL trainer, Tu-134USHS, An-12 transport, and An-24T transport. Lower row, bottom to top, are a 3MS-2 Bison, Tu-95K-22 Bear-G (with Kh-20 missile at left), and four versions of the Tu-22 Blinder. At the bottom far left corner are (l-r), an An-2 and an An-24.*

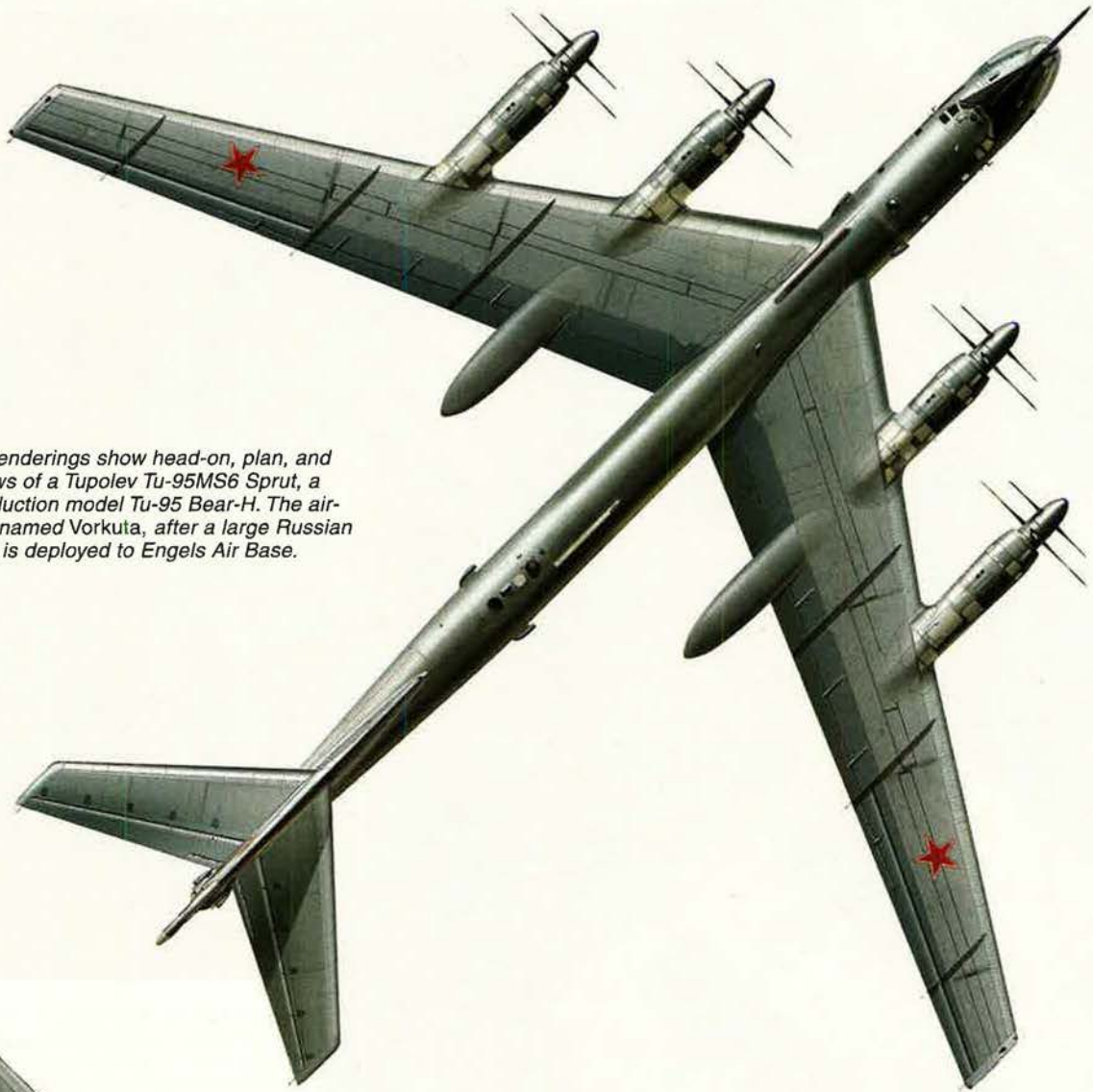






*Inset at left: Six Blackjacks in their brilliant white paint jobs sit parked in a holding area. (A seventh is just outside this field of view.) This summer, Engels will receive one additional Blackjack from the test community, making 15.*





Artist's renderings show head-on, plan, and side views of a Tupolev Tu-95MS6 Sprut, a late production model Tu-95 Bear-H. The airplane is named Vorkuta, after a large Russian city, and is deployed to Engels Air Base.





The Tu-95 Bear, whose first flight came in 1952, long has been a pillar of Russian bomber aviation. At right, an Engels museum display of a Tu-95K-22 missile carrier, developed in the mid-1970s to carry then-new Kh-22 missiles.

Russia's heavy bombers have traditionally been dedicated to the nuclear mission. The bombers now are receiving new long-range, non-nuclear Kh-555 missiles, gliding standoff weapons, and other types of armament. In the future, they will be armed with long-range conventional and nuclear cruise missiles.



Photos by Aleksey Mikhayev/FoxbatFiles.com



Above, a Bear-H returns at daybreak from a training flight. At left, another Bear-H taxis at Engels. Below, A Tu-95MS touches down. The Russians now are carrying out major midlife upgrades to both types of heavy bombers. Navigation, communication, and self-defense systems are being replaced. These overhauls and upgrades will keep the big aircraft in service until at least 2030. ■

The author, Piotr Butowski, is a noted authority on Soviet/Russian military aircraft. He resides in Gdansk, Poland.





In the period 1962-82, the influence of bomber generals declined and that of the fighter generals rose.

# A Changing of the Guard

By Maj. Gen. R. Mike Worden

**W**orld War II was a dramatic formative experience for a supremely confident group of airmen who were then, or would go on to become, general officers. It permanently colored their views on airpower, producing a deep faith in strategic bombing. The effect on the Air Force was far-reaching and long-lasting.

For these so-called “bomber generals,” the war was the seedbed of an absolutist belief in strategic airpower as decisive in warfare. These airmen, led by Gen. Curtis E. LeMay, believed in the supremacy of manned bombers

and utility of atomic weapons. The intense postwar struggle for service independence and the advance of Soviet military power only reinforced this view.

Strategic Air Command’s single-minded focus on the nuclear mission—and the rigid discipline and centralized control required by that mission—hampered the dominant bomber generals’ adjustment to a growing Soviet threat and a war in Vietnam.

The power and influence of these bomber generals grew steadily and

peaked in the early 1960s. They held well more than half of the Air Force’s four-star positions. Fighter generals lagged behind. Generalists—those in neither the bomber nor fighter track—were even further back.

That situation would change radically over the next two decades. Indeed, the story of the Air Force in the period 1962-82 is a story of a slow decline of the power of the bomber generals and the rise of the fighter generals to pre-eminence.

The bomber group’s control of key leadership positions in the postwar years alienated non-SAC elements and led to dogmatic doctrine affecting the whole Air Force. The Air Staff was filled with absolutists who zealously pursued high-tech strategic capabilities.

Training and technical demands of nuclear and conventional war diverged. The SAC-dominated Air Force focused so much on its key strategic challenges—the growing nuclear target list, the missile threat, alerts, and dispersals—that it had little time for thinking about conventional war.

As a result, conventional capabilities of tactical forces atrophied. So did their budgets. Munitions stocks fell too low to truly support training for conventional war, and tactical forces were divided geographically and functionally.

## Impervious to Change

By the late 1950s, USAF seemed impervious to change. LeMay himself,



During the 1962 Cuban Missile Crisis, Gen. Curtis LeMay (fourth from left), meets with President Kennedy. Accompanying the Chief of Staff (and former Strategic Air Command boss) were (l-r) Col. Ralph Steakley, Lt. Col. Joe O’Grady, and Maj. Richard Heyser.



as vice chief of staff, launched a 1959 study of the Air Force's perceived conservatism. It found that the Air Force had "defensive, status quo, reactionary positions on most issues" and could identify no "policy or strategic goals ... that the Air Force is publicly fighting for, other than 'more of the same.'"

The proliferation of nuclear weaponry, deliverable by strategic bombers, gave air advocates what they saw as an arsenal of decisiveness. The Single Integrated Operational Plan (SIOP), first developed by the SAC-dominated Joint Strategic Targeting Planning Staff in 1960, provided a script for an all-out nuclear offensive against the Soviet Union.

By the dawn of the 1960s, the most senior officers of the World War II generation were consistently choosing methods of the past over new ideas. They preferred manned bombers to ICBMs, so bombers remained at the top of USAF's procurement list.

The Air Force sought faster, higher-flying, longer-ranged air vehicles with better communication systems. The KC-135 tanker was developed to extend the range of the B-52 and other bombers. The U-2 was followed by the swift and high-flying SR-71. Ground and airborne command posts, early warning radars, high frequency radios, computerization, and communications and reconnaissance satellites pushed the Air Force toward global responsiveness.

Even as the bomber-dominated Air Force was becoming set in its ways, however, a new era was about to arrive. The Kennedy Administration came to power in January 1961, and, in weeks, its officials were deeply enmeshed in the remaking of US national defense strategy and policy.

The new President respected LeMay's popularity within the Air Force, and so he selected him to succeed Gen. Thomas D. White as Chief of Staff in 1961. Problems, however, were soon in coming.

Secretary of Defense Robert S. McNamara demanded the subordination of service interests to national goals, of military judgment to quantitative analysis, and of military chiefs to him and his civilian deputies. He pursued change at a pace that left the services dumbfounded.

### **Kennedy's Dismay**

The Air Force's honeymoon with the new Administration was short.

## The SAC-dominated Air Force focused so much on its key strategic challenges that it had little time for thinking about conventional war.

Kennedy regarded LeMay's advice as narrow and unoriginal. The President was dismayed by USAF's bureaucratic tendencies, and he was not impressed with Air Force policies, either.

Kennedy's people found the bomber-centric Air Force to be striving stolidly for strategic nuclear supremacy and promoting a doctrine generally suited only for all-out war if deterrence failed. Kennedy, however, wanted options.

When McNamara questioned the senior bomber generals with flurries of statistics and abstract analyses, they responded belligerently. The airmen viewed McNamara's civilians, justifiably, as overconfident, arrogant young theorists lacking experience.

At that time, Strategic Air Command was engaged in a major shift to a strategy of counterforce, which emphasized the use of accurate bombers and ICBMs to threaten Soviet military targets, as opposed to using inaccurate Navy submarine-borne missiles to threaten Soviet cities. The bomber generals insisted upon clear-cut military supremacy of the kind seen in World War II.

Their confidence grew with every advance in the size and lethality of SAC's forces. Indeed, a 1961 Air Force study argued that SAC's strategic might had obviated any need for what it called "expensive 'balanced forces' and 'combined operations.'" This attitude hindered development of conventional capabilities.

Relations between the bomber and fighter communities, already poor, grew worse. Nonbomber generals lost key posts. One case in point was LeMay's replacement of Gen. Frank F. Everest, a fighter general who commanded TAC, with a SAC bomber man, Gen. Walter C. Sweeney Jr.

Sweeney began to "professionalize"

TAC in SAC's image. He imposed SAC's centralized management control system, which quantified, measured, and evaluated every element of TAC's supply, maintenance, and operational system. He put command posts in each wing. Lt. Gen. Gabriel P. Disosway, TAC's recently appointed vice commander and a fighter man, argued with Sweeney and was replaced by bomber Lt. Gen. Charles B. Westover.

LeMay brought on as his vice chief Gen. Frederic H. Smith Jr.—the only fighter general on the Air Staff. Soon, though, the two clashed over whether to reduce SAC personnel, and Smith was replaced.

Many expressed a desire for "invisible airpower" within the Air Force, but that was an illusion. SAC and TAC never were further apart than in the reign of the bomber general.

McNamara visited SAC in February 1961 for a briefing, and the Pentagon chief was dismayed by the SIOP's inflexibility and reliance on overwhelming attack. McNamara sought rational control of nuclear operations. He also had raised the subject of seeking a stable, equalized nuclear balance. This was anathema to the Air Force, which responded with a study objecting to the very idea of strategic parity because it erased the possibility of victory and could, in the generals' view, damage US resolve to "win."

The air absolutists sought bigger, faster, farther-reaching aircraft. The plan for replacing the B-52 emerged as the pivotal topic. In the 1950s, the Air Force had proposed acquiring the Mach 3 B-70 high-altitude strategic bomber. The speed and range of the Valkyrie would make it nearly invulnerable to interception by another aircraft. However, it was clear that it still would be vulnerable to missiles. The



Soviet Union in 1960 demonstrated its ability to shoot down such high-flying US aircraft when they downed a U-2 piloted by Francis Gary Powers. The SAM threat, as well as concerns about drop accuracies, induced President Dwight D. Eisenhower in 1960 to make major cuts in the B-70 program.

### B-70 Above All

Nevertheless, USAF thought it might convince the new Administration of the merit of proceeding with the B-70. The Air Force was concerned about placing too much faith in what it saw as the "unproven" capabilities of the bomber's rival—the ICBM. When LeMay took over as Chief of Staff in the summer of 1961, his top procurement priority was the B-70, while production of new ICBMs was well down on his list.

The new Administration took a decidedly different view. McNamara declared that USAF had enough bombers to last until 1967 and that the US should spend bomber modernization funds on ICBMs, which could be operationally ready much sooner.

Seeing McNamara's opposition, Col. David C. Jones and Col. Russell E. Dougherty—both of whom would rise to four-star status as, respectively, Chief of Staff and SAC Commander—approached LeMay and recommended pursuing a high-speed, low-altitude bomber. LeMay sent them to brief Gen. Thomas S. Power, SAC commander, but he was hostile to the idea and kicked the colonels off the base.

Lawmakers respected the voice of military experience and agreed that bombers should remain part of the strategic force—if nothing else, as a hedge against catastrophic failure of ICBMs. Primarily because of the cost of the B-70, however, Congress did not approve immediate post-B-52 production.

Another factor contributing to the clash between bomber generals and McNamara was the degree of importance he and Kennedy attributed to conventional warfare.

In early 1961, some USAF officials openly acknowledged to the new Secretary that the Air Force was unprepared for "limited war" with conventional weapons. TAC's weakened condition showed in the mobilization for the Berlin crisis of 1961 (as it did one year later in the Cuban Missile Crisis). After Berlin, McNamara sought

and received approval to expand TAC from 16 wings to 21 wings and later to 25 wings. He also elevated airlift procurement in priority.

LeMay was worried. In viewing the Fiscal 1963 budget, then in preparation, he complained about the trend: "I think that your strategic forces should come first. ... You cannot fight a limited war except under the umbrella of strategic superiority."

At about this time, the Air Force unveiled its own concept of limited conventional war. It argued that conventional war was not "separate ... from general war." Nor, it said, should the strategies and force structures be differentiated. "Success in limited war is contingent upon maintaining a superior general war capability," it stated.

In the Cuban crisis of October 1962, LeMay called for massive air strikes on the island, as well as invasion. Kennedy settled for a negotiated withdrawal of the Soviet missiles, but the outcome only strengthened the faith of the bomber generals. "I am convinced," LeMay said, "that superior US strategic power, coupled with the obvious will and ability to apply this power, was the major factor that forced the Soviets to back down."

### The Turning Point

For all that, the Air Force, by the close of 1962, was starting to feel the ground shift under its feet. It found itself without a successor to its front-

line bomber, the B-52; late in the year, Kennedy had canceled the B-70. (See "The Ride of the Valkyrie," June, p. 76.) In October, the first Minuteman ICBM site went operational, intensifying doubts about the need for bombers. During the Cuban crisis, the President had rejected the advice of the foremost bomber general, LeMay.

This, clearly, was the turning point in the influence of bomber generals on the Air Force and national defense. SAC was stronger than ever, but there were signs that its future was not bright. A mounting Soviet threat compelled SAC to disperse its assets. The air was filled with talk about arms limitations and acceptance of superpower nuclear parity. Equally important, the US was headed toward conventional war in Southeast Asia.

These factors all raised problems for the ideology of the strategic airpower absolutists.

Despite heavy Air Force opposition, the Limited Test Ban Treaty was proclaimed in October 1963. This, to bomber generals, was a bewildering step, given that they still were striving for superiority. Such superiority required high technologies and advanced air weapons to stay ahead of Soviet forces. USAF had been pursuing these for 15 years. Now, however, McNamara was arguing that "sheer multiplication of a nation's destructive nuclear capability does not necessarily produce a net increase in its security."

In this context, McNamara put forth



Succeeding LeMay in 1965 was Gen. John McConnell, shown with Air Chief Marshal Boonchoo Chandrueksha, Royal Thai Air Force. McConnell began his career as a fighter pilot but served in important SAC positions. He wanted to protect SAC even while preparing more for conventional war.



two new ideas for strategic forces: damage limitation and assured destruction. The US would strive to limit damage from nuclear attack by preempting follow-on Soviet launches, and it would strive to deter attack by threatening a city-busting second strike. The Defense Secretary, in effect, dropped support for the long-held goal of strategic superiority. He did not think it was possible to “prevail” in nuclear war.

The Vietnam War generated more disputes. In early 1964, LeMay opined that, if the US wanted to have an impact on events in Southeast Asia, it should “stop swatting flies” and “go for the manure pile”—that is, attack North Vietnam. He compiled a list of 94 major strategic targets in that country.

It is an indicator of the shift in US strategic thinking that the Commander in Chief, President Lyndon B. Johnson, gave this proposal no serious consideration. Absolutist faith in the power of massive and relentless strategic bombing of enemy objectives was passing out of fashion.

#### **At Cross Purposes**

The principles that created SAC’s greatness were now bringing about its decline. SAC’s mission required the utmost in centralized command and control, which stifled innovation, risk taking, and creativity. SAC would not allow its personnel to transfer to theater commands along the Soviet periphery, where many isolated bombers sat on alert. The consequence was that deployed units spent more time than necessary away from families at desolate locations and got no credit for remote tours.

SAC generally kept its people within the command for an entire career. LeMay and Power often did not let their top people go to graduate school or Air Force professional schools. LeMay argued that, if an officer wanted to learn about airpower, SAC was the best place to be. This produced a growing disparity in education between SAC and non-SAC personnel.

