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of the Air Force Association

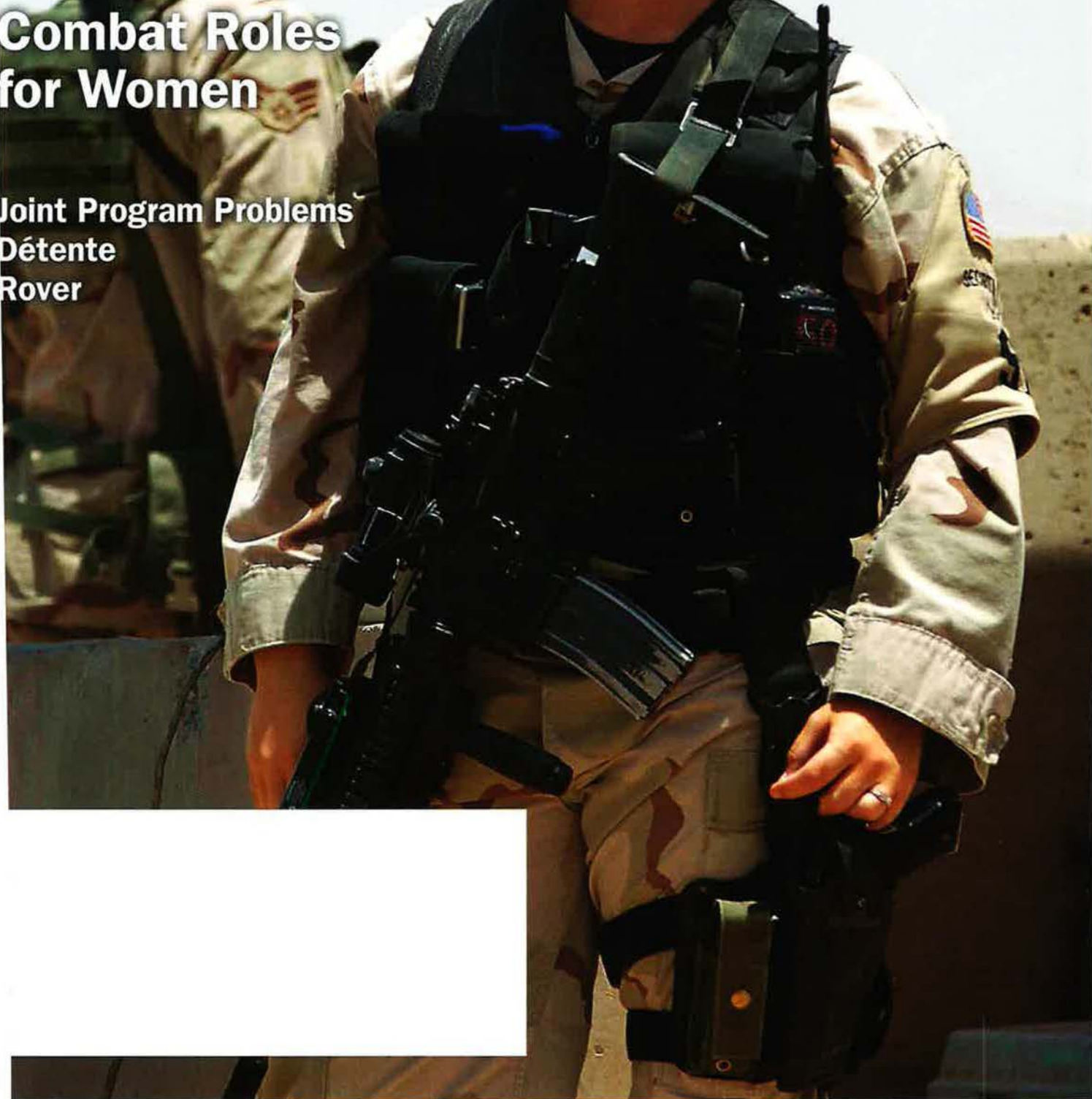
# AIR FORCE

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## MAGAZINE

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Joint Program Problems  
Détente  
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**about the cover:** A1C Tiffany Buck at a theater AB, Iraq, in 2007. See "Women in combat," p. 30. USAF photo by TSgt. Russell Wicke.

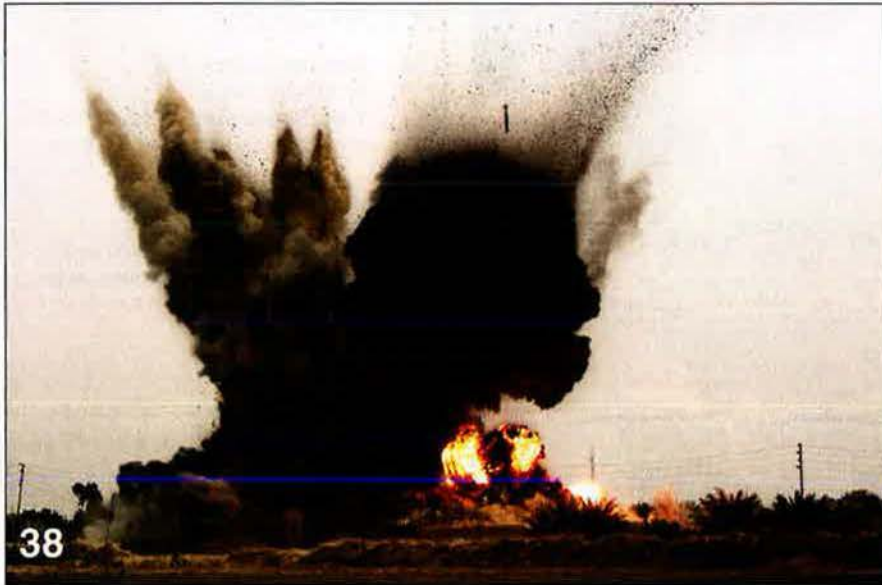


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## MAGAZINE



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 **BOEING**

## Testing Out

**O**UR policy has always been to work hard for peace but to be prepared if war comes. Yet, so blurred have the lines become between open conflict and half-hidden hostile acts that we cannot confidently predict where ... aggression may arrive," said the Secretary of Defense. "We must be prepared, at any moment, to meet threats ranging in intensity from isolated terrorist acts, to guerrilla action, to full-scale military confrontation."

The Defense Secretary quoted here is not Chuck Hagel. It was Caspar Weinberger, and the year was 1984. This call for readiness resonates just as strongly three decades later, as the nation begins to extricate itself from Afghanistan and to think seriously about how the military should—and should not—be used in the future.

The wars in Iraq and Afghanistan have been enormously costly in both lives and dollars. They have eroded the nation's military readiness, strained budgets, and tragically brought death home to thousands of American families. The US does not have unlimited money, equipment, or an infinite supply of trained and ready forces, so going forward the nation must exercise caution before choosing new military operations.

"Recent history has proven that we cannot assume unilaterally the role of the world's defender," Weinberger noted in another passage. "We have learned that there are limits to how much of our spirit and blood and treasure we can afford to forfeit in meeting our responsibility to keep peace and freedom."

More than ever, the United States needs to pick its fights. It is easy to begin an intervention; it is often much more difficult to end one. This, in fact, was the main purpose of Weinberger's "Uses of Military Power" speech: to lay out the questions the nation should answer before sending forces into harm's way.

Weinberger posited a series of six "tests" policymakers need to consider before committing US forces to overseas combat missions. The tests are:

1) The US should not commit forces unless a vital national interest is at stake.

2) Troops should be sent wholeheartedly, with the clear intent of winning.

3) There should be clearly defined objectives.

4) Forces should be continuously assessed and adjusted as necessary.

5) There should be a reasonable expectation of public and congressional support.

6) Commitment of US forces to combat should be a last resort.

This call for caution came to be known as the Weinberger Doctrine, and it reflected the lessons of both Vietnam and the 1983 debacle in Beirut, Lebanon—where, with an unclear mission, US troops were tasked as peacekeepers in the middle of a multi-sided civil war.

### The US must exercise caution before choosing new military operations.

The doctrine was refined by Gen. Colin Powell while Chairman of the Joint Chiefs of Staff in 1992.

Powell suggested two other key considerations:

First, force should be overwhelming.

Second, the nation should have a clear exit strategy.

The 1991 Persian Gulf War epitomized the concepts in the Weinberger and Powell Doctrines, but interventionists on both the left and right began whittling away at it almost from Day 1.

Those favoring various humanitarian or peacekeeping operations felt the principles were needlessly restrictive (See "Keeper File," p. 80). "What's the point of having this superb military that you're always talking about if we can't use it?" Secretary of State Madeleine Albright once grouched to Powell.

The doctrine also restricted those who sought more proactive or adventurous use of US military force. These interventionists naturally expected their chosen operations to be quick and relatively easy, like the 1983 Grenada conflict, 1989 Panama conflict, and the 1991 Iraq war.