In the fighter community, 90 percent of junior-level generals had worked with other services, allies, or US agencies before reaching four-star rank. The obverse was true for bomber generals; 70 percent lacked experience outside the Air Force.

The most senior members of the Air Force’s World War II cohort retired en

More and more money went to “general purpose forces” in the Army and Navy. By 1965, Air Force leaders believed they would be hard-pressed to maintain strategic superiority and also fight a major conventional war.

masse in the mid-1960s. Power left in December 1964. LeMay departed in February 1965. However, many of their strongly held beliefs—most prominently, their faith in the efficacy of strategic bombing—would endure a while longer.

LeMay was succeeded by Gen. John P. McConnell, the vice chief of staff who started his career as a fighter pilot but had spent many years in important SAC positions, even becoming vice commander. He was representative of a more junior group of World War II veterans now moving into positions of leadership.

As squadron and group leaders in World War II, the new leaders generally were true believers in strategic airpower. The more junior World War II generals took charge of an Air Force that faced twin challenges of the Soviet nuclear arms buildup and the prospect of major US combat in Southeast Asia. This cohort took a more pragmatic, less ideological approach.

At this time, the US found itself devoting more and more money to “general purpose forces” in the Army and Navy, with less expended on the Air Force. By 1965, Air Force leaders believed they would be hard-pressed to maintain strategic superiority and also fight a major conventional war.

USAF found it difficult to adjust to the challenge in Vietnam because doctrine remained tied to strategic nuclear warfare. With limited budgets and a doctrine and a force built for strategic warfare, the service was understandably reluctant to get deeply involved in Vietnam.

The irony is that the Air Force would spend more time fighting in Southeast Asia, and spend more money there, than any of the other services. More than

2,700 airmen would lose their lives. The Air Force would deploy more than one-third of its inventory to Southeast Asia and lose 2,257 aircraft. Airmen in Southeast Asia would fly more than twice the combat missions and drop twice the tonnage of bombs as did the airmen of World War II.

As vice chief during LeMay’s last six months, McConnell witnessed a steady erosion of Air Force influence over defense policy. His goal was to broaden the Air Force view of its mission to include conventional war in Vietnam, but without harming SAC.

#### **Vietnam on the Front Burner**

The Vietnam crisis flared in McConnell’s first week as Chief of Staff. On Feb. 7, 1965, Viet Cong sappers struck American forces at Pleiku AB, South Vietnam, and the US responded with reprisal air strikes, code-named Flaming Dart I. Three days later, the enemy struck US billets at Qui Nhon, prompting Flaming Dart II.

The Joint Chiefs of Staff recommended an 11-week bombing plan to destroy the 94 targets on LeMay’s list. McConnell wanted an even more intense 28-day campaign. As was true of LeMay, McConnell was anxious to demonstrate the uses of airpower against the most worthy target, the war-making capacity of North Vietnam, and by inference, North Vietnam’s will to fight. McConnell pressed hard for the US to use its airpower, but Johnson held it tightly in check.

McConnell had inherited a bomber-dominated senior USAF leadership, with a long-subordinated fighter-general minority. He almost immediately took action to inject more fighter generals into key leadership positions. Disosway went to TAC. The widely



respected Gen. Bruce K. Holloway, a fighter pilot, took the US Air Forces in Europe post vacated by Disosway. McConnell promoted Maj. Gen. Joseph H. Moore, fighter pilot, to three stars and made him the in-country Air Force commander in South Vietnam.

McConnell moved generals with tactical experience into important leadership positions. Lt. Gen. William W. Momyer, head of Air Training Command, assisted Disosway at TAC in increasing and improving pilot training to meet the demands of Vietnam. In 1966, Momyer received his fourth star and was given command of 7th Air Force in South Vietnam. In late 1966, fighter Gen. James Ferguson became commander of Air Force Systems Command, the key position for development of new weapons. Also in 1966, McConnell brought Holloway from USAFE to be his vice chief.

In 1967, he named a bomber officer, Gen. John D. Ryan, to command Pacific Air Forces. In 1968, the Chief gave command of SAC to Holloway. When Ryan came back to serve as vice chief, bomber Gen. Joseph J. Nazzaro went to PACAF. Meanwhile, in 1968, Momyer succeeded Disosway as commander of TAC. Momyer's vacated office at 7th Air Force was filled by a generalist, Gen. George S. Brown. Thus, though bomber generals still held many top Air Force positions and some gained experience in conventional war, more and more battle-seasoned fighter generals were moving up.

Meanwhile, the Pentagon's abandonment of the quest for strategic superiority and growing reliance on

**Gen. George Brown, a World War II bomber pilot who went on to command fighter and airlift units, was named in 1973 as Air Force Chief of Staff (and, later, as JCS Chairman). A "generalist," he was the first USAF officer since 1948 to become Chief without having served as SAC commander, vice chief of staff, or both.**



ICBMs freed up some bomber crews to fly missions in Southeast Asia. This marked a major change. Only a few years earlier, SAC resisted committing bombers or tankers to the war. But Ryan, as SAC commander, was more willing to deploy B-52s to Southeast Asia, sending 30 of the big bombers to Guam in early 1965. He also accelerated the adaption of some B-52s to conventional capability.

### **SAC Holds the Reins**

However, SAC's centralization and control of the Pacific bombers rivaled that of Twentieth Air Force in World War II. The Army-dominated Military Assistance Command Vietnam (MACV) staff nominated targets, but mission planning was done at SAC

offices. In March 1965, SAC set up a liaison office at MACV; it reported to SAC, not the theater air commander.

The Vietnam experience slowly wore down SAC's traditional insularity. In fact, SAC Lt. Gen. Alvan C. Gillem II saw the Vietnam War as a great escape from the routine at SAC. He set up a popular rotation in theater, by which deployed SAC personnel could "see the world." He called the B-52 missions "the greatest training we ever had," in that they revitalized the bomber fleet, helped boost morale, and enhanced aircrew opportunities.

In 1968, fighter general Holloway became the commander of SAC. Increasingly willing to liberate aircrews and aircraft from the routine of alert, Holloway sent aircrews to Southeast Asia on TDY orders for up to 180 days. Many aircrews began to average 14 months of TDY every three years, without credit for a remote tour or a campaign ribbon.

Given the insatiable demand for pilots in Vietnam, USAF decided to spread the burden more widely, and new opportunities arose for SAC pilots to serve in fighter units. Many SAC pilots found it difficult to make the transition to the aggressive, individualistic ethos that valued flying skills in a dynamic arena, however, as fighter culture favored decentralization and delegation.

Until December 1972, the fighter community conducted most of the dangerous bombing in North Vietnam. SAC performed well in the relatively benign environment of other missions, but it was understandably reluctant to

**Gen. Charles Gabriel, Chief of Staff 1982-86, was the first "pure" fighter pilot chosen for USAF's top uniformed position. He flew fighters in combat in Korea and Southeast Asia. Gabriel's elevation to Chief has been followed by another seven consecutive selections of fighter generals.**





risk its great bombers against the SAM and MiG threat up North.

The Vietnam War rejuvenated the tactical air forces. Budget pre-eminence shifted to general purpose forces, and, by 1965, the planned size of the fighter force had doubled. Types of cockpits available signaled a shift in the composition of USAF's flying population. More fighters meant more fighter pilots, who gained additional opportunities for command and thus promotion.

The ratio of fighter generals to bomber generals began to shift. In 1963, the two groups had roughly equal numbers. Within a few years, though, fighter generals would outnumber bomber generals by nearly two-to-one.

In August 1965, when Disosway returned from Europe to take command of TAC, replacing Sweeney, he sought to build and support a force to fight the air war in Vietnam. He immediately dismantled the SAC-style centralized maintenance and management control systems. He stocked his staff with fighter pilots. For the rest of the war, TAC worked with 7th Air Force, developing precision guided munitions, radar warning systems, fixed-wing gunships, F-4E Gatling guns, and electronic warfare aircraft.

TAC's decentralization helped to alleviate pressure on depots and delays in maintenance, supply, and reporting during the Vietnam buildup. "Maximum base self-sufficiency" programs led to greater capability and responsibility for the fighter wings, which required fighter pilots to get involved in administrative duties around the base.

### The Fighter Advantage

As in previous wars, fighter pilots flew close air support missions in direct contact and coordination with ground forces. They flew far more missions over North Vietnam than did bomber officers. This broad combat experience gave fighter pilots a key advantage in a military that prized combat and command experience.

Tactical forces began to make serious inroads into USAF's R&D budget, long dominated by SAC programs. Formal proposals came forward for an all-purpose tactical fighter, an air superiority fighter, a close air support attack fighter, and an airborne lookdown radar system. These would all evolve into fielded systems. Meanwhile, cost and other factors blunted

The Vietnam War rejuvenated the tactical air forces. More fighters meant more fighter pilots, who gained additional opportunities for command and thus promotion.

SAC's ability to procure a new heavy bomber.

McConnell was committed to an Advanced Manned Strategic Aircraft (which became the B-1), but it was snarled in delays and almost no one in the Pentagon supported production. Faced with retirement of older B-52s and with no real prospect of producing the AMSA, McConnell accepted DOD's proposal to modify F-111 fighters into FB-111 medium bombers.

For bomber devotees, political developments brought more troubling news. The Nixon Administration accepted, in principle, US-Soviet parity in strategic might. It endorsed "strategic sufficiency" and officially abandoned the faded concept of "superiority." It opened negotiations with Moscow to achieve roughly equivalent force capabilities.

Six months after Nixon took office, a frustrated McConnell retired and was replaced by Ryan who, as a young officer, took part in the great bomber campaigns of World War II and spent the bulk of his career in SAC. Ryan personified SAC virtues: he was a terse, no-nonsense, aggressive field commander who eschewed the Washington social and political whirl. Ryan, however, recognized the value of his "broadening" PACAF experience and expanded the program begun by McConnell.

In March 1972, North Vietnam invaded the South, and the US responded with an airpower assault code-named Linebacker. The burden of planning and executing Linebacker fell on Gen. John W. Vogt, the new commander of 7th Air Force. Vogt, a World War II ace and former fighter squadron commander, had had an unusually broad career. Vogt and his staff performed with extraordi-

nary skill. They waged the air campaign systematically and with a flexibility of execution. Their most important weapon was the PGM, which gave Air Force fighters an estimated 100-fold increase in accuracy and effectiveness.

### New Era Dawns

Unshackled from previous restrictions, Vogt used the new precision of his fighter force as the key in a broad interdiction campaign that destroyed many strategic targets, while keeping civilian casualties to a minimum.

It marked the beginning of a new era in the Air Force.

In December 1972, SAC was ordered to execute a strategic bombing campaign—Linebacker II—using all available assets. Adm. Thomas H. Moorer, the Chairman of the JCS, told the commander of SAC, fighter general John C. Meyer, that he wanted the people of Hanoi to hear the bombs around the clock, but he cautioned Meyer to minimize damage to the civilian populace.

The field commander assigned to execute this campaign was the 8th Air Force commander, fighter Lt. Gen. Gerald W. Johnson. However, SAC headquarters selected targets, decided the weight of effort, and prescribed all routing north of the 20th parallel.

SAC advanced a simple plan. The B-52s would fly at night, formed into three-bomber streams of approximately 48 bombers, spaced four-to-five hours apart. The bombers would remain in formation for electronic countermeasure integrity and were to take no evasive maneuvers. The first night, Dec. 18, three B-52s were shot down. There were no losses on night two, so night three's routing, altitudes, and times mirrored those of the first two nights.





*In the early 1960s, the fighter force caught and then surpassed the strategic force in budget allocations. While the gap narrowed in the early 1970s, it then widened again as tactical fighters assumed more and more importance.*

The enemy downed six B-52s and damaged several others in night three, forcing Meyer to revamp Linebacker. However, the ruthless intensity of the modified bomber offensive revived beliefs in the decisiveness of strategic bombing.

Following the US exit from Vietnam in 1973, SAC and the tactical air forces shifted course. SAC resumed, without further distraction, its race to stay up with Soviet strategic advances. The tactical air forces targeted the Soviet Union's overwhelming conventional forces. The SAC-TAC dialogue of the Vietnam War period receded.

Nixon's Secretary of Defense, Melvin R. Laird, encouraged Ryan and the then-Secretary of the Air Force, Robert C. Seamans Jr., to bring younger officers into the ranks of four-star generals. In 1973, Seamans broke a longtime service tradition and selected Gen. George S. Brown, a man who had neither commanded SAC nor served as vice chief of staff, to be Air Force Chief of Staff.

Brown was a bomber squadron commander in World War II but also commanded a fighter wing and served as operations director for 5th Air Force in the Korean War and commanded 7th Air Force in Vietnam. The selection of this generalist broke SAC's grip on the top USAF post. Less than a year later, new Secretary of Defense James R. Schlesinger selected Brown as JCS Chairman. USAF's new Chief was Jones, an officer who had commanded bombers in the Korean War, but also had

commanded a fighter wing and served as vice commander of 7th Air Force in the Vietnam War.

The fighter forces refocused heavily on NATO Europe, where modernizing Soviet forces posed a huge conventional challenge. The ferocity of the 1973 Yom Kippur War, moreover, seemed to USAF's fighter generals to prefigure battles in the future. In late 1973, Gen. Robert J. Dixon, a fighter general and TAC commander, received orders to enhance the Air Force's working relationship with the Army, in the person of Gen. William E. Dupuy, the Army's commander of Training and Doctrine Command. Spurred by the need to fight outnumbered on the NATO front, the services in 1975 formed a formal joint air-land forces application team. TAC's embrace of decentralized operations during Vietnam expanded in the 1970s. Under the commands of Momyer (1968-73), Dixon (1973-78), and Gen. Wilbur L. Creech (1978-84), TAC pushed responsibility and authority far down the hierarchy.

### Abandoning the B-1

When Jimmy Carter entered the White House in 1977, TAC was procur-

ing new fighters and Military Airlift Command new transports, but SAC still was having difficulty buying the B-1. The Air Force could not control B-1 costs to the satisfaction of Congress. Jones, unwilling to pay what he saw as a high political price for the B-1, directed the Air Force not to lobby for it. Carter, anxious to redeem a campaign pledge, canceled the bomber. Jones, in a fateful move, decided not to attempt a pro-bomber end run in Congress.

By 1982, the sublimation of Air Force tactical airpower to Army requirements was codified in "AirLand Battle" doctrine in FM 100-5. The Air Force fighter community had finally moved to the top rung of the service's missions, but at a price. The fighter community had neglected its ability to take the initiative in combat.

Doctrinal, procurement, and budgetary shifts toward tactical airpower showed in the form of more wings, aircraft, and pilots. In 1975, bomber generals on the Air Staff outnumbered fighter generals two-to-one, and in the major command positions by four-to-three. By 1982, there were no bomber generals in key Air Staff positions, and fighter generals outnumbered bomber generals in major commands by five-to-four.

The selection of a Korean War veteran, Gen. Charles A. Gabriel, as Chief of Staff in 1982 capped the ascendancy of the fighter community within the Air Force. He has been followed in the Chief's chair by seven fighter generals in a row.

This is a cautionary tale. If unformed Air Force leaders of the 1950s and 1960s suffered from a narrow focus on strategic bombing, the newly dominant fighter generals of the 1980s displayed similar tunnel vision regarding AirLand Battle concepts. They oriented the Air Force heavily toward support of Army forces against Warsaw Pact formations.

The dangers of parochialism were obvious to some, and the provincial realm of the AirLand Battle finally was thrown off a decade later, in Operation Desert Storm. ■

*Maj. Gen. R. Mike Worden has been selected for assignment as director of air and space operations for Air Combat Command. He has been an F-4 and F-16 pilot, and commanded the 406th Air Expeditionary Wing at the beginning of Operation Iraqi Freedom. This article is adapted from his 1998 book, Rise of the Fighter Generals: The Problem of Air Force Leadership 1945-1982, Air University Press, available at <http://aupress.maxwell.af.mil/Books/Worden/Worden.pdf>. This is his first article for Air Force Magazine.*



By John T. Correll, Contributing Editor

## Soul of the Force

"The soul of an Air Force is range and payload and access. What an Air Force does for a country and what an Air Force does for the joint team is the ability to locate or find targets anywhere on the surface of the earth, to be able to range those activities or those targets, to be able to surveil them or strike them, to be able to command and control those activities, and to be able to assess the effect."—*Air Force Chief of Staff Gen. T. Michael Moseley, speech at strategy and transformation seminar in Washington, April 4.*

## Thunderbird Debut

"The aircraft doesn't know that I'm a woman."—*Maj. Nicole Malachowski, first woman pilot for the USAF Thunderbirds aerial demonstration team, USA Weekend, April 28.*

## Undergunned

"We have the same weapons in 2006 that were grossly inadequate in Vietnam. Meanwhile, we've been through three generations of fighter planes. There are many, many weapons on the market right now better than the M-16. Why don't we just buy the dang things?"—*Retired Army Maj. Gen. Robert H. Scales Jr., former commandant of the Army War College, on the M-16 rifle, in use since 1964, National Journal, May 6.*

## Fight to Win

"I'm not saying I want to fight no wars, or even saying I want to win more wars—I'm just saying that I want us to win the wars that we fight. And I'm worried that Iraq was never one of them because it was started by people who knew everything except how to win—who have yet to learn that in war we absolutely have to win."—*Columnist Henry Allen, Washington Post, May 6.*

## Who Are Those Guys?

"Who are the retired generals rallying to Secretary Rumsfeld? ... They fall into three categories: Pathetic, aged retirees who desperately want to believe they're still Washington players and who will do anything for a scrap of official attention; Air Force generals—while the Army and

Marines fought, Rumsfeld funded all of the Air Force's toys and can count on its support; and, most troublingly, serving officers selected by the SECDEF for the military's highest offices."—*Ralph Peters, retired Army officer, newspaper columnist, and constant critic of the Air Force, New York Post, April 19.*

## Let's Make a Deal

"The United States should offer Iran a bargain: No Iranian nukes, no American-induced regime change. The United States would need to commit to not attacking Iran unless Iran attacked the United States or a US ally. In addition, the Bush Administration would not seek to undermine the regime by arming or financing opposition groups (whose legitimacy in Iran is undercut by American support anyway)."—*Amitai Etzioni, George Washington University professor, USA Today column, May 3.*