But the peril of keeping US forces in dangerous environments, with unclear objectives, has been shown time and again: in Vietnam, Beirut, Somalia in 1993, and most recently in Iraq and Afghanistan. The US military is now

out of Iraq, and is drawing down in Afghanistan, having accomplished all that it can reasonably hope to accomplish there.

At some point the people of Afghanistan will have to decide if they want peace, stop harboring the Taliban, and begin building their nation. The US cannot do this for them, has clearly worn out its welcome, and the continued US presence may actually be hindering Afghanistan's self-sufficiency by creating dependence.

Unfortunately, there will always be terrorists, just as there will always be nations that threaten their neighbors or kill their own citizens. Deploying forces to "fix" every situation will draw the US into an endless set of battles around the world.

Policy-makers from the President on down need to keep this in mind as they ponder the never-ending drumbeat of calls to intervene in Congo, Syria, Iran, or wherever the next crisis de jour may be.

A small number of these demands for military action support vital national interests, but most do not. Most do not justify American deaths or a further degradation of military readiness. The US military will answer the call when it is put into action, but the calls need to be more essential and less frequent. After nearly 12 years of land combat—and 23 years of the Air Force being on war footing—the armed forces need a break, a breather, and a chance to reconstitute.

To be clear: this is not a call for isolationism, nor is it a set of inflexible hard and fast rules. It is difficult to claim there was a key national interest at stake defending the Libyan rebels in 2011, but the outcome served a moral good and the US wisely avoided sending in ground troops and let other nations take the lead.

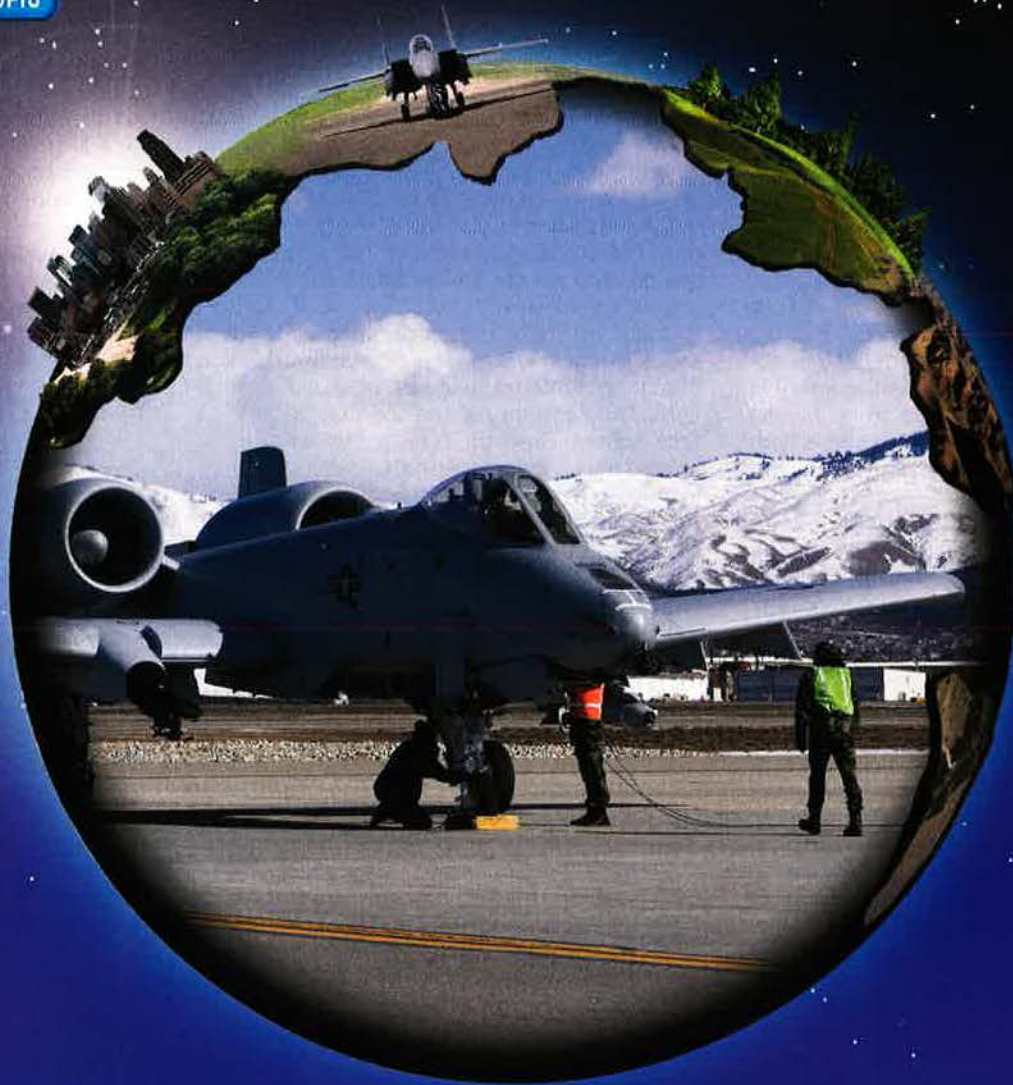
The drawdown in Afghanistan presents the United States with a strategic opportunity to reset its forces and rebuild its air, space, and cyber power. These forces are critical for defending what really are the key national interests.

In the aftermath of the 9/11 terror attacks, the Weinberger and Powell doctrines were completely cast aside.

It is time to bring them back. ■

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## It Happens

Secretary of Defense Hagel announced support to change the UCMJ to strip convening authorities of their ability to modify findings of a court-martial [*"Air Force World: UCMJ Changes Recommended," June, p. 18*]. Hagel said, "These changes ... would help ensure that our military justice system works fairly, ensures due process, and is accountable." Of course, the Secretary is directly implying that the current process does not work fairly. All of this stems from political agenda fallout over Lieutenant General Franklin's decision to set aside and dismiss a wrongful conviction of an Aviano lieutenant colonel. Has no one in the political arena ever heard of a false accusation or wrongful conviction? Have they never heard of the Innocence Project? (Google Brian Banks.) Just as in the civilian world, sometimes the services get it wrong and convict the wrong guy. In fact, the Air Force's own study said that as many as 45 percent of all sexual assault accusations may be false. The Justice Department found 25 percent of rape cases they revisited with the ability to test DNA evidence convicted the wrong man. Even if the rate is as low as women's advocacy groups claim (two to eight percent), some men are wrongfully convicted. Ignoring that fact and changing the UCMJ does not help real victims and it hurts our military. Political pressure is no reason to send innocent people to prison. These are American service members. They deserve the truth, not a witch hunt. For the most part, the system works fairly, Mr. Secretary, including the review process by the convening authority. Politically motivated changes don't help.

Col. Bob Harvey,  
USAF (Ret.)  
Cocoa, Fla.

## More Women to Train More Women

I wholeheartedly agree with General Iosue's comment in the June issue of *Air Force Magazine*, "Letters" section [p. 6]. I am not familiar with the statistics, but I believe, as the general said, we had very few cases of sexual assault when I went through [basic military training] in late summer 1969. We were separated back then, with the WAF (Women's Air

Force) on the other side of the base. Now, I don't propose that we go back to the days of the WAF, but I agree with General Iosue that we do need to separate the guys and gals at that critical stage in their military experience. The marines still do, and we don't hear about such assaults from them.

I also do not believe separating the sexes in basic will have a deleterious effect on their training as they will fight. They can be trained together in tech school. But I do believe that we should never, ever have male [training instructors] responsible for female basic trainees. This is a most critical time for many young women coming into a totally new and different environment. They are extremely vulnerable at that stage of training and for them to have a male TI is an absolute recipe for disaster. And, as the general said, we can find more women to be TIs for the young women coming into our Air Force.

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

I was a military training instructor (MTI) at basic military training (BMT), Lackland AFB, Tex., from 1969 to 1973 and from 1974 to 1976. I then was assigned to the then-ATC NCO Academy at Lackland until 1981.

General Iosue is correct, in my opinion, that the short separation of BMT between males and females shouldn't affect their careers, as they have to be assimilated during either tech school or into direct duty.

As far as female training instructors, do what happened during the Vietnam War: involuntarily (draft) cross-train them. I served with draftees that hated BMT duty and did just enough to get their tour over. Some were more prone to mistreatment of trainees than others. Some got to enjoy it and requested a follow-up tour, as they liked the stability. One USAF policy I strongly disagree with—and I made it clear when I was an MTI—was allowing anyone with under four years of service and not at least a staff sergeant to be an MTI, especially if it's a male training females. I strongly believe mature NCOs will make better instructors. Even though recent cases

have shown the power that supposedly mature male MTIs have over females, that doesn't mean without adequate oversight and supervision it can't be controlled.