## Target Israel

"Make it clear that if anything happens to Iran, if anyone attacks it—it doesn't matter who it is or how it is attacked—that Iran's answer will be to hit Israel; the only target will be Israel."—*Retired Gen. Mirza Aslam Beg, former Chief of Staff of the Pakistani Army, to Iranian officials who asked for his advice on how to prevent attack on their nuclear facilities, Associated Press, May 13.*

## Hotspot

"There's nothing about this that I would [call] peacekeeping. We're in a fight."—*Army Lt. Gen. Peter W. Chiarelli, commander of US troops in Iraq, Los Angeles Times, April 30.*

## Be Ready

"If the call comes tomorrow for you to deploy to Baghdad, Kandahar, or wherever our Air Force needs you, are you ready to go? You must be. We are the nation's warriors."—*CMSAF Gerald R. Murray, "The Enlisted Perspective" message to airmen, May 1.*

## The Media Experience

"People who stick their head up in

the media get bitten, they get hurt. And they say something that comes out a different way, or if someone prints it a way that's different than they actually said it, and then somebody says to them, 'What in the world, why did you say that?' Then they have to say, 'Well, I didn't say that, they printed it wrong.' Then you're on the defense. So people become conditioned and learn that it's not necessarily career enhancing to stick your head up and be the one out in front on the spear point talking, because you've got a whole array of people who are just waiting to pop you every time you open your mouth."—*Secretary of Defense Donald H. Rumsfeld, radio interview, May 9.*

## Ebbing Away

"Our political leaders have come to view air dominance as a birthright rather than a capability requiring constant renewal. ... If you want to believe that America will still have the airpower to bear any burden and defeat any enemy 10 years from today, then don't look too closely, because our biggest advantage in future warfare is ebbing away fast."—*Loren Thompson, Lexington Institute, speech at the Heritage Foundation, April 28.*

## Insufficient Force

"I made the case to General Franks and Secretary Rumsfeld before the President that I was not sure we had enough troops. ... The President's military advisors felt that the size of the force was adequate; they may still feel that years later. Some of us don't. I don't. In my perspective, I would have preferred more troops, but you know, this conflict is not over."—*Former Secretary of State Colin Powell, Associated Press, April 30.*

## Comrade Wolf

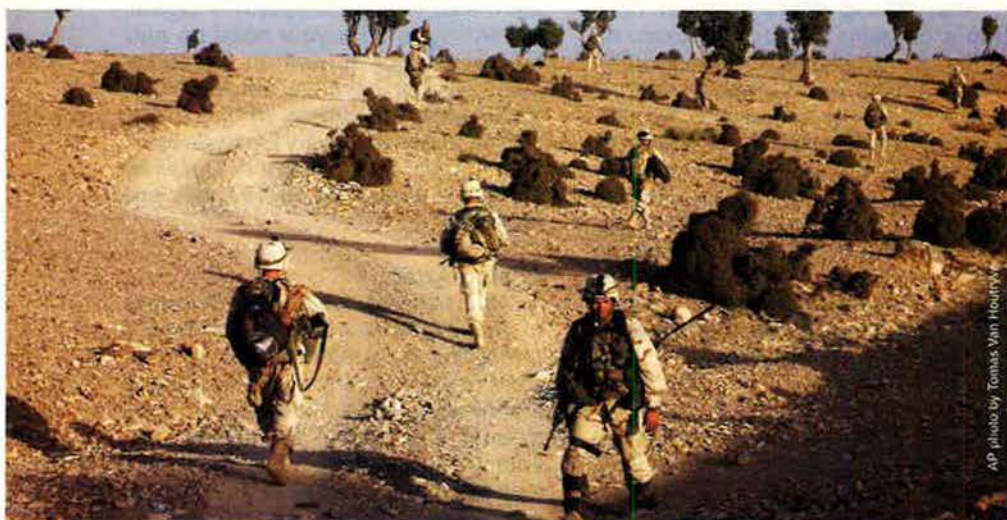
"Comrade wolf knows whom to eat, he eats without listening, and he's clearly not going to listen to anyone."—*Russian President Vladimir Putin, accusing the United States of pursuing its own interests in the world with "no restrictions whatsoever," Associated Press, May 10.*



Classic lines on the battlefield are going the way of the horse cavalry and sailing ships.

# Airpower in a Fragmented Battlespace

By Rebecca Grant



locations. In this construct, no true “rear” areas remain.

This is all on the mind of Gen. T. Michael Moseley, Air Force Chief of Staff. In April, he spoke of the challenges ahead for airmen “if in fact the Army is moving down the road [toward] a nonlinear battlefield.”

The issue for the Air Force is, “how do you then support land component activities in nonlinear, distributed battlespace?” Moseley asked. “How do you provide the signals from sensors? How do you provide resupply at near real time, etc.? That’s a different challenge than Cold War, central region Europe—or even Korea.”

**T**he Bomb Control Line, the Forward Line of Own Troops, the Fire Support Coordination Line—in one form or another, lines on the battlefield have challenged airmen since World War I.

Those lines were essential to controlling maneuver and fires for massed armies in the field. Airmen, for their part, needed to know where the friendly and enemy forces were, where they should attack, and where to hold back.

While airmen often chafed at the limits, learning how to mesh airpower and the ground force’s lines of operations became the highest test of combined arms warfare.

Now, classic lines on the battlefield may be going the way of the horse cavalry.

The emerging concept is one of a nonlinear, noncontiguous battlespace—where forces operate at many dispersed



At top, soldiers of the US Army’s 82nd Airborne Division patrol a village in Afghanistan. Above, World War I German shock troops prepare to advance from a trench on the Western Front.



Air Force intelligence providers, mobility forces, and expeditionary combat support units such as base-builders all will have to respond.

Commanders showed long ago that they could score big in nonlinear operations. Gen. Douglas MacArthur and Gen. George C. Kenney did so in the Southwest Pacific during World War II. More recently, nonlinear operations have been the norm in Afghanistan and Iraq.

But the change on the horizon constitutes a major shift in joint warfare. A decade from now, joint operations may be centered on nonlinear warfare.

That's the Army's hunch, as seen in one of its most influential doctrine publications. In 2005, the Army issued a new Training and Doctrine Command plan, "The Army in Joint Operations: The Army's Future Force Capstone Concept 2015-2024."

This land-force document said: "Simultaneous, distributed operations within a noncontiguous battlefield framework enable the Future Force to act throughout the enemy's dispositions."

In short, the future Army will be attacking at multiple points, in semi-autonomous units of action, deep in enemy territory.

Operations in the nonlinear battlefield could force a top-to-bottom re-examination of expeditionary operations and how the Army—and Air Force—will conduct and support those operations. Many specific changes are already in the works.

To grasp how big the changes may be, it's important to look back at the pre-existing template.

### Standard Linearity

Commanders since the era of Napoleon have marked out notional lines on the battlefield. The picture of lines defining the combat area was familiar enough. The last 200 years of operational art for land warfare relied on lines. Concepts of the "front line" and being "behind enemy lines" were clearly understood.

Complex maneuver warfare had to pull together various units and keep a hold on logistic support—whether that was horses, railways, trucks, or air transport.

Despite dramatic shifts in doctrine and tactics, the key assumption was that major units would be in close contact with each other and with their supply lines. Operations of massed armies had to be connected.

Boundary lines also kept one unit in contact—contiguous—with another



USAF photo by S/A, Christina D. Ponte

*In the nonlinear battlespace, the Army depends on Air Force aircraft such as this A-10 to provide an umbrella of protection. The A-10 has been providing close air support to ground forces during Operation Enduring Freedom and Operation Iraqi Freedom.*

beside it or behind it. Bold moves stretched these lines to the limit—in both operations and logistics.

Flank attacks went after an opponent's force, set in its own lines, to achieve decisive engagement at a key point.

At Chancellorsville, Gen. Robert E. Lee, facing a massed front line, divided his forces, with Stonewall Jackson sweeping around to encircle Maj. Gen. Joseph Hooker's Union troops.

At Gettysburg, Col. Joshua L. Chamberlain's 20th Maine Infantry Regiment, on Little Round Top, barely—but successfully—beat back repeated Confederate attacks and kept the South from breaking through the far end of the Union line.

This was the linear, contiguous battlespace.

Operating areas assigned to divisions, corps, and field armies were drawn precisely to ensure mutual support and to prevent "friendly fire" attacks. Commanders had to keep within their operating areas and keep abreast of the formations beside or behind theirs.

Even the boldest moves in maneuver warfare were predicated on contiguous lines.

The flank attack, collapsing the salient, even Guderian's panzer thrusts or Patton's rapidly advancing columns—all were linked on at least one side to a supporting formation, and all used forward and rear control lines.

Fitting in airpower required a sophisticated process. Those same lines became the basis from which generations of airmen made the most of airpower. The air support operations center, for example, was created to help master the application of airpower within the linear battlespace. Errors—like placing a fire support coordination line

too far forward—could exact a high cost in American deaths.

Through the Cold War, the linear battlespace dominated major campaign planning. Doctrine and warfighting concepts were built around the concept of keeping rear areas safe to support the maneuver force.

Multiple corps stood shoulder to shoulder. This was the case in Operation Desert Storm, for example, where six coalition corps worked along a broad front that stretched from western Saudi Arabia to Kuwait's Persian Gulf coast.

### Classic Exceptions

Compare the map of Desert Storm with that of Afghanistan in the fall of 2001. Army Gen. Tommy R. Franks, theater commander for the campaign, presided over simultaneous operations in which special operations forces, Afghan allies, and airpower hit Taliban and al Qaeda strong points all across the country.

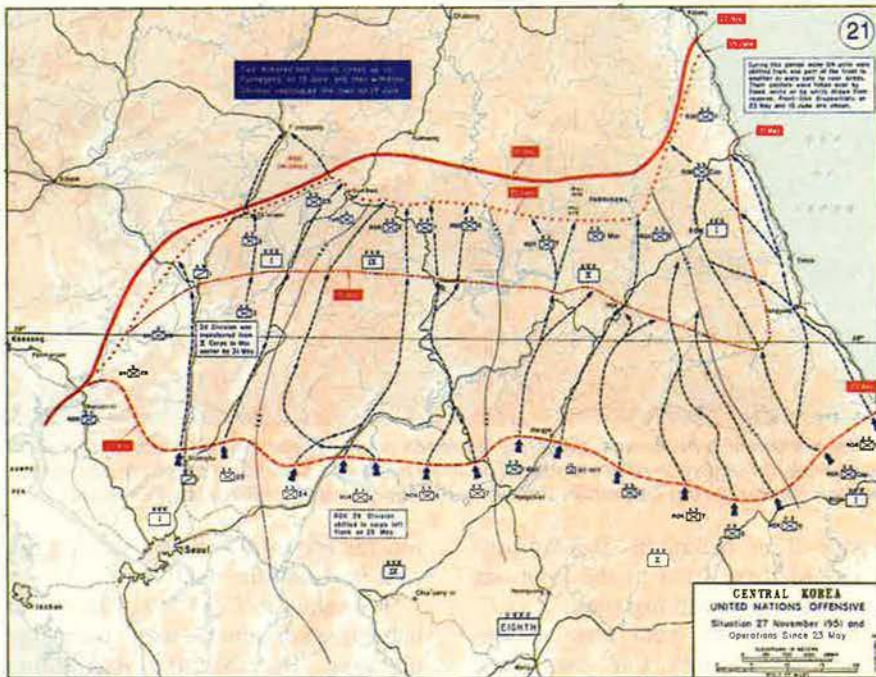
This was a demonstration of nonlinear battle. Gone were the traditional lines and controls, the broad opposing fronts, and the rear areas. Close, deep, and rear area operations took place all over Afghanistan.

Throughout history, there have been spectacular examples of nonlinear airpower operations such as this, but they were exceptions.

In the Pacific Theater in World War II, Kenney became efficient at landing his troops and supplies under fire and, in September 1943, pulled off the first large-scale airdrop at Nadzab, during the battle for Lae, New Guinea. (See "The Genius of George Kenney," April 2002, p. 66.)

Subsequently Kenney and MacArthur mastered the techniques of leapfrogging battle lines by forward insertion and





airdrop. The “island hopping” strategy in the Pacific allowed Allied forces to move forward without seizing every Japanese outpost along the way.

Examples such as these, whether from World War II or Afghanistan, had several factors in common. They were joint operations, with strong unity of command, which took place in relative geographic isolation. Close air support and interdiction were key missions.

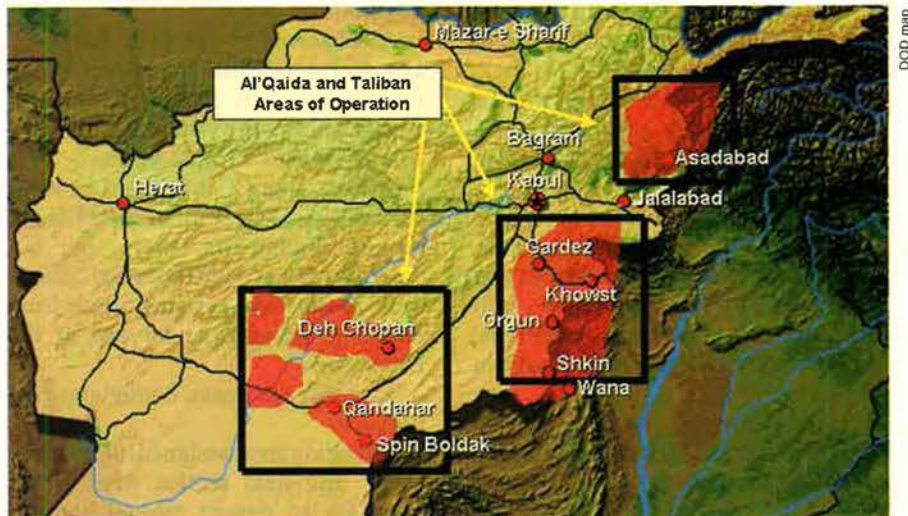
It took the many advances in air dominance, communications connectivity, and precision firepower during the 1990s to make it feasible for ground units to roam more widely without being in close contact with supporting units at all times.

Army transformation brought nonlinear concepts center stage.

The Army’s drive to make land component forces lighter, leaner, and relevant for 21st century conflicts seeks a force optimized for direct attack on the enemy at multiple points. (See “Army Change, Air Force Change,” March, p. 36.)

The concept of a wide-open battlefield began to make appearances in Army doctrine in the 1990s. Several factors pushed it along, including a concern about lethality. In a war zone filled with enemy short-range missiles or weapons of mass destruction, conducting operations—and surviving—required more dispersion.

Better communication connections was another factor that cracked the old linear model. Army units moving in war zones would need a more autonomous



Top, a “snapshot” of Korean War battle fronts on Nov. 27, 1951, complete with notional lines of battle. Above, map shows “discontinuous” areas of operations during Operation Enduring Freedom in Afghanistan.

information flow and the ability to act on it faster.

Access also was an issue. Few expected to have the safe ports and airfields used by the coalition in Operation Desert Storm. Instead, units might have to fight to get in.

At the same time, the Army was laying plans to field lighter and faster-deploying forces such as today’s Stryker brigade combat teams.

Together, these changes brought nonlinear battle and simultaneous operations to the forefront of military strategy.

Wargames showed the advantages. In the late 1990s, Army wargames began to simulate rapid operational maneuver, vertical envelopment, and austere de-

ployments. Simulations compared two-dimensional maneuver to warfare using the deep insertion of land forces.

In one futuristic simulation, “vertical envelopment” with notional heavy-lift vertical takeoff and landing platforms reduced casualties from 8,200 to 4,000. Backed by wargame results like this, the concepts became very appealing and were fed into Army long-range planning and concept documents.

## War in Afghanistan

The theoretical underpinnings of nonlinear battlespace were firmly in place by the time Afghanistan came along.

All the access challenges pictured in the late 1990s came to fruition in Operation Enduring Freedom. The problem was that Afghanistan was a land-locked, mountainous country far from traditional US allies and operating locations. Yet the United States and its partners swiftly

toppled the Taliban and took control of the country.

Airmen on the ground, elite special operations forces, and the blanket of coalition airpower in the sky made it happen. Afghanistan in the fall of 2001 became the clearest example of nonlinear battle in decades. (See “Enduring Freedom,” February 2002, p. 32.)

“That was an innovation in war,” said Brig. Gen. Michael A. Longoria, head of the Joint Air-Ground Combat Division at Langley AFB, Va. “I’m not sure people expected that.”

To Longoria, Afghanistan represented a nonlinear conflict because “we didn’t draw our traditional lines on the ground”



to separate Army battlespace from Air Force battlespace.

A blend of linear and nonlinear operations may now be the norm. Operation Iraqi Freedom was "very different," Longoria continued. "Iraq was a somewhat traditional linear, contiguous battlefield where each [of the commanders] understood where their lines of authority and their battlespace were."

After the major, traditional combat operations came to an end in Iraq, the operation became more and more distributed, with small (and often changing) pockets of friendly and hostile forces throughout the country.

As the Air Force already recognizes, securing bases is a job for airmen. No longer will bases be tucked well behind contiguous front lines. The air component needs the independence to be able to establish and run operations at a forward base on its own when necessary.

If nonlinearity is now the norm, expeditionary combat support will be affected directly by its demands. Air Force combat support now centers on giving the combatant commander modular backup tailored to specific needs. According to doctrine, "Highly skilled personnel and complex equipment can be transported in specific quantities, to specific localities, in minimum response timing."

Keeping that up in the nonlinear battlespace will depend on clearer projections as to how air and land component forces will operate. Today, there are five different, scaleable base-building modules: open the air base, command and control, establish the base, generate the mission, and operate the air base.

To get a base up and running, arrival of a small assessment team is followed quickly by tiered deployment of essential personnel, from special tactics and contracting to weather. Exercises such as Eagle Flag rehearse deployment of the first three modules in detail and fine-tune concepts with lessons learned from such deployments.

That same combat support is needed in the nonlinear battlespace environment—but the factors that determine how to scale each module could change. For example, opening an air base under hostile conditions could call for more security forces or RED HORSE construction forces. Combat weathermen or air traffic control personnel may arrive earlier.

The demands of air base opening get steady attention from Air Mobility Command, security forces, and others

involved in the process. The nonlinear battlespace could up the ante.

Even in a more permissive environment, what it takes to operate an air base could vary widely depending on how long the base is needed. And there's a big difference between what's needed to insert and sustain SOF teams and what is needed for a Stryker brigade combat team.

Airmen need to be ready for all contingencies, but they also will need more guidance on the size, composition, and requirements of forces operating in the nonlinear battlespace.

Getting clarification on joint requirements and the role of airpower in the nonlinear battlespace is essential. This is not about roles and missions; it's about operational art. In recent years, the air and land components have built up a high level of trust, but such a major shift in the battlespace template demands even more mutual confidence.

Moseley said the Army and Air Force have "spent lots of time sitting down" and discussing the new issues, including air defense and base defense.

"The central prerequisite of a commitment to interdependence is a broad understanding of the differing strengths and limitations of each service's capabilities," Army Lt. Gen. John M. Curran, director of the Army Capabilities Integration Center, has said. This includes "clear agreement about how those capabilities will be committed in any given operational setting and absolute mutual trust that, once committed, they will be employed as agreed."

It is likely that the nonlinear battlespace will become the dominant template for joint operations. That will require securing air bases and evaluating lift requirements to sustain joint operations at multiple, dispersed locations.

The challenge ahead is conducting nonlinear battle on a very large scale. Taking a closer look at TRADOC's concepts shows how the land component's future operations may fan out.

From shaping and entry to sustainment, the Army envisions combat in 2015-24 centering on operations in numerous areas. Multiple entry points will overcome access challenges. The Army expects to conduct "operational

maneuver from strategic distances"—such as from the United States to a conflict area—with advanced joint lift platforms. Planners hope to reduce or eliminate dependence on fixed ports and bases.

Then come the core concepts. In theater, the Army plans to maneuver across a wide area to generate dislocating and disintegrating effects through ground, air, and sea operations. Decisive maneuver will achieve campaign objectives through simultaneous, distributed operations, controlled operational tempo, and direct attack of key enemy capabilities and centers of gravity. Stability operations will already be under way.

If the operational aspects were not daunting enough, combat support also will change. The Army's goal is continuous sustainment of committed forces in all phases of the operation with the smallest feasible deployed logistical footprint.

According to Army thinking, future operations will shed the concept of the "operational pause," the better to maintain a brisk tempo of operations.

In making this change, the Army is surrendering much of its old structure for theater war. As units of action, divisions are gone. So are the "bowling alley" lines for corps and division boundaries and the associated air control measures. Giving each brigade up to 200 unmanned aerial vehicles will alter airspace control requirements.

At the same time, the Army's units of action will not be operating shoulder to shoulder and forming a shield for rear-area air bases.

In short, expeditionary warfare is entering a dramatically altered state. Nonlinear war zones increase joint force reliance on the air component and create unique stresses. All of this forces the air component to take a new look at its job. Success in future joint warfare will depend on figuring out—in advance—more details on what the components need in order to operate.

This depends on sticking to some timeless principles, whether the battlespace is linear or not. "You have to get control of the airspace first," Moseley said. "Job one is still air dominance. Once you get that, then all things are possible." ■

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# A Tale

Photos by Ted Carlsson

*After a long review process, the Reagan Administration in 1981 decided there was room in the inventory for both the B-1B (shown here) and the B-2A stealth bomber (at right). The two bombers formed the centerpiece of the strategic arms buildup of the 1980s.*



Many thought Ronald Reagan had to choose between the B-1 and the B-2. They were wrong.

# of Two Bombers

By Walter J. Boyne

**W**hen President Reagan took office in early 1981, he came face to face with a huge bomber question. Should he resurrect the long-dormant B-1 to quickly boost US striking power? Or should he bypass the B-1 and invest those billions of dollars in the revolutionary but far more distant B-2 stealth bomber?

It was a major dilemma, and Reagan solved it in a classic, Reaganesque way: He bought both.

That was 25 years ago. Reagan's decision, announced in October 1981, marked the close of a difficult, five-year ordeal in which USAF's bomber modernization campaign was twisted into knots, untwisted, and twisted again.

In a sense, the tale of the two bombers actually began two decades before, in 1962. The Air Force in that year took delivery of its last B-52 bomber with no follow-up in sight. The service wanted the high-flying B-70, but the Kennedy Administration doubted its utility and canceled it.

As a result, USAF in the same year initiated research and development

work on a new low-altitude penetrating bomber, which was given the name Advanced Manned Strategic Aircraft, or AMSA. North American Rockwell won the contract.

Things moved slowly, however. Secretary of Defense Robert S. McNamara, no friend of the manned penetrating bomber, decided in 1966 to delay AMSA development, declaring that "a new advanced strategic aircraft does not at this time appear justified."

The Nixon Administration revived AMSA, however, and the support continued after the August 1974 resignation of Nixon and his replacement by Gerald R. Ford. On Oct. 26, 1974, Rockwell rolled out the first aircraft—now known as the B-1A bomber—and staged a first flight two months later. Testing continued into 1975, with a go-no go production decision set for November 1976.

## Bull's Eye on the B-1

It was in 1976—a tumultuous Presidential election year—that the B-1 bomber program began to unravel.

As the production decision ap-

proached, the B-1's critics stepped up their complaints, turning it into a subject of major political debate. The Brookings Institution in early 1976, for instance, published *Modernizing the Strategic Bomber Force: Why and How*. In this critical book, authors Alton H. Quanbeck and Archie L. Wood urged the Pentagon to scrap the penetrating B-1 and save up to \$15 billion by building a different kind of standoff, cruise-missile-firing bomber.

Fierce opposition to B-1 production began to take hold in Washington. Congress wavered on making a funding decision, pending a postelection Pentagon decision.

Meanwhile, the year's three most significant Presidential contenders stoked the controversy, each in his own way.

■ Reagan, challenging a sitting President for the Republican nomination, contended that the Ford Administration had allowed the United States to fall behind the Soviet Union in military power, particularly in strategic airpower.

■ Ford, at least in part in response to the Reagan's stark criticisms, pledged







**Carter, shown here with (l-r) Secretary of Defense Harold Brown, Presidential advisor Zbigniew Brzezinski, and Gen. Alexander Haig, in 1979 gave up his plans to eliminate many weapons systems, but it was too late. His re-election bid failed miserably.**

to build the B-1 in numbers sufficient "to keep our strategic airpower strong in the future."

■ Democrat Jimmy Carter, reflecting his own party's post-Vietnam skepticism of military power, called the B-1 a wasteful and unnecessary program and pledged to oppose it, if elected.

When Carter prevailed in the November election, the B-1 program entered a new and highly uncertain phase. Ford, departing the White House in January 1977, left behind a long-range budget that funded 244 B-1s, but Ford's over-the-shoulder bomber plan was of little consequence. Everyone knew the actual decision would be made by the new Administration.

The more-dovish Carter took office holding strong views about national defense generally and manned penetrating bombers in particular. The new President believed the Soviet Union would react favorably if Washington unilaterally constrained its strategic nuclear programs.

Carter, through Secretary of Defense Harold Brown, instructed the Pentagon to study the feasibility of reducing the US strategic arsenal. The Democrat believed he should slow down or stop programs that could derail superpower arms control.

Most observers expected Carter to cancel the B-1, and, on June 30, 1977, he did just that. In explanation, he called it "a very expensive weapon" that was "not now necessary" because of the "recent evolution of the cruise missile." Despite the efforts of Air Force and some Congressional leaders, Carter

could not be made to see the value of a penetrating bomber.

Carter's moves were controversial because, at the time, the Soviet Union maintained a force of about 200 land divisions, some 1,500 ICBMs, 900 submarine-launched missiles, 700 long-range bombers, 8,400 tactical aircraft, and a rugged, integrated air defense system. Conservative critics were outraged.

#### **Brown's Marker**

Brown, Carter's Pentagon chief (and a former Secretary of the Air Force), made it clear that the US had to maintain "essential equivalence" with Soviet strategic power. He insisted, as had all of his predecessors, that American strategic

capability could not be seen as inferior to that of the Soviet Union.

At least in part because of Brown's views, Carter moved to offset the loss of the manned bomber with acquisition of a new nuclear-tipped Air Launched Cruise Missile. The Air Force had in 1974 contracted with Boeing to develop the AGM-86A. However, the Pentagon continued to flight-test the four B-1A prototypes as insurance against the day when the US might need to build them.

A handful of officials were aware of another factor in the bomber equation, one that would not be publicly known for several years to come. Carter, after his election, had been told of the Air Force's supersecret Advanced Technology Bomber project, which in time would lead to the operational B-2 stealth aircraft that would be "invisible" to radar. It was an intriguing idea, but Brown always held that the prospect of acquiring the B-2 was not a factor in Carter's cancellation of the B-1.

For the Air Force, the B-1 decision was a blow. USAF was still suffering the effects of the cancellation of the B-70. Now the second attempt to replace the B-52 had fizzled. For all that, the Air Force, led by its Chief of Staff, Gen. David C. Jones, acquiesced in Carter's decision.

Fast forward three years, to 1980.

By 1980, adverse political pressure had forced Carter to forgo many of his weapon-cancellation plans. The Georgia Democrat was being harshly criticized on foreign affairs and defense issues, the result of his numerous



**Defense Secretary Caspar Weinberger, shown here in a 1983 Rose Garden ceremony with Reagan, was pro-defense but fiscally prudent. He studied the two bomber programs for months before making a recommendation to the President.**

AP photo by Ed Reinko



U-turns and gaffes in dealing with national security.

Carter's military reputation hit bottom as a result of the April 24, 1980 Desert One fiasco—the failed US military attempt to rescue US hostages held in Iran. The ill-conceived and micromanaged mission ended in disaster in the Iranian desert, where eight US troops died in a fiery refueling mishap. (See "Desert One," January 1999, p. 60.)

Desert One intensified the campaign rhetoric. Soon, the President and his advisors began to worry that his prospects for re-election might well hinge on success in dispelling his widespread image of weakness.

Carter was squared off against the staunchly pro-defense Reagan, and the political climate had changed in dramatic ways in the Carter years. Americans in 1976 may have been caught in the post-Vietnam doldrums. In 1980, they were alarmed by negative international developments. These included the fall of the Shah of Iran, the hostage crisis, the Soviet invasion of Afghanistan, the establishment of a Marxist regime in Nicaragua, a buildup of large, superaccurate Soviet ICBMs, and other signs of a deteriorating US position.

Now, the shadow of the 1977 B-1 cancellation hung over Carter, serving as a symbol of Presidential weakness. Moreover, the bomber issue flared when a hawkish Congress appropriated funding for a new long-range combat aircraft. The legislation directed DOD to select a candidate aircraft by March 15, 1981 and to have it in production by 1987.

### The Stealth Furor

It was at this delicate moment—in late summer of 1980—that word about the previously deep-black stealth aircraft project was leaked to the press. Snippets of information dribbled into print on several different occasions but without overly dramatic effect.

What came next, however, threw gasoline on the fire.

On Aug. 22, 1980, top DOD officials went public with explicit confirmation of the stealth aircraft program. Brown, at a nationally televised Pentagon briefing, maintained, "Stealth technology enables the United States to build manned and unmanned aircraft that cannot be successfully intercepted with existing air defense systems." He went on to say, "We have demonstrated to our satisfaction that the technology works."



Carter specifically targeted the B-1A, shown here at the North American Rockwell factory, as a symbol of wasteful weaponry. He canceled the program in 1977, but in 1981 Reagan resurrected the Lancer.

The revelations created a political uproar. First, Carter critics charged—almost certainly erroneously—that the Pentagon was handing out national security secrets simply to help Carter fend off Reagan's charges that he had allowed the nation's defenses to deteriorate. The initial leaks occurred well before Brown's news conference and seem to have originated in the White House, not the Pentagon.

Still, the Pentagon found itself under attack. The *Washington Post's* longtime defense writer, George C. Wilson, took up the cry in a Sept. 8, 1980 article, "The Risk in Politicizing the Pentagon." Wilson claimed, "Willingly or unwillingly, rightly or wrongly, Defense Secretary Harold Brown has now politicized himself and the Pentagon more than any of his predecessors. And there is considerable risk that any short-term political gains Brown has made for candidate Jimmy Carter will be far outweighed by the long-term losses, not only to President Carter but to the whole process of arriving at rational decisions in the all-important field of national security."

Brown, one of the few Carter officials to command the respect of hawks in Congress, turned aside such charges. He said that a growing number of individuals were being informed of the stealth effort and that knowledge of its existence was pertinent to Congressional debate about the future bomber fleet.

Reagan's response was harsh. At a Sept. 4 political rally in Florida, Reagan blasted Carter, claiming that Washington

leaks and comments had dealt a "grievous blow" to US security by giving Moscow "a 10-year head start" on finding a way to counter stealth. Worse, he claimed that Brown personally had "breached one of this nation's most closely held military secrets in a transparent effort to divert attention from the Administration's dismal defense record."

### "Reckless Distortions"

Brown, a world-renowned physicist, retorted, "As a scientist, I am offended by ... Reagan's cavalier attitude toward the facts. As a public official, I'm indignant at his reckless distortions." He added that there had been no disclosure of secret data that could compromise the stealth project.

The stealth revelation and political infighting had the curious effect of creating new labels for the political parties. The Democratic Party temporarily became the pro-stealth (and, by extension, anti-B-1) group, while the Republicans were seen as the pro-B-1 (and, by extension, anti-stealth) party.

When Reagan buried Carter in an electoral landslide, the bomber question entered its final phase.

Reagan and Secretary of Defense Caspar W. Weinberger came to power in January 1981 with a new defense plan. The two formulated and directed a defense buildup of considerable scope and magnitude, anticipating that the overstretched Soviet Union would have a hard time keeping pace.

To fulfill a campaign promise and establish credibility, Reagan needed to support the B-1. Yet the issue quickly



became complicated. As a result of the 1980 campaign, the B-2 had moved very much into the picture. In the same campaign, the B-1 had sustained significant political damage.

Reagan no longer could simply be for a new bomber. He had to decide which bomber to be for.

Of the two, the B-1 posed the most immediate political problems. Because it was ready for production, going forward with it would require billions of dollars in the short term. On the political front, the opposition was intense, almost fanatic.

Some had serious questions about the B-1's combat capability, given years of delay in its development. Harold Brown later put the situation this way: "In 1977, the B-1 decision was a close call; by 1981, the call wasn't close at all."

Obviously, Reagan officials disagreed with Brown's assessment, but Weinberger wouldn't rubber-stamp the B-1. He was not convinced that the Lancer was, all things considered, the superior choice.

In working through the bomber muddle, Weinberger leaned heavily on selected advisors. Interestingly, these included Brown himself. He and other B-2 advocates argued that the Soviet Union's ever-more-elaborate and effective integrated air defense system made stealth imperative, if the US wanted to maintain a force of manned, penetrating bombers.

Without stealth, some said, the Kremlin might believe it could cripple the US strategic force in a disarming first strike and then block any US retaliation by a second-strike bomber fleet.

### **B-2, or Not B-2?**

Weinberger worried that the cost of the B-1 could not be justified, given its relatively limited period of utility against Soviet air defenses. He was intrigued by the stealth bomber, but did not believe it could be produced within a reasonable period or at the price advertised by its backers.

Of the two aircraft, the stealth bomber had the strongest backing of Weinberger's scientific advisors. However, Weinberger wondered about the stringent requirements needed for successful stealth operations. The bomber not only had to evade radar but it also required a very low infrared signature and needed to carry an extraordinarily sophisticated electronic suite. The goal was an airplane able to carry out missions without fighter escort.

The Air Force leadership, though well aware of the B-1's shortcomings, weighed in on its behalf. Gen. Lew Allen Jr., the Chief of Staff, declared that the long-delayed bomber offered the US the best chance to signal America's determination to swiftly restore the strategic nuclear balance.

"The B-1," said Allen, "offers a way of doing that which is credible and early and which will be noticed by the Soviet Union in a very major way."

For six months, Weinberger reviewed bomber presentations. Finally, Reagan made a key but still partial move: He decided to restart the B-1 program. That still left a big question about the B-2, though. Would the US press ahead with it or not?

The answer was produced in the context of Reagan's deliberations on broad strategic modernization, details of which were made public in early October 1981. The comprehensive \$180 billion plan announced that the Pentagon would prepare to field not just 100 B-1Bs but also 132 stealth bombers.

In the minds of many analysts, the two-bomber program formed the centerpiece of the Reagan rearmament.

The B-1B was a significant departure from the earlier version of the aircraft. Externally similar to its predecessor, the B-model had a different operational concept to help the aircraft avoid some major penetration problems. Addition of radar absorbing material and slight design alterations produced a radar cross section 10 times smaller than that of the original B-1A.

The B-1B made its first flight in October 1984, and the first operational aircraft arrived at Dyess AFB, Tex., almost 30 years to the day after the first operational B-52 had been accepted at its first operating location. The B-1B reached operational capability on Oct. 1, 1986. The 100th and final B-1B was delivered on May 2, 1988.

It is fair to say that the B-1B was rushed into service before testing was complete, and, as a result, it evidenced more than its share of teething problems. There were frequent in-flight engine failures, fuel leaks, and failure of its electronic defensive systems. In its first six years of operation, the B-

1B suffered three crashes and seven mishaps.

The B-1B gained a reputation of being accident-prone. However, the reality is that its track record compares favorably with that of other, far less sophisticated bombers. In the first six years of B-47 operations, for example, the Air Force lost 176 of them—nine percent of the total B-47 fleet. The first six years of B-52 operations resulted in the loss of 27 aircraft, or five percent of the total B-52 fleet. The B-1B figure was three percent.

In late October 1981, Northrop was awarded a contract for six flying stealth bombers and two static test airframes. An option for a further 127 bombers was included in the contract. The B-2 was developed under strict secrecy, and the first was not rolled out for public inspection until November 1988. The bomber made its first flight on July 17, 1989.

The demise of the Soviet Union in the late 1980s and the evaporation of the Cold War brought quick and major cutbacks in B-2 orders, however. Only 21 were ever produced.