I don't know if General Iosue's statement that "very few cases of sexual assault" during his tenure was because of a magic bullet or luck, but I can assure you I also seldom heard of any during that period.

CMSgt. Lou Georgieff,  
USAF (Ret.)  
San Antonio

## Verbatim

I was more than a little surprised by the title "More Dreck from Headquarters" [*"Verbatim," June, p. 25*], third column. The title implies that AFA's position is that the Air Force's desire to provide a nonhostile workplace within the Air Force for non-Christians has no value. Even worse, why choose a Yiddish-derived term to express AFA's disdain for the goal of allowing non-Christians to help defend our country without being harassed by their comrades?

I inherited my *Air Force Magazine* subscription from my father-in-law who navigated B-17s for a full set of missions over Europe in World War II. I am trying to imagine his outrage at the implication that if his co-religionists want to serve in the Air Force they ought to be subjected to pressure to change religious views by the people around them.

I understand that some people feel a religious obligation to proselytize, but perhaps the welfare of the nation would be better served if they focus their activities on civilians rather than the military

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



omrades who depend on their support and trust.

I hope to see an apology for the title in the next issue of *Air Force Magazine*.

Also, thank you for highlighting the Black Hawk helicopter in the Angel Thunder article. I have been Sikorsky's UH-60M requirements manager since 2001. It is gratifying to see our products being put to good use.

Steven E. Zalesch  
New Haven, Conn.

### Sheer Breadth, Really?

In "US Airpower in Africa" the author asserts that "the sheer breadth of the (African) landmass explains why ... there was no US military response force able" to save Ambassador Stevens and the three other Americans killed in Benghazi [June, p. 50]. Firstly, whether or not a US military response could have reached Benghazi in time to help is very much in dispute. Secondly, Benghazi is on the Mediterranean coast, and the "sheer breadth" of the African landmass would seem to have little to do with whether or not help could have arrived from Italy or other area locations.

MSgt. Bill Brockman,  
USAF (Ret.)  
Atlanta

### A Convoluted Beginning

I love the annual almanac issue of *Air Force Magazine*, but there are a couple

of mistakes on p. 108 of the May 2013 issue ("Leaders Through the Years").

The page notes "Army Air Service" and "Army Air Corps," but those are not the correct terms. The correct terms are "Air Service" and "Air Corps."

The Air Service, American Expeditionary Forces, came into being on Sept. 3, 1917, with the appointment of Brig. Gen. William L. Kenly as its first chief. On Aug. 28, 1918, Mr. John D. Ryan became Director of Air Service, and he was replaced by General Charles T. Menoher on Jan. 2, 1919. The National Defense Act of 1920 provided congressional authorization for the Air Service.

The Air Corps Act of 1926 established the Air Corps. Because it was part of the US Army, people sometimes referred to it as the "Army Air Corps," as did a popular song, but it was technically the Air Corps.

On June 20, 1941, the War Department reorganized its air arm, creating the Army Air Forces. The Air Corps became a subordinate organization to the Army Air Forces, as did the Air Force Combat Command. The Air Corps was responsible for service functions, while the Air Force Combat Command was responsible for combat functions. General Henry H. Arnold served as head of the Army Air Forces, and, under him, Maj. Gen. George H. Brett served as Chief of the Air Corps and Lt. Gen. Delos C. Emmons served as

commanding general of the Air Force Combat Command.

War Department Circular 59, issued on March 2, 1942, further reorganized the War Department. It established three commands, the Army Air Forces, the Army Ground Forces, and the Services of Supply. At the same time, the Air Corps and the Air Force Combat Command effectively ceased to exist as functional branches of the Army Air Forces, and there was no more Chiefs of the Air Corps.

Another congressional statute, the National Security Act of 1947, established the Department of the Air Force and the United States Air Force.

Daniel L. Haulman  
Air Force Historical Research  
Agency  
Maxwell AFB, Ala.

### Return to Willow Run

I just read the article in the June issue titled "Roosevelt Builds the Arsenal" [p. 56]. Having visited the Willow Run bomber plant many times, I am very familiar with the plant and its history. The photo of the B-24s under assembly was taken in an adjacent hangar that was used to perform minor modifications to the bombers. The Willow Run assembly line was a "tandem" line with the bombers lined up nose to tail. The bombers exited the bomber plant at the end of the "L" shaped part of the plant

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through two 140-foot-wide electrically operated hangar doors, which are still in working order. The plant structure was turned 90 degrees to avoid taxes in an adjacent county.