The first B-2A, *Spirit of Missouri*, arrived at Whiteman AFB, Mo., on Dec. 17, 1993—90 years to the day after the historic flight of the Wright brothers flyer at Kitty Hawk, N.C. Stealth bombers first engaged in combat on March 24, 1999 in Operation Allied Force over Serbia. The B-2 later fought in Operation Enduring Freedom and Operation Iraqi Freedom, flying record missions from the continental United States.

The B-1B has since been converted to conventional-only operations and turned in valuable service during the Afghanistan and Iraq wars, where the bomber was lauded for its ability to fly extended missions with a huge and diverse weapons load. (See "The Long Reach of the Heavy Bombers," November 2003, p. 24.)

With his two-bomber decision, Reagan brought new life to America's aerospace complex, resulting in advances in computers, software, composite materials, and precision guided munitions. These platforms and systems, along with the ageless B-52, provide the Air Force's unsurpassed long-range combat capabilities. ■

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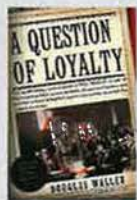
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# Books

Compiled by **Chequita Wood**, Media Research Editor

**A Question of Loyalty.** Douglas Waller. Harper Perennial, New York (800-331-3761). 439 pages. \$14.95.



**Is Anybody Listening?: A True Story About the POW/MIAs in the Vietnam War.** Barbara Birchim with Sue Clark. AuthorHouse, Bloomington, IN (800-839-8640). 476 pages. \$21.75.



**SECDEF: The Nearly Impossible Job of Secretary of Defense.** Charles A. Stevenson. Potomac Books, Dulles, VA (800-775-2518). 248 pages. \$24.95.



**B-24 Liberators of the 15th Air Force/49th Bomb Wing in World War II.** Michael D. Hill and John R. Beitling. Schiffer Publishing Ltd., Atglen, PA (610-593-1777). 158 pages. \$59.95.

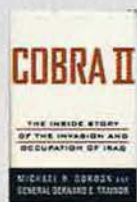


**Live Bait: WWII Memoirs of an Undefeated Fighter Ace.** Clayton Kelly Gross. InkWater Press. Order from: Clayton Kelly Gross, 2306 SE Spyglass Dr., Vancouver, WA 98683-5102. 309 pages. \$29.95.



**Sky Walking: An Astronaut's Memoir.** Tom Jones. Collins, New York (212-207-7000). 369 pages. \$26.95.

**Cobra II: The Inside Story of the Invasion and Occupation of Iraq.** Michael R. Gordon and Lt. Gen. Bernard E. Trainor, USMC (Ret.). Pantheon Books, New York (800-733-3000). 603 pages. \$27.95.



**MACV: The Joint Command in the Years of Escalation, 1962-1967.** Graham A. Cosmas. GPO, Supt. of Documents, Washington, DC (866-512-1800). 524 pages. \$50.00.



**Strike and Return: American Air Power and the Fight for Iwo Jima.** Cory Graff. Specialty Press Publishers and Wholesalers, North Branch, MN (800-895-4585). 160 pages. \$29.95.



**F-117 Nighthawk Stealth Fighter Photo Scrapbook.** Yancy D. Mailes and Tony R. Landis. Specialty Press Publishers and Wholesalers, North Branch, MN (800-895-4584). 108 pages. \$16.95.



**Marine Air: The History of the Flying Leathernecks in Words and Photos.** Robert F. Dorr. Berkley Caliber, New York (800-631-8571). 356 pages. \$24.95.

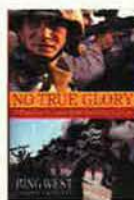


**Unknown Soldiers: The Story of the Missing of the First World War.** Neil Hanson. Alfred A. Knopf, New York (800-733-3000). 474 pages. \$28.95.

**Flying Through Midnight: A Pilot's Dramatic Story of His Secret Missions Over Laos During the Vietnam War.** John T. Halliday. Scribner, New York (800-223-2336). 416 pages. \$27.50.



**No True Glory: A Frontline Account of the Battle for Fal-lujah.** Bing West. Bantam Dell, New York (800-733-3000). 380 pages. \$25.00.



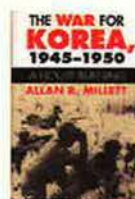
**US Armor Camouflage and Markings World War II.** Jim Mesko. Squadron/Signal Publications, Carrollton, TX (877-414-0434). 64 pages. \$14.95.



**In Hostile Skies: An American B-24 Pilot in World War II.** James M. Davis. University of North Texas Press, Denton, TX (940-565-2142). 226 pages. \$27.95.



**Remembering an Unsung Giant: The Douglas C-133 Cargomaster and Its People.** Cal Taylor. Order from: Firstfleet Publishers, Olympia, WA (360-866-9696). 420 pages. \$32.95.



**The War for Korea, 1945-1950: A House Burning.** Allan R. Millett. University Press of Kansas, Lawrence, KS (785-864-4155). 348 pages. \$39.95.





# Sinking Ships

By Maj. Lawrence J. Spinetta

Contrary to popular belief, land-based airpower played the key role in decimating Japan's World War II shipping.

**T**wo days after Pearl Harbor, Japanese land-based bombers and torpedo airplanes sank the British battleship HMS *Prince of Wales* and the battle cruiser HMS *Repulse* north of Singapore in the South China Sea.

Eight hundred and forty sailors died, but the loss of life is not what shocked the naval world. The battle marked the first time in history that capital ships were sunk by air attack while operating on the high seas.

The efficacy of airpower against naval forces had already been demonstrated at Pearl Harbor and, more than a year before that, in the British attack

on the Italian fleet at Taranto, but both of those engagements were against fleets that were sitting in port.

Naval convention was sometimes difficult to overcome. Off the Malay Peninsula on Dec. 9, 1941, Adm. Thomas S.V. Phillips, British force commander, believed so strongly in battleship superiority that he made no effort to arrange for aircover, even while under attack. He was among those killed in the sinking of *Prince of Wales* and *Repulse*.

Ironically, Phillips had once counseled a junior officer that aviation was "poppycock" and steered the officer away from the aviation profession because it would "ruin" his career.

By the end of the war, Japan was defeated, in large part, by the same maritime interdiction strategy it had helped validate. Land-based airpower helped destroy Japan's maritime capabilities, paralyze the Japanese war machine, and strangle its industries and economy.

As an island nation lacking strategic resources, Japan needed to import raw materials and energy to fuel its economy and sustain its military power. In 1937, Japan imported 82 percent of its oil via sea-lanes criss-crossing the Southwest Pacific.

Although the atomic bomb delivered the *coup de grace*, it was the war against





Photos courtesy of Gen. George Kenney, Collector/Air Force Historical Research Agency

to *Naval Strategy*, in 1942. “Discerning observers asked not so much how well the warship would fare under air attack as whether Britain’s vast shipping could be carried on in the shadow of the Luftwaffe.”

The Luftwaffe did not emphasize maritime interdiction, but, after a slow start, the Allies did. The Army Air Forces was woefully unprepared to conduct maritime interdiction missions in the first nine months of the war and initially proved almost totally inept against Japanese shipping.

It took vision to improve the AAF’s initially weak maritime performance. Fortunately for the US and its Allies, Gen. George C. Kenney, Gen. Douglas MacArthur’s top airman in the Southwest Pacific, embraced the maritime interdiction mission. (See “The Genius of George Kenney,” April 2002, p. 66.) Kenney set about improving training and pushed for tactical and technical innovations such as “skip bombing,” low altitude ingresses, and addition of forward firing machine guns.

The US Strategic Bombing Survey, performed by a team of civilian analysts and military officers commissioned by President Franklin D.

critical role as a force multiplier in the Pacific campaign. Submarines never were available in sufficient numbers to enforce a blockade of Japan on their own and, consequently, depended on land-based airpower to supplement their search patterns.

“The development of effective cooperation between the submarines and the air arm permitted the results of continual air patrol and search to be translated into effective submarine attack, where such attack was the most appropriate method to employ,” stated the strategic bombing survey. “It must be understood, however, that particularly as the sea-lanes contracted and more effective escort was supplied, the task of the submarine became hazardous and losses were considerable.”

Unlike the submarine experience, land-based airpower’s effectiveness improved as shipping lanes converged, especially when ships were funneled into natural choke points.

Aerial attacks began to exact a dreadful price on Japanese ships, even as they hugged the coasts in desperate attempts to escape the deadly effects of Allied airpower. Enemy ships became sitting ducks, and when bombers found



**At left, a B-25 with the 498th Bomb Squadron attacks a Japanese ship traveling with a merchant convoy off the coast of China in 1945.**

transportation that sealed Japan’s fate in World War II. Contrary to conventional wisdom, it was land-based airpower—not carrier-based aircraft—that proved most effective in the maritime interdiction mission.

### Divergent Approaches

Halfway across the world, Britain also was dependent on shipping to support its wartime operations.

“The old dispute about whether the airplane could or could not sink a battleship has long since been answered, but the issue was always somewhat beside the point,” observed Bernard Brodie, author of *A Layman’s Guide*

Roosevelt to investigate the effects of bombing, concluded, “The war against shipping was perhaps the most decisive single factor in the collapse of the Japanese economy and the logistic support of Japanese military and naval power.”

### The Quiet Force Multiplier

Airpower played a low profile but

concentrations of ships, the attacks were lethal.

In the March 1943 Battle of the Bismarck Sea, more than 100 Allied aircraft swarmed and destroyed an entire Japanese convoy. Japan lost some 3,500 troops. Only about 800 of the 6,900 soldiers who were being ferried to reinforce critical areas made it to their destination. The defeat there was





**An explosion rocks a merchant ship in this undated photo from the Southwest Pacific air campaign. Postwar analysis suggests an earlier, more concentrated effort against shipping—especially oil tankers—could have accelerated Japan's collapse.**

“unbelievable,” remarked a Japanese destroyer captain. “Never was there such a debacle.” (See “Victory in the Bismarck Sea,” August 1996, p. 88.)

The Battle of the Bismarck Sea foreshadowed the terrible toll that land-based bombers would exert on shipping. The Japanese high command soon announced that every soldier would be taught to swim.

Carrier-based air attacks were similarly devastating against large concentrations of merchant ships, but these strikes were sporadic and not part of a continuing program to neutralize enemy shipping lanes. The US Strategic Bombing Survey noted, “In general, the responsibilities of carrier air were presumed to lie elsewhere and to relate more directly to naval operations.”

Kenney thought his land-based aircraft were the best tools to support maritime operations, particularly amphibious landings, because carrier-based aircraft had limited fuel, range, loiter time, and payload. Additionally, aircraft carriers had to periodically discontinue flying operations in order to refuel, rearm, and replace lost or damaged aircraft.

“I consider it unwise to rely on carrier units completely,” Kenney told MacArthur. “Carrier-based aircraft do not have staying power and therefore do not have the dependability of land-based aircraft.” Most importantly, Kenney was concerned about the fact that aircraft carriers could be sunk.

### Naval Vulnerability

Kenney's concern about aircraft car-

rier vulnerability and fleet limitations proved remarkably prescient. American carriers experienced severe operating challenges during several campaigns and often were unable to protect their accompanying surface fleets.

Under increasing assault from the air, warships needed more capacity to absorb punishment became an ever-more important characteristic of wartime vessels. Shortly after the war, the Bureau of Ships applied engineering principles to estimate the number of hits required to sink each naval vessel and concluded aircraft carriers were the most vulnerable class of combat ship.

The benefits of aircraft carriers, which provide on-call airpower without a need for nearby land bases, are well-known, but the limitations of naval aviation are

less frequently discussed. Rear Adm. Daniel V. Gallery, assistant chief of naval operations, summed up an inherent design weakness of the aircraft carrier in a 1949 *Science Illustrated* article. “A big carrier is a tank farm, an ammunition dump, and an airfield all rolled up into one tight package,” Gallery wrote. “This is a highly inflammable combination.”

An aircraft carrier is a floating city concentrated into four-and-a-half acres. It represents a huge investment in terms of money, materials, skilled manpower, and time. A carrier also is a valuable target for the enemy because of its mobile combat capability. Consequently, the Japanese naval forces made the destruction of US aircraft carriers their top priority.

Those aircraft carriers that were fortunate to survive the Japanese onslaught were out of action for repairs an average of 30 percent of the time during the last year of the war. This further increased the relative importance of land-based airpower, and a series of battles illustrate the critical role played by land-based aircraft.

First, according to the (since declassified) Secret Information Bulletin No. 2, carrier forces were withdrawn during the Guadalcanal landing of Aug. 7, 1942 because of decreased carrier fighter strength, low fuel, and a large number of enemy torpedo and bombing airplanes in the vicinity. During the campaign, Guadalcanal's Henderson Field remained the key staging location for land-based aircraft, despite repeated Japanese attempts to knock it out of service.

Later, during the 1944 Battle of Leyte Gulf, Rear Adm. Jesse B. Ol-



**Kenney pushed for tactical and technical innovations, such as skip bombing, low-altitude ingress, and the addition of forward-firing machine guns.**

Photos courtesy of Gen. George Kenney Collection/Air Force Historical Research Agency



## Allied Air Attack Damage—By the Numbers

Carrier-based aircraft in World War II were responsible for sinking the greatest proportion of Japan's combat fleet, including five battleships and 10 enemy aircraft carriers. It was land-based airpower, however, that was most effective against Japanese merchant shipping.

Land-based aircraft (through direct action and mines) sunk approximately 23 percent of the total enemy merchant ship tonnage sent to the bottom of the Pacific. Carrier-based aviation accounted for approximately 16 percent.

Yet these figures underestimate the contribution of land-based aircraft to the maritime fight. Land-based airpower also destroyed large numbers of barges and small vessels—of less than 500 tons gross weight—not counted in the totals. (Sea-based aircraft destroyed relatively few small ships because they spent little time patrolling the coastal waters and harbors.)

The Army Air Forces attacks compare favorably to the efforts of the other services—the AAF devoted less effort but dropped more bombs and sank a greater number of ships than the other services.

AAF's Pacific forces flew 7,250 (1.5 percent) of their sorties to maritime interdiction and sank 265,360 tons of enemy shipping. In comparison, Navy and Marine Corps aircraft flew 25,657 (9.9 percent) of their sorties against merchant shipping and sank 102,702 total tons.

The AAF sank 2.5 times the enemy tonnage with less than a third of the sorties devoted to the mission.

The disparity in relative effectiveness is magnified when you include Twentieth Air Force's mine-laying campaign. Twentieth flew 28,826 sorties and delivered 9,875 tons of mines, which sank 287 enemy ships and damaged 323 others.

After April 1945, mines dropped by B-29s in Japanese harbors and inland waterways accounted for half of all enemy ships sunk or damaged.

This aerial mining crippled Japanese merchant shipping, denied damaged ships access to repair facilities, closed strategic waterways, and threw the administration of Japanese shipping into hopeless confusion.

dendorf cabled an urgent plea for air support to Kenney and the Thirteenth Air Force commander, among others. His cable was indicative of the problems US naval forces were still having in dealing with attacking enemy aircraft.

Oldendorf relayed, "Naval forces covering Leyte report two heavy air attacks today. One destroyer has been sunk by torpedo planes. Three additional severely damaged. If adequate fighter cover not maintained over combatant ships, their destruction is inevitable. Can you provide necessary protection?"

Finally, during the spring 1945 Okinawa campaign, US Navy ships were required to operate within range of Japanese land-based aircraft. For that campaign, the Navy had 15 carriers in service, with 919 aircraft onboard, but the flattops proved unable to protect the fleet from the Japanese.

Under the assault from Japan's land-based aircraft, the losses were severe—28 US ships sunk and 225 damaged.

A postwar analysis of the Navy's Pacific Theater experience revealed carrier airplanes averaged only one flight every other day while in a combat area. Of those sorties, at least a quarter were normally assigned to the defense of the naval task force—the burden of defending carriers severely limited

the offensive airpower provided by carriers and the sorties available for maritime interdiction.

Army Air Forces units, meanwhile, generated unmatched sortie rates and firepower. For example, in one three-day span, 167 B-29s operating from the Mariana Islands delivered 2.5 times the bomb load that 1,091 carrier aircraft did over the same days.

Aircraft carriers also must operate according to strict launch cycles and cannot remain on station indefinitely. Carriers can surge to temporarily

generate additional sorties, but must eventually stand down.

In contrast, the facilities at a land-based airfield are dispersed over an area of several square miles, are frequently open to further expansion and enlargement, are cost-effectively constructed of ordinary building materials, and are available for use 365 days of the year as they never have to return to port or refuel.

## An Unwanted Mission?

Land-based airpower would have sunk even more ships if not for interservice politics that hindered unity of effort. The Army and Navy bickered over who should control bombers engaged in sea duty.

Neither service, though, was particularly interested in a more robust use of bombers to attack Japanese shipping and, consequently, did not take full advantage of land-based airpower's maritime interdiction capabilities. Post-war analysis suggests a more concentrated effort against enemy shipping, especially oil tankers, could have accelerated Japan's decline.

Adm. Ernest J. King, the Chief of Naval Operations, primarily wanted to use bombers to supplement fleet defense, whereas Gen. Henry H. "Hap" Arnold, the Chief of Army Air Forces, was less than enthusiastic about assuming maritime duties at the expense of the strategic bombing mission.

King advocated a plan to assign control of the bombers to Navy commanders in specified sea frontiers. This would have divided operational control, which ran counter to AAF doctrine. King was suspicious of any plan that would bolster calls for air



*In a shipping lane north of Mushu Island, Papua New Guinea, a Japanese merchant ship is battered in March 1943 by US airpower. Control of Japan's shipping lanes was vital to the war effort.*

Photo courtesy of Gen. George Kenney Collection/Air Force Historical Research Agency





**In a 2004 exercise called Resultant Fury, Air Force and Navy forces worked together to destroy this 5,000-ton target, the decommissioned tank landing ship USS Schenectady.**

force independence and potentially steal the Navy's air component.

Conversely, Arnold was suspicious that King's proposal, if approved, might be the "forerunner of the Navy assuming the Army's primary responsibilities and functions for operation and control" of a land-based air force.

The Army and Navy negotiated the Arnold-McNarney-McCain agreement, which divided responsibility for the employment of long-range aircraft. "In return for unquestioned control of all forces employed in protection of shipping, reconnaissance, and offshore patrol," the Navy relinquished control of long-range striking forces operating from shore bases.

The Army transferred its antisubmarine B-24s to the Navy. The agreement was designed to prevent each service from encroaching on the other's historic responsibilities.

Gen. George C. Marshall, Army Chief of Staff, expressed dismay over the two services' inability to work together and disapproved of policies that artificially divided the maritime medium. He thought the Army and Navy procedures were "neither economical nor highly efficient and would inevitably meet with public condemnation were all the facts known."

The limited cooperation between the Army and Navy air arms was offset by the enmity between Japanese air arms, which far surpassed the American interservice rivalry. The Imperial Japanese Army Air Force did not help its naval counterparts to control shipping lanes.

Expressing discontent, Capt. Minoru Genda, a planner of the Pearl Harbor attack and commander of an elite squadron of pilots, commented, "The Army fliers didn't like to fly over the ocean" and "acted as though they didn't realize the importance of the control of the seas."

### Lessons Relearned

The utility of land-based airpower against maritime forces has been repeatedly demonstrated in more recent events. In the brief 1982 war with Argentina over the Falkland Islands, Britain almost suffered a fate similar to its Dec. 9, 1941 experience.

During the Falklands campaign, Argentina only had four French-built Super Etendard fighters capable of employing Exocet antiship missiles. Despite the small size of the threat, British task force defenders were unable to stop these aircraft from sinking the destroyer HMS *Sheffield* and a supply ship.

Other Argentine aircraft, carrying less advanced weapons, also found their mark. In the South Atlantic waters around the Falklands, 75 percent of the British task force was damaged or sunk. The carnage could have been far worse for the British forces: At least 14 Argentine bombs hit their targets but failed to detonate.

Aircraft carriers may no longer be the most effective way to exert control

over the world's oceans. Long-range aircraft can operate worldwide, reducing the need for forward bases.

There are limits to what constitutes acceptable risk as well. Losing a single aircraft is bad enough, but, security affairs writer Robert Kaplan has warned, "The effect of a single Chinese cruise missile's hitting a US carrier, even if it did not sink the ship, would be politically and psychologically catastrophic."

"The capability for airmen to rapidly respond anywhere in the Pacific to sink naval vessels in all weather, day or night, is crucial," noted Gen. Paul V. Hester, commander of Pacific Air Forces. In 2004, he and Lt. Gen. David A. Deptula, PACAF vice commander, recognized that the Air Force's ability to contribute to the maritime fight had atrophied and sought to reinvigorate PACAF's maritime capabilities.

Consequently, the November 2004 Resultant Fury exercise demonstrated the ability of fighters and bombers to hit and sink moving ships, with precision weapons, in all weather conditions.

The exercise showcased prototype technology. Strike aircraft coupled the GPS-guided Joint Direct Attack Munition with the developmental Affordable Moving Surface Target Engagement system.

Air Force and Navy forces worked together to destroy multiple mobile seaborne targets, including a decommissioned tank landing ship, USS *Schenectady*. Tracked on the move by E-8 Joint STARS aircraft, the targets off Hawaii came under fire from B-1 and B-52 bombers flying nonstop from Andersen AFB, Guam, and Dyess AFB, Tex., among other aircraft.

Resultant Fury was judged a resounding success, demonstrating that Air Force aircraft can sink moving targets. AMSTE is still a developmental system, however, so the exercise did not reflect current operational capabilities.

The fact that land-based airpower is effective against active shipping and naval forces is well-understood today. During World War II, however, this was a new concept that achieved spectacular results against Japan once anti-shiping efforts were a priority. ■

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*Air Force Maj. Lawrence J. Spinetta is an F-15 instructor pilot and former international affairs fellow at the Council on Foreign Relations. This is his first article for Air Force Magazine.*





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Early Air Force leaders wanted an unadorned dress uniform, but things turned out a bit differently.

# Whatever Happened to

By Bruce D. Callander



USAF photo by TSgt. Scott M. Ash

**W**hen the Air Force opened shop as a service separate from the Army in 1947, USAF leaders wanted the airmen to wear a “plain blue suit,” unadorned except for rank insignia, award ribbons, and aviation badges. Things haven’t exactly worked out that way.

Planning for the plain but distinctive dress uniform began as early as the fall of 1945, two years before the separate Air Force became a reality. The Personal Equipment Laboratory at Wright Field, Ohio, developed what it said could be the basis of an Air Force uniform if the air arm separated from the Army.

A few months later, in January 1946, Brig. Gen. William E. Hall, deputy assistant chief of staff in charge of per-

sonnel, formally proposed a distinctive Air Force uniform and recommended that its ornamentation be “limited to an absolute minimum.”

From the beginning, there was little doubt that, whatever else it was, the Air Force outfit would be blue. That was the color worn by Britain’s Royal Air Force and most of the world’s other air forces. Beyond that agreement, however, there was considerable debate among air leaders over the style of the uniform and which adornments—and how many—it should have.

Some wanted the uniform to be as close as possible to a civilian business suit. Others favored a more typically military design but with a minimum of decoration. Still others supported a distinctively military style and all

the ornaments that Army Air Forces members had become used to while they were part of the Army.

Unfortunately for those who supported the unadorned business suit, World War II had been a period of relaxed dress and appearance standards, particularly in flying units. Airmen crammed their earphones over their service caps to give them a “50-mission crush” and wore cowboy boots, scarves, and items borrowed from the British and other air forces. Their flight jackets sometimes sported garish artwork, and their uniform combinations were more mix-and-match than regulation.

Service leaders lamented the lax attitudes in place during World War II, but feared that cracking down would



# the Plain Blue Suit?

damage morale. The assumption was once the war was over, discipline would return.

Even when the force shrank to peacetime strength, however, there still was strong sentiment in favor of a well-decorated uniform. Apart from the liberties members had taken on their own, the Army itself had favored adornments such as shoulder patches, marksmanship badges, specialist insignia, and unit emblems. Even some of the air leaders were reluctant to give those up.

Another factor in the controversy was that the proposals being considered called for all airmen, officer and enlisted, to wear the same basic uniform. Only the rank insignia and hat emblems would

distinguish officers from enlisted.

The idea went down hard with some traditionalists. The Army had kept its enlisted troops in government-issue uniforms while officers sported olive drab jackets and khaki pants (“pinks and greens”). The Navy dressed its sailors in bell-bottom pants and cupcake hats while its officers wore suits. Letting enlisted airmen wear the same outfits as officers, some thought, would threaten good order and discipline.

Despite the controversy, the Army Quartermaster continued to develop prototype blue uniforms. In late 1946, it displayed them at a number of AAF bases and ran a survey of troop reactions. A year later, the proposed uniforms were shown to top officials. At that point, the exact color was undecided and there was no funding for the conversion. In the end, the early AAF leaders settled on an “interim” uniform of olive drab and khaki—not exactly today’s dress blues.

An Air Force History Support Office research paper summed up the two main schools of thought on the subject. In it, Brig. Gen. Lyman P. Whitten said, “One [version] is to get as near to a civilian type outfit as you can—no shoulder loops, no patch pockets, no belt on it, or anything, and just a straight civilian-looking suit with merely rank on it.” The alternative “has the shoulder loops, patch pockets, and is a military outfit.”

The Air Force became a separate service in September 1947, but the uniform question dragged on for another year until lawmakers raised a question that seemed to endanger the whole idea of a distinctive uniform for the air arm.

Since the same law that created the Air Force also unified all the services under the Department of Defense, some argued, all service members should wear the same uniform. This “purple suit” idea didn’t sit well with any of the services, but Congress had the power to withhold funds for uniform development. The danger of a single uniform for the

Army, Navy, Air Force, and Marine Corps seemed real.

This proposal may actually have accelerated the Air Force decision on a uniform design. By the fall of 1948, all of the new USAF accessories were approved and ordered, and the Air Force issued directives regarding proper wear of the interim olive drab uniforms.

Then, in January 1949, Gen. Hoyt S. Vandenberg, Chief of Staff, officially authorized the new blue uniform. He said that the blues would not be available for distribution until September 1950, but members could buy their own as soon as specifications were released.

## How Plain Is Plain?

The blue suit finally had arrived. It was beltless and fairly plain, but had patch pockets, shoulder loops, and large lapels. It definitely looked more like a uniform than a business suit—but was undoubtedly less garish than the old pinks and greens.

The question of which adornments should be worn on the USAF uniform remains a debate to this day. As the interim uniform had been made up largely of Army items, airmen continued to wear most of the adornments they had worn during their “brown shoe air force” days. As the distinctive Air Force garments phased in, USAF leaders had to decide which embellishments should stay and which should be dropped.

There was no question about allowing aeronautical badges and the ribbons representing medals and service awards. The Air Force adopted new stripes for its enlisted members and, for a time, considered identifying officer ranks with sleeve insignia similar to those used by the Navy. In the end, however, USAF stuck with Army-style shoulder insignia.

The most difficult decisions were those involving such items as shoulder patches, longevity devices (“hash marks” on the lower sleeve), marksmanship



*On the opposite page, Lt. Gen. Roger Brady, Air Force personnel chief, prepares to present the new Headquarters Air Force badge to Capt. Brian Humphrey and SSgt. Chris Kennerly. The badge is the latest addition to USAF's dress uniform. Above, 1st Lt. Leo Batch in his World War II Army Air Forces dress uniform.*



ship badges, and some of the occupational emblems that had proliferated during the war. With these ornaments removed, some airmen complained that they looked more like mail carriers or bus drivers than service members.

In the fall of 1949, the newly formed Air Force Uniform Board looked at the patches, insignia, and other accessories and the overall appearance of the uniform. The board recommended removing all shoulder patches except those of the major commands and removing the metal "headquarters" insignia from the shoulder loops. The stripping process had begun.

That winter, the board recommended eliminating more of the accessories, and Vandenberg agreed to drop current assignment shoulder patches but to allow those from World War II on an optional basis.

The uncluttered suit was gaining favor among air leaders, but those who wanted more ornamentation noted that those top officials already had ample adornments on their own uniforms. Critics pointed out, for example, that Vandenberg himself wore eight rows of ribbons and his command pilot wings above them. There was scarcely any space left between the wings and the row of stars on his shoulders.

On the other hand, young airmen who had yet to earn any stripes or ribbons had nothing but the blue suit to show for their service.



**Antecedents to today's bomber jackets, service caps, and pilot's wings can be seen here on (l-r) Brig. Gen. Benjamin Foulois, Maj. Gen. James Fechet, and Brig. Gen. H.C. Pratt. The jodhpurs did not stand the test of time.**

The counter argument not only was that a plain suit was neater, but that removing the "Christmas tree ornaments" inherited from the Army helped to signal the Air Force's independence.

The clean-up process continued for years but, periodically, a new effort was mounted to speed up the de-ornamentation.

In 1956, Maj. Gen. Raymond J. Reeves, director of military personnel, made a detailed study of uniform accessories. He recommended eliminating

shoulder patches, various badges, and the metal frame on unit citations. Officials approved elimination of shoulder patches, but urged the voluntary removal of badges and other adornments.

By 1959, the Air Force had set up a permanent uniform board. The board underscored its commitment to the plain uniform by rejecting bids for additional skill and unit badges. Although the Army approved corps insignia and the Navy favored specialty badges, USAF stressed the unity of all members.

This position was weakened, however, by the fact that since the uniform had been adopted, new medical, dental, and nursing badges had already been introduced, as had special insignia for missile specialists and air police.

In 1962, Gen. Curtis E. LeMay, Chief of Staff, approved the wearing of ribbons to replace the small-arms marksmanship badge and to recognize NCO Academy graduates. LeMay said this was consistent with the policy of substituting ribbons for badges and should not be taken as a move away from the clean uniform policy. A year later, he rejected a bid for a new skill badge, even though the uniform board had favored it.

### Cracks in the Dam

In 1968, a uniform board committee again decided to keep the clean uniform and limit the number of badges and insignia allowed to be worn. It also called for setting up specific categories of adornments and for allowing no more than three badges to be worn at one time.



**Gen. George Kenney, the top air officer in the Pacific during World War II, wears the Army's "pinks and greens" of the time. Note the belted jacket with shoulder insignia and longevity "hash marks" on the sleeves. Early uniform boards considered but rejected these styles for the Air Force's new "dress blues."**



Gen. John P. McConnell, Chief of Staff, approved the idea.

The category system was intended to discourage the addition of more devices. In 1950, there had only been the aviation badges and those for chaplains, police, and aides. USAF then approved badges for physicians, nurses, dentists, parachutists, guided missile personnel, and those serving with the Joint Chiefs of Staff. It also approved a combat crew badge, a Presidential service badge, a recruiting service badge, and three marksmanship badges. Then it added a veterinary badge, a pararescue badge, a USAF Academy permanent professor badge, and an Air Training Command instructor insignia.

Officials had hoped to head off this cluttering of the service uniform by letting members decorate their work outfits more. On flight suits, fatigues, and other functional uniforms, airmen were allowed to wear unit patches, pins, and distinctive insignia. Gaudy baseball caps and berets of various colors were permitted, and some combat units adopted colored scarves. Such concessions helped morale but did not end the demand for skill badges and job identification on the more public uniforms.

Still more efforts were made to make the uniform simpler. Designers eliminated the lower patch pockets and the winged corps insignia that members had worn in the Army. When officials decided to eliminate the US insignia

*Today's uniform bears a close resemblance to the Cold War uniform seen here on Gen. Curtis LeMay, Chief of Staff in the early 1960s. LeMay, as Chief of Staff, rejected at least one badge the uniform board had approved.*



USAF photo

from the lapels, however, the reaction was instantaneous and loud.

The justification for removing the US insignia was that the blue uniform was distinctive enough to mark the wearers as American airmen, and the uniforms of most other nations did not carry national identification devices. However, members took the gesture as an insult to their patriotism. They wrote letters and petitioned their members of Congress. Before the order could take effect, it was withdrawn.

By 1975, uniform board members were worried about morale and retention, and knew the uniform had at least a little to do with both. Functional leaders were now arguing that if some groups had distinctive badges, they all should.

By the early 1980s, USAF had approved eight more badges: for nonrated officer crew members, vice presidential service, fire protection, junior ROTC instructors, weapon controllers, security police qualification, air traffic controllers, and Army air assault.

In 1984, there was agreement that there should be no more badges approved for the service uniform, with even more leeway to be given on what was allowed to be worn on fatigues and functional uniforms.

Less than a year later, however, leadership considered requests for still more badges. This time, the four-stars interpreted the uniform policy of limiting badges as a restriction only on the number of badges to be worn on the uniform at one time, not a limit on the approval of additional badges. Corona conferees OK'd an aircraft maintenance-munitions badge and opened the way for still more.

Two years later, Gen. Larry D. Welch, Chief of Staff, approved six new badges. They were for Defense Language Institute instructor, administration, communications-electronics maintenance, medical technician, meteorologist, and supply-fuels.

When Gen. Merrill A. McPeak was Chief of Staff in the early 1990s, he

*Gen. Merrill McPeak campaigned for uniform simplicity. Chief of Staff in the early 1990s, McPeak drastically stripped down the dress uniform and added Navy-style sleeve insignia to designate officer ranks. This uniform proved unpopular, to say the least.*



USAF photo



dramatically stripped down the uniform and instituted Navy-style ranks—which were later removed—on the sleeves.

### Fruit Salad ...

Along with the addition of new badges came a boom in other uniform adornments. Originally, the Air Force plan was to convert some of the old Army badges to service ribbons. With time, however, USAF began to add ribbons to recognize service in specific areas and circumstances.

Since World War II, for example, USAF has adopted its own Commendation Medal, a Meritorious Service Medal, and an Air Force Achievement Medal, all to recognize service not quite qualifying for higher awards.

USAF has approved an Aerial Achievement Medal for sustained meritorious service in flight. The Air Force Training Ribbon is for initial accession training and can be worn by anyone who completes basic. There is another ribbon for basic training honor graduates and one for graduating from NCO professional military education.

There now are ribbons for marksmanship, longevity, serving overseas, outstanding voluntary service, for the outstanding airman of the year, and humanitarian service.

DOD has authorized other medals, including those for having been a prisoner of war, service in the Antarctic, Vietnam, or Southwest Asia.

Just since 9/11, awards have been approved for the campaigns in Afghanistan and Iraq, for the Global War on Terrorism, and for Korean defense service. There is an expeditionary service ribbon, a Gallant Unit Citation, and a Meritorious Unit Award.

The current awards and decorations directive (AFI 36-2903) lists more than 100 medals and ribbons that members can wear on the uniform, in addition to those awarded by other services and foreign governments.

### ... And Badges Galore

Despite the effort to hold the line on badges, there now are more than ever—including World War II. There are seven types of wings for pilots, navigators, flight surgeons, flight nurses, and aircrew members. Each has a senior and command or master rating.

There is a parachutist badge, and the Air Force recently unveiled a new badge for space and missile professionals which looks more like the aeronautical



USAF photos by SSgt. C. Todd Lopez

**In May, officials unveiled two prototype uniforms for comment and evaluation. The uniforms attempt to address criticism that the current dress blues are too corporate looking and not military enough. SMSgt. Dana Athnos wears the "Billy Mitchell heritage coat," while Brig. Gen. Robert Allardice shows the "Hap Arnold heritage coat." Elements from these prototypes may appear in future uniforms.**

wings than did the previous missile and space badges.

Nonflying medics now have badges. More than 20 other badges identify members in functional areas from public affairs to explosive ordnance disposal, and from band to intelligence.

While the fight for the plain blue suit seems to have been lost, the Air Force has maintained strict rules on the personal appearance of its members. Rules regulate hair, tattoos, and body piercings. New rules were written to cover the carrying of beepers and cell phones, as well as the use of head coverings for religious purposes.

Despite the increase in occupational and functional badges, there still are periodic efforts to remove uniform ornaments. In the 1990s, for example, USAF phased out most fourrageres and lanyards. Over the years, the service has dropped shoulder patches, wing-and-propeller lapel insignia, longevity and overseas stripes, the "rope-ladder" marksmanship badges of Army days, and the embroidered metallic wings and accessories popular in World War II.

Still, the net effect is that the once-envisioned plain blue suit never materialized. "The basic blue suit has not

appreciably changed," the Air Force History Support Office's paper on uniform evolution concluded, but there has been "steady pressure since the late 1950s to add skill and functional badges and insignia to the uniform."

Slowly but surely, most of these additions have been approved.

Not everyone is happy with the end result, and the Air Force continues to look for ways to improve the uniform. Responding to common criticism that the dress uniform looks too corporate and not military enough, on May 15 officials rolled out two sets of prototype uniforms for comment and review.

These "initial prototypes are direct descendents of our heritage [uniforms], rooted in Hap Arnold and Billy Mitchell's Air Force," said Brig. Gen. Robert R. Allardice, chief of airman development and sustainment on the Air Staff. USAF's uniform board will review the comments before recommending changes to the current dress uniforms. Finally, four days later, officials announced the creation of a new Headquarters Air Force badge, already approved by the uniform board. The Air Force today may have a blue suit, but it is certainly not a plain one. ■

*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, "The 'Doctor' is In," appeared in the March issue.*



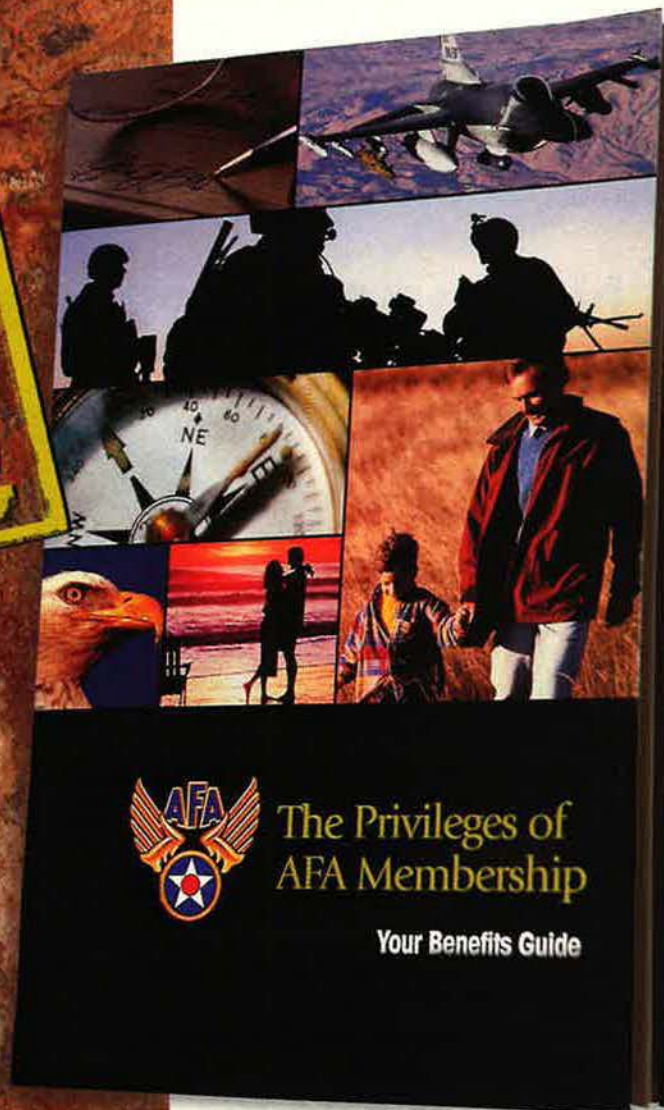
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# AFA National Report

By Frances McKenney, Assistant Managing Editor

## AFA National President Makes Fact-F

Air Force Association National President Robert E. "Bob" Largent visited airmen and facilities in Southwest Asia in May to see firsthand how the work of USAF personnel contributes to the Global War on Terror.

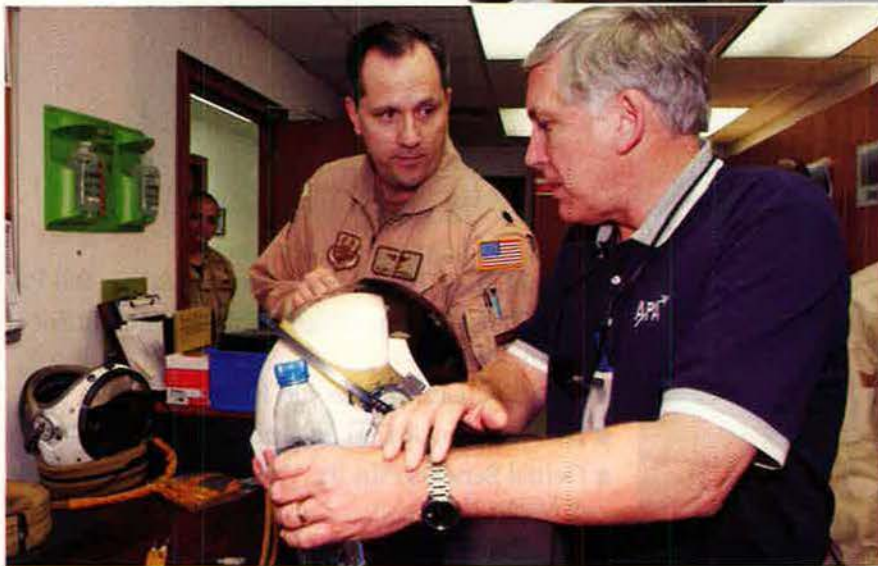
He called the operations tempo "intense."

In Largent's view, the American public does not grasp the scope and magnitude of the Air Force's contribution. "Many think it's just a ground war," he noted, "and do not realize the level of the Air Force mission."

He went on, "If the average American could see what I'm seeing around [US Central Command's area of responsi-



USAF photos by SSGT. Christopher J. Matthews



*On an orientation tour in Southwest Asia, AFA National President Bob Largent learns about KC-10s from A1C Ashley LaRue, above. At left, Largent confers with U-2 pilot Lt. Col. Alan Marshall at the 380th AEW.*

bility), and the Air Force's efforts in the GWOT, they would be amazed."

### Expeditionary Airpower

His first stop was the 379th Air Expeditionary Wing. It supports varied aircraft—transports, tankers, and battlefield management—as well as the Combined Air Operations Center—operating out of a converted metal warehouse—the focal point for CENTCOM Air Forces operations in Iraq and Afghanistan. The 379th AEW oversees all base operations, from tent city quarters and security forces to passenger terminal and personnel functions.

The 379th Expeditionary Security Forces Squadron gave Largent opportunities to participate in the type of on-site training that keeps security forces ready. Among its training devices, the 379th ESFS has a trailer-mounted firing range.

Talking with active duty, Air National Guard, and Air Force Reserve Command airmen, the AFA National President found many who were on repeat deployments. All appeared dedicated and engaged, Largent reported. Moreover, he said, they clearly understand their mission. He also noted the presence of many coalition force personnel from allies

such as Australia, Britain, Japan, and South Korea.

Among the airmen Largent talked with were two AFA officials: Maryland ANG Maj. Julie E. Petrina, a C-130J aircraft commander and an AFA national director, and AFRC Maj. Robert Palmer, a public affairs officer and member of the Air Force-AFA Reserve Council.

The AFA National President also met airmen from Eglin AFB, Fla., F.E. Warren AFB, Wyo., Hickam AFB, Hawaii, Langley AFB, Va., Little Rock AFB, Ark., Minot AFB, N.D., Peterson AFB, Colo., Randolph AFB, Tex., Shaw AFB, S.C., Travis AFB, Calif., and the Minnesota Air National Guard.

Largent talked with C-130 maintainers who operated out of tent and plywood facilities and who changed engines on the flight line in 115-degree heat and blowing sand.

### "Imagination, Creativity"

Largent next observed the operations of the 386th Air Expeditionary Wing and many of its subordinate units—some of them providing direct base operating support to US Army facilities and soldiers.



# Leading Visit to Airmen in the Gulf

USAF photos



Largent had lunch with more than 20 airmen of the 586th Expeditionary Mission Support Group, operating at an Army camp in what's termed an "in lieu of" status. Air Force ILO airmen handle missions that normally would be done by soldiers. This particular Air Force ILO provided support for an Army medium truck detachment.

Largent said airmen of the 70th Expeditionary Mission Support Squadron (part of the 586th EMSG), with whom he spent some four hours, displayed "imagination, creativity, and resourcefulness."

The 70th EMSS is one of two squadrons that drive Army Freightliner 18-wheeler medium trucks and security vehicles on long-haul convoys, delivering supplies to ground forces in Iraq. The 150-strong unit comprises active duty, ANG, and AFRC transport, security forces, and communications airmen.

The loss of two security forces airmen—TSgt. Jason L. Norton and SSgt. Brian McElroy—when their Humvee was struck by an improvised explosive device on Jan. 22, spurred the airmen of the 70th to make several Humvee changes: improved armor plating, rescue points and equipment, armament, communications, and lighting. The 70th EMSS security forces also secured improved and heavier firepower, including new M4 scopes, 50 cal. machine guns with laser sightings, and night vision goggles.

Among 70th EMSS-initiated improvements for the Army's Freightliner truck

were new communications equipment, an escape hatch, armor plating, and improved cab layout. (The Army unit supported by the 70th has adapted all the improvements for all 500 of its trucks.) Communications upgrades include truck-to-truck and satellite radios and a system that allows the unit to track the location of every vehicle on the road and relay that information to the wing and Combined Air Operations Center, as necessary.

## Talking With Troops

Largent, in his travels, talked with a large number of USAF airmen from many different bases, doing many different jobs. These included:

- Several from Eielson AFB, Alaska, who were in the new Air and Space Expeditionary Force rotation for the 60th Expeditionary Mission Support Squadron.

- Logisticians on a 45-day special deployment to sort out Army chemical warfare equipment—determining whether it's destined for Stateside refurbishment and rework or can be redistributed in-theater. Officials say the airmen have saved about \$5 million worth of salvageable equipment.

- About 25 airmen at a Navy base who are part of a 35-member team that provides all base operating support for more than 2,000 soldiers handling all Army sealifted equipment that must be disbursed within Iraq. The airmen provide functions such as communications, contracting, lodging, recreation, and civil engineering.

Largent next stopped at the 380th Air Expeditionary Wing. There he met airmen who were finishing their current six-month deployments and others just



At top, Largent checks out the armored cab of a convoy vehicle and, above, talks to airmen with the 70th Expeditionary Mission Support Squadron.

USAF photo by TSgt. Veronica A. Acevedo



Largent receives a briefing on the 745th Avionics Maintenance Unit from Col. John Norton, vice commander of the 379th AEW. At right, Largent mingles with a group of airmen.





University of Oklahoma photo by Maj. Timothy W. Jackson



**AFA Chairman of the Board Pat Condon addresses cadets before their commissioning at his alma mater, University of Oklahoma at Norman. Condon, who graduated with distinction from the university's ROTC program in 1964, was presiding officer and guest speaker for Det. 675's commissioning ceremonies this May.**

coming in. Largent talked and shared meals with more than 50 of the wing's members and toured the unit's new temporary cantonment area, which offers hard-wall dorms to replace the tent city.

The 380th AEW's primary missions are to provide aerial refueling and reconnaissance, employing KC-135 and KC-10 tankers and U-2 reconnaissance aircraft. Largent witnessed the extensive preparation needed to get both the pilot and the high-flying U-2 aircraft ready for a mission.

AFA National President Largent cited the "professionalism, initiative, focus, enthusiasm, and dedication" of the airmen of the 379th AEW, 380th AEW, and 386th AEW.

**Off to AFA Camp**

AFA sent 30 kids to camp, this month—US Space Camp at the US Space and Rocket Center in Huntsville, Ala.

AFA established this scholarship program last year, running an essay contest to determine 30 winners in grades four through 12. They attended the camp's specially designated "AFA Week."

This year, applicants for the Space Camp scholarship not only wrote an essay but also had to design and draw a mission patch.

AFA's board of trustees and staff reviewed more than 1,400 essays from students nationwide. More of the winning entries—nine—came from Florida than any other state, and **Central Florida Chapter** officials quickly rec-

ognized the Space Camp scholarship recipient in their area.

Chapter President John Timothy Brock and Aerospace Education VP Richard A. Ortega went to Conway Middle School in Orlando in May to present Tyler Seithel with a framed AFA Certificate of Achievement and a Letter of Commendation.

After being introduced by the school's principal, Brock addressed the assembly of students, encouraging them to study math, science, and aviation topics and to become scientists and engineers.

NASA founded US Space Camp in 1932. It offers students an opportunity to try a variety of space and aviation activities.

**The Teacher Connection**

When the **Leigh Wade Chapter** hosted the Virginia state quarterly meeting in Petersburg, Va., in Febru-

ary, it spotlighted AFA's relationship to educators.

During the conference, two aerospace education awards were presented: Linda Thompson was named an AFA Doolittle Fellow, in honor of her late father, Glen E. Thompson, a former president of the Leigh Wade Chapter. Melinda D. Kelley received an Educator Grant of \$250.

AFA's Educator Grants support aerospace education activities in elementary and secondary school classrooms when no other financial backing is available. A seventh-grade teacher at Colonial Heights Middle School, Kelley has been a chapter member for at least eight years, and the aerospace education activities of her students have attracted local newspaper feature-story coverage—and, not incidentally, mention of the Leigh Wade Chapter and the Air Force Association.

Before his death in 2004, Glen Thompson, a retired school principal, mentored several educators in the Petersburg-Colonial Heights area, involving them in AFA activities and nudging them into becoming active members. Kelley was one of these teachers. Another was Bowles, a computer specialist at North Elementary School and today the chapter president.

**Convention in Clemson**

In inviting US Rep. J. Gresham Barrett (R-S.C.) to address the South Carolina State Convention, local AFA officials told him that the audience would span the entire Air Force spectrum—active duty personnel, Guard and Reserve, veterans, civilian employees, Civil Air Patrol, ROTC, and AFJROTC.

According to Col. Lance S. Young, VP of the host **Strom Thurmond Chapter**, the Congressman said "he was an advocate and wanted to be there, especially since he had a military background."

**AFA In Action**

**The Air Force Association works closely with lawmakers on Capitol Hill, bringing to their attention issues of importance to the Air Force and its people.**

**Hill Staffers Learn About Tactical Aviation**

The Air Force Association and the Air Force's Office of Legislative Liaison recently arranged for Congressional staffers to visit the 121st Fighter Squadron of the Washington, D.C., Air National Guard.

Part of the 113th Wing at Andrews AFB, Md., the 121st FS and its F-16Cs have deployed numerous times to Southwest Asia while simultaneously supporting the Operation Noble Eagle mission here at home.

This orientation was an opportunity for Capitol Hill staffers to learn about tactical aviation directly from USAF personnel who support and fly the fighter missions. While on the flight line, the guests witnessed two squadron aircraft scramble for an air defense mission.



## Howard T. Markey, 1920-2006

Howard T. Markey, AFA's National President from 1959 to 1960 and Chairman of the Board, 1960-61, died in Hinsdale, Ill., on May 3 at the age of 85.

A former federal judge who helped create the US Court of Appeals for the Federal Circuit, his achievements as a jurist were recognized in 1998 when a federal court building in Washington, D.C., was named in his honor. He was also a retired Air Force Reserve major general.

General Markey was born in Chicago in November 1920 and enlisted as a flying cadet in August 1941. Over the next five years, he served as an instructor pilot, engineering officer, and jet aircraft test pilot, conducting cold-weather testing at Ladd Field, Alaska, on the P-59—the first US jet aircraft—and P-80, the first Air Force jet used in combat. General Markey separated from active duty as a major in 1946 and became commander of the Reserve 42nd Fighter Squadron.

He graduated from Loyola University, Chicago, in 1949 and, after earning a master's degree in patent law the next year, joined a Chicago law firm.

Recalled to active duty for the Korean War, he became the 315th Air Division's operations deputy, in charge of airlift in the Far East. After separation from active duty, he joined the Illinois Air National Guard. He was commander of the 126th Fighter-Interceptor Wing when the AFA National Convention in Miami Beach voted him into office in 1959 as National President.

President Nixon appointed him as chief judge of the Court of Customs and Patent Appeals in 1972. Ten years later, General Markey became chief judge of the newly created Court of Appeals for the Federal Circuit, with nationwide jurisdiction over cases involving international trade, patent, trademark, government contract, and copyright infringement. After retirement from the bench in 1991, he became dean of the John Marshall Law School, where he had received his master's degree 41 years earlier.



A Citadel graduate, a veteran of four years' Army service, and a member of the House Budget Committee, Barrett spoke to the state convention held in Clemson in May. His remarks included a vow that the military would have what it needed to secure freedom.

During the convention's business session, AFA Executive Director Donald L. Peterson provided an update on the association. The 160 guests also heard briefings on the 20th Fighter Wing from Shaw Air Force Base and the 437th Airlift Wing, Charleston Air Force Base.

Sandy Edge, president of the host chapter, received the state Member of the Year award. Clemson University, whose ROTC detachment is led by Young, received the ROTC Unit of the Year award. James F. Byrnes High School in Duncan received the JROTC Unit of the Year award.

Rodgers K. Greenawalt was re-elected state president.

### Honoring the Honor Guards

All five members of Nevada's Congressional delegation sent representatives when the **Thunderbird Chapter** held an "Honor the Honor Guard" luncheon at Nellis AFB, Nev., in March.

Nellis' honor guards represent the Air Force at ceremonies in southern Nevada, as well as some areas of nearby states. They render military honors at funeral services for USAF personnel and family members and at change of command and retirement ceremonies and also perform

at selected civilian events.

Helping present awards to these honor guards at the luncheon were Chavez Foger, representing Sen. Harry Reid (D), the minority leader; Margo Allen, for Sen. John Ensign (R), a member of the Senate Armed Services Committee; Gerri Schroeder, for Rep. Shelley Berkley (D), who is on the House Veterans' Affairs Committee; Mike Henderson, for Rep. James A. Gibbons (R), a House Armed Services Committee member; and Joann Schoch, representing Congressman Jon C. Porter (R).

Thunderbird Chapter Secretary Donald L. Sexton reported that more than 20 chapter members and some 90 other

guests attended the event, held at Nellis' NCO Club.

### New Lieutenants

In May, Det. 157 at Embry-Riddle Aeronautical University in Daytona Beach, Fla., commissioned 78 Air Force second lieutenants. Col. Thomas J. Schrader, detachment commander, said that ROTC headquarters told him this was the largest number of new officers produced this year by any AFROTC detachment.

**Central Florida Chapter's** Richard A. Ortega was among the guests at the ceremony, invited by Embry-Riddle cadet Sherri Surmanek as thanks for his many stints at the campus as Arnold Air Society guest speaker. Surmanek, who was a distinguished graduate, honored Ortega by asking him to render her first salute.

Ortega gave her an AFA membership and, during the reception for the graduates, handed out more than a dozen AFA membership and Community Partner applications. Ortega said he hoped that other chapters near AFROTC units would follow his example and send its chapter officers to commissioning ceremonies to present membership to the Air Force newcomers.

"It is the best investment we can make," he said.

Joining Ortega at this graduation were the **Brig. Gen. James R. McCarthy Chapter's** president, Marguerite H. Cummock, and two of its Community Partners, Joe and Karin Stenger.

### More AFA News

■ Maj. Gen. William L. Shelton, commander of 14th Air Force at Vandenberg AFB, Calif., told the audience at an **Iron Gate Chapter** luncheon that the military, government, and business sectors of the US and other countries are highly dependent on space op-

## David L. Gray, 1930-2006

Retired Maj. Gen. David L. Gray, AFA executive director from 1986 to 1987, died in Melbourne, Fla., on May 11. He was 75 years old.

Born in Portland, Ore., General Gray began his active duty career in 1950, graduating from flying training at Craig AFB, Ala., the following year. He became a fighter pilot with the 67th Fighter-Bomber Squadron, 18th Fighter-Bomber Wing, in Korea and flew 62 combat missions in the P-51.

General Gray served in assignments from Yuma AFB, Ariz., to Great Britain to the Pentagon before becoming a war plans officer at Headquarters, 7th Air Force, during the Vietnam War. He went on to serve in assignments in Europe with NATO and SHAPE and then with Strategic Air Command, where he became SAC's deputy chief of staff for plans. He was the Air War College commandant before retiring from the Air Force in 1982.

General Gray earned a bachelor's degree from the University of Colorado in 1958 and, a few years later, an MBA from George Washington University.

He was president of the AFA's Charleston Chapter in South Carolina when selected to become the association's executive director.





erations—and that some commercial services are open to anyone with a credit card. He described 14th Air Force operations, how communications have been streamlined, and contingency plans. The chapter members, gathered at New York's 21 Club, listened to Shelton's presentation with great concentration. "You could have heard a pin drop," said Chapter President Frank T. Hayes.

■ The **Florida Highlands Chapter**, led by Roy P. Whitton, hosted the state's Central East area meeting in April. The day's activities began with a briefing at Avon Park Air Force Range. Lt. Col. John B. Pechiney Jr., who became commander of the 106,000-acre USAF-owned facility last fall, described how it is used for training by all branches of the military. After the briefing, AFA members joined with a local chapter of the Military Officers Association of America for a luncheon. There, guest speaker Lt. Col. Greg Harbin, special projects officer in the Office of the Secretary of the Air Force, talked to the audience of 60 about USAF's strategies in the war on terrorism. Steven C. Gordon, Florida's Central East area VP, conducted the business meeting that afternoon. Other **Central Florida** chapter members at the gathering were Chapter President John Timothy Brock, Tommy G. Harrison, Martin H. Harris, and Richard A. Ortega. **Cape Canaveral Chapter** representatives were Chris G. Bailey, president, Newton Carpenter Jr., and Rik Harvin.

■ **Columbus-Bakalar Chapter** members got a feel for the World War II experience of their chapter's namesake, 1st Lt. John E. Bakalar, during a May meeting that featured a fellow pilot from his 354th Fighter Group. Norman E. Davis never actually knew Bakalar, but he shed light on their common experiences, wrote James R. Alvis, secretary for the chapter that also is named for the city where it's located. Both born in Indiana, Bakalar and Davis were assigned to Ninth Air Force's 354th FG in 1944. Bakalar was killed on a combat mission Sept. 1, 1944. Bakalar Air Force Base was dedicated in his name and is today the Columbus Airport, where the chapter holds its meetings.

■ Rep. Adam Schiff (D-Calif.) was guest speaker for the **Pasadena Area Chapter's** April dinner meeting, held at a country club in Altadena, Calif. Schiff spoke about the importance of airpower and described his visits to troops in Iraq and Afghanistan, reported Martin W. Ledwitz, chapter government relations VP.

■ At Alice High School in Alice, Tex., Sean Canales received an AFA Medal—as outstanding AFJROTC cadet—from

Michael L. Dominguez, assistant secretary of the Air Force for manpower and reserve affairs. Dominguez, who was acting Secretary of the Air Force between March and July 2005, addressed the school's awards banquet in April, speaking about the challenges faced by earlier generations and by the students in the audience. The **Alamo Chapter's** aerospace education foundation added a \$150 scholarship to Canales' award. The chapter arranges for similar AFA

Medal and scholarship presentations at 16 high schools in southern Texas.

■ Sixteen AFJROTC units took part in the first annual state drill competition sponsored by the Virginia State AFA at Mechanicsville in April. **Tidewater Chapter** President Gordon Strong, who led the initiative to establish the meet, proudly noted that the overall champions, the cadets of Western Branch High School, came from his area, Chesapeake, Va. State President James<sup>3</sup> R. Lauducci

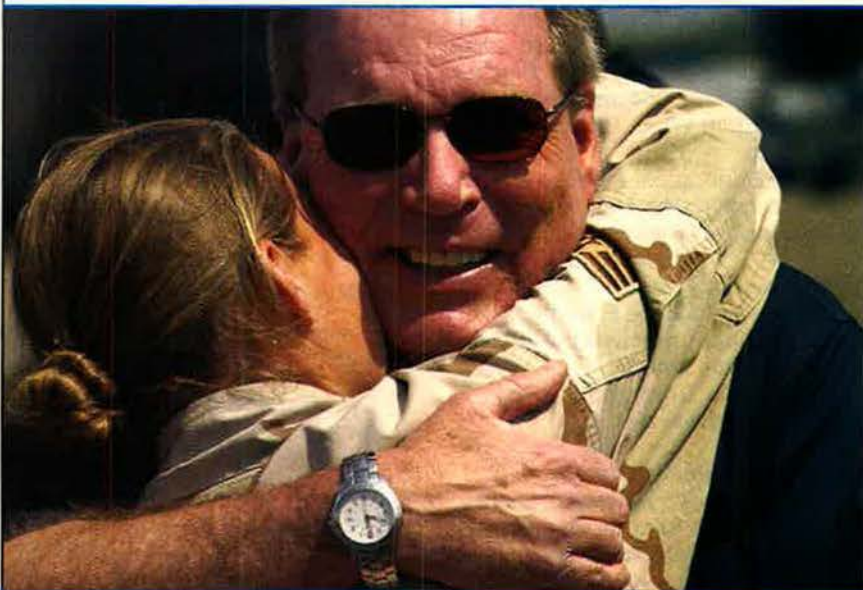
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commented, "What we have created for these units is an opportunity to bring home a trophy that sits alongside the trophies that are normally associated with sports. It creates a pride in JROTC students."

■ MSgt. Dean Jeavons of Ellsworth AFB, S.D., received the Air Force Senior NCO Academy CMSAF James M. McCoy Academic Achievement Award at the February Senior NCO Academy graduation ceremony at Maxwell AFB, Ala. McCoy, who is Nebraska's leadership development VP and an **Ak-Sar-Ben Chapter** member, presented the award, along with Mark J. Dierlam, Alabama state president and a **Montgomery Chapter** member. ■

## Reunions

reunions@afa.org

**19th Bombardment Assn.**, 14th, 28th, 30th, 93rd, and 435th Sqs. Sept. 26-30 in Albuquerque, NM. **Contact:** Jerry Michael (317-253-9265) (g.michael@sbcglobal.net).

**40th BG Assn.**, Twentieth AF. Sept. 13-17 at the Sheraton Bradley Airport Hotel in Windsor Locks, CT. **Contact:** Jean Suitt, 10336 Brangus Dr., Crowley, TX 76036 (800-959-2582) (jsuitt@crescent.com).

**40th Fighter/Flight Test Sq. Assn.** Oct. 12-16 at the Green Oaks Hotel in Fort Worth, TX. **Contact:** Frank Hettlinger (812-877-4039) (mghett@iquest.net).

**87th/512th FIS**, RAF Bentwaters, UK. Sept. 14-17 at the Clarion Hotel in Sioux City, IA. **Contact:** Dick Desing (505-856-0606) (rdesing@aol.com).

**312th BG Assn.** Sept. 10-13 in Duluth, MN. **Contacts:** Clyde Newton, 28965 Babbo Ln., Grand Rapids, MN 55744 (218-245-3970) (cgnewt@grandrapidsmn.com) or John Happy (863-439-6657) (jthappy@juno.com).

**390th SMW**, Davis-Monthan AFB, AZ (Titan II). Oct. 5-8 at the Four Points Sheraton in Williamsburg, VA. **Contact:** Elaine Lasher, PO Box 17916, Tucson, AZ 85731 (520-886-7157) (elainelasher@aol.com).

**433rd TCG** (WWII), New Guinea-Japan. Sept. 25-29 in Albuquerque, NM. **Contact:** Frank Nash (251-660-2921).

**452nd BG**, 8th AF. Sept. 28-Oct. 2 at the Sheraton National Hotel in Arlington, VA. **Contact:** Hank North, 901 Poling Dr., Columbus, OH 43223 (800-452-9099) (hanknorth@core.com).

**474th FG Assn** (WWII). Oct. 6-10 at the Sheraton National Hotel in Arlington, VA. **Contact:** Lloyd Wenzel, 204 Turtle Creek Dr., Tequesta, FL 33469 (561-747-2380) (p38lloyd@bellsouth.net).

**526th FIS/TFS**, Landstuhl AB and Ramstein AB, Germany. Oct. 20-24 in San Antonio. **Contact:** Wayne Rebischke, 5780 Canterbury Ave. NE, Buffalo, MN 55313 (wkreb@att.net).

**AFROTC Det. 425** alumni. Oct. 14 at Mississippi State University. **Contact:** Lt. Col. Steve Whitney (703-566-9638) (steven.whitney@pentagon.af.mil).

**Air Force Postal and Courier Assn.** Sept. 22-25 at the Fairview Park Marriott Hotel in Falls Church, VA. **Contact:** Jim Foshee (254-774-7303) (jimfoshee@sbcglobal.net).

**Air Rescue Assn.** Sept. 24-27 in Savannah, GA. **Contacts:** Sandy Gonzalez, PO Box 300945, Fern Park, FL 32730 (407-834-0105) (sgonzalez2@cfl.rr.com) or Jim Fall (951-849-3777) (jimbel@verizon.net).

**Airborne Maintenance Technicians Assn.**, all members that served with USAFSS, ESC, AFIC, AIA, or ACC. Sept. 20-22 in Omaha, NE. **Contact:** John Hurst (402-296-2805) (jhurst@comweb.net).

**ARC Light/Young Tiger** B-52 and KC-135 units during the Vietnam War. Sept. 21-25 at the Radisson Hotel in Branson, MO. **Contact:** Paul Maye, 72 Pleasure Trail, Penrose, CO 81240 (719-372-6293) (bluelead@earthlink.net) (www.sacsea-reunion.us).

**B-66 Destroyer Assn.**, all models. Oct. 4-7 at the St. Anthony Hotel in San Antonio. **Contact:** Jim Milam, 3600 Willomet Ct., Bedford, TX 76021 (817-545-3554) (jimmilam@aol.com).

**Pilot Training Class 56-G.** Oct. 12-15 at the Menger Hotel in San Antonio. **Contact:** Porter Jones (615-876-0450) (56G\_pjones@comcast.net).

**Pilot Training Class 56-U.** Sept. 14-17 at the Hope Hotel in Dayton, OH. **Contact:** Pete Kopecky, 105 Elizabeth Dr., Washington, GA 30673 (706-678-2787) (pkopecky@nu-z.net).

**Pilot Training Class 58-E**, Bainbridge GA, GA. Oct. 2-4 at the Cape Codder Resort in Hyannis, MA. **Contact:** R.L. Wing (585-567-2533) (rwing@hughes.net).

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.

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Aug. 9	Michigan State Convention, Mt. Pleasant, Mich.
Aug. 11-12	Colorado State Convention, Pueblo, Colo.
Aug. 19	Indiana State Convention, Indianapolis
Aug. 26	California State Convention, Ontario, Calif.
Aug. 26	Midwest Region Convention, Galesburg, Ill.
Aug. 26	North Carolina State Convention, Raleigh, N.C.
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# Airpower Classics

Artwork by Zaur Eylanbekov

## Spitfire



The Spitfire, one of the all-time great fighters, was a study in superlatives. In World War II, Britain built more Spitfires than any other type of tactical warplane. It was the only fighter kept in production before, during, and after the war. The Spitfire served in all theaters—from Europe to South Asia, from the Far East to North Africa—and was, arguably, the best-looking fighter of the war, too. It was emblematic of the heroism of the Battle of Britain.

The Spitfire sprang from the brain of Reginald J. Mitchell, Supermarine's top designer, and was financed privately. Its thin elliptical wings gave it great speed as well as distinctiveness. The Royal Air Force had 2,160 Spitfires in hand or on order when war broke out in September 1939 and just kept building them. Originally an interceptor, the Spitfire soon took up close air support, convoy protection, and

reconnaissance missions. Over time, its Merlin engine was supplemented in some models by the Griffon. Its only shortcoming was its relatively short range, which made it unsuitable for escorting bombers on raids deep into Europe.

The Spitfire's elegant curves and graceful wing made it tricky to build, but pilots loved its great look, not to mention its speed, maneuverability, cockpit visibility, and firepower. The adaptable Spitfire operated in frigid weather or sandstorms, high winds or tropical heat. It played a key role not only in the 1940 Battle of Britain but also in defense of Malta and the British coasts. It was particularly important in the Allied landing at Salerno, where it offered virtually the only close air support available. The Spitfire is a truly legendary aircraft, a symbol to this day of the English determination against the Axis powers.

—Walter J. Boyne

**This aircraft:** RAF Spitfire Mk VB #BL584—*DWX*—as it looked in July 1942, when flown by Flt. Lt. Denis Crowley-Milling of No. 610 Squadron, based at RAF Ludham in Britain.



### In Brief

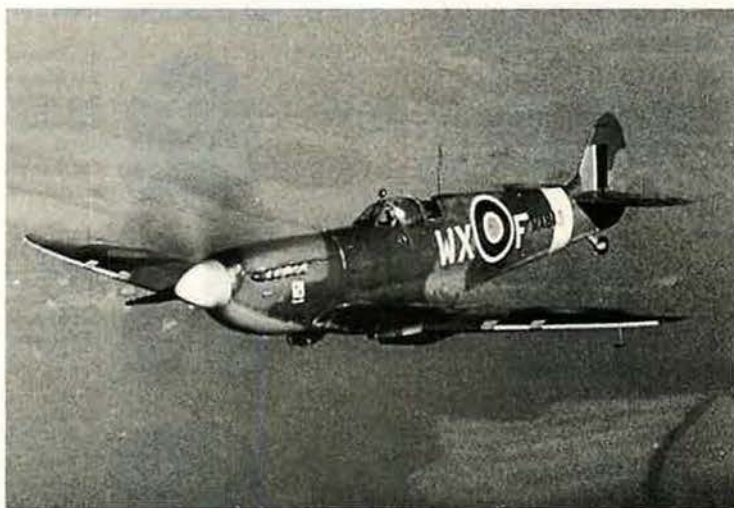
Supermarine design ★ built for RAF by Supermarine, Westland, Vickers Armstrong, Cunliffe-Owen ★ first flight March 1936 ★ crew of 1 ★ single V-12 engine ★ number built 22,579 ★ **Specific to Spitfire Mk VB:** max speed 378 mph ★ cruise speed 200 mph ★ max range 470 miles (loaded) ★ armament (typical) two 20 mm cannon and four .303-cal machine guns ★ weight (max) 6,700 lb ★ span 36 ft 10 in ★ length 29 ft 11 in ★ height 11 ft 5 in.

### Famous Fliers

RAF's top ace (38 victories), James E. "Johnnie" Johnson ★ Eric S. Lock, 16.5 victories in Battle of Britain ★ aces Douglas Bader, Brendan Finucane, Richard Hillary, Adolf Malan, George Beurling, Robert Stanford-Tuck, Al Deere, and Neville Duke ★ American-born RCA pilot John Gillespie Magee, author of "High Flight" ★ US pilots David Schilling, Donald Blakeslee, William Dunn, Reade Tilley, Lance Wade, Francis Gabreski, and Chesley Peterson.

### Interesting Facts

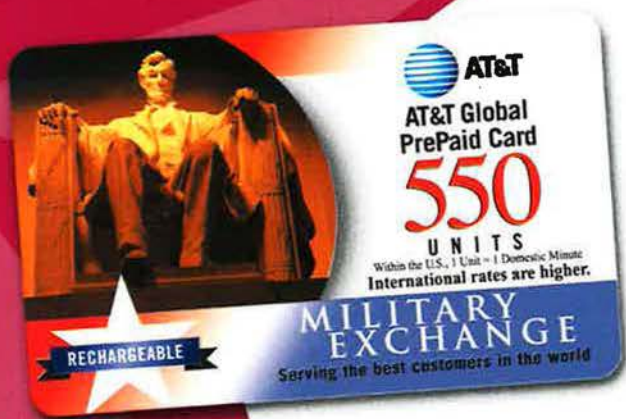
First British aircraft to down a jet fighter (German Me-262 on Oct. 5, 1944) ★ first fighter to operate from Normandy after invasion ★ first operational fighter with pressurized cockpit ★ flown by RAF's Eagle Squadrons ★ one of few foreign airplanes used by USAAF ★ flew off carriers to defend Malta ★ served in armed forces of more than 20 nations ★ designer wanted to name it "Shrew."



**This Spitfire WXF was part of RAF's No. 302 Squadron, a Polish-crewed fighter outfit formed as a result of a 1940 agreement between London and the Polish government-in-exile.**



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