Your readers might be interested to know that the historic Willow Run Bomber Plant is scheduled for demolition very soon because the plant is no longer marketable as a manufacturing site. What a shame to tear down this piece of world history where nearly 9,000 Liberators were built! There are less than 10 Ford-built B-24s left in the world today.

Col. Ray Hunter,  
USAF (Ret.)  
Ann Arbor, Mich.

I do need to disagree with one line in it on the second page of "Roosevelt Builds the Arsenal." "Its best fighter, the P-40, was no match for the German Bf 109." The 325th Fighter Group had great success with its P-40s against -109s when it went to North Africa in January 1943. Per Ernest McDowell's book *Checkertail Clan*, the 325th flew 128 missions—3,990 sorties—in P-40s. They are credited with 135 victories, 96 of them against -109s vs. 35 losses. It was while flying a P-40 that Axis Sally dubbed the 325th the "Checkertail Clan."

John B. Mier  
Merrillville, Ind.

#### Who Was Manning the Guns, Huh?

Thanks for including the B-52 in "Airpower Classics" [June, p. 88]. I noticed the gunner (on board until the 1980s) was left out of the crew composition. Also "Interesting Facts" left out Linebacker I, April 1972, where U Tapao, Thailand, stationed B-52s (18 sorties, five missions) hit key targets over North Vietnam and proved that with proper countermeasures (ECM), tactical aircraft support (F-105G Wild Weasels, EA-6Bs, and EB-66s jammers), good intelligence, and well-trained BUFF crews the aircraft could unleash heavy destruction and survive the air defenses of North Vietnam. The successful test of strategic bombing during Linebacker I allowed for approval for Linebacker II.

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

SSgt. Dudley Phillips would have been surprised that his B-52F had only five crew members. He logged several thousand hours flying 150 feet behind the five of us in the forward compartment. We flew many airborne alert missions (Chrome Dome) of over 24 hours from Columbus AFB, Miss., with Dudley bringing up the rear. And

what about the gunners who shot down enemy fighters in Vietnam? Not real?

Lt. Col. Robert W. Riegel,  
USAF (Ret.)  
Littleton, Colo.

■ *The page should have specified the five-person crew composition as being specific to the current B-52H. For more on the gunner's position, see "The B-52 Gunners," January 2012.*

In your fine feature on the B-52, you mentioned in the Interesting Facts section that the B-52 "set a record for nonstop, around the world flight in 1957 nonrefueled nonstop flight of 12,532 miles (1962)." Your readers might be interested to know about a second nonstop around the world flight by the B-52 that occurred in March 1980 by two B-52Hs out of the 410th Bombardment Wing from K. I. Sawyer, Mich. The two aircrews were out of the 644th Bomb Squadron and were line crews, augmented only by one instructor pilot per crew. There were no wing or squadron staff on the flights. The flights launched on March 12, 1980, as part of a limited operational readiness inspection of the 410th Bomb Wing. Their mission was to fly east, half-way around the globe, then conduct sea surveillance and reconnaissance over the Soviet Fleet operating in the Indian Ocean, then continue on home to K. I. Sawyer. They landed in a snow storm on March 14, after flying approximately 19,353 nautical miles. For this flight, the two crews, S-21 and S-31, received the Mackay Trophy for 1980. The Mackay Trophy was awarded "for executing a nonstop, around-the world mission with the immediate objective of locating and photographing elements of the Soviet Navy operating in the Persian Gulf."

By way of background, this historic flight took place while the President and the nation were struggling to find a solution to the Iranian hostage crises. It also occurred before the tragic "Desert One" rescue attempt that ended in disaster in the desert.

Maj. Gen. R. M. Marquette,  
USAF (Ret.)  
Austin, Tex.

#### Fighter Pukes vs. Trash-Haulers

Retired Maj. Tom Phillips seems to carry a big burden concerning his Active Duty time in the Air Force. I saw from time to time some comments on trash-haulers, but they were not meant to demean the vital function that they filled in getting the logistical job done [*"Letters: Goldwater-Nichols Strikes Again," June, p. 6*].

I don't believe Major Phillips would call fighter pilots "fighter pukes" to their

face, especially at Korat in Thailand where they probably just returned from Route Pack 6 Alpha and may have lost several F-105s and their pilots.

I always respected the job the airlifters and tanker pilots do in accomplishing the mission and had the utmost respect for them, especially the tanker crews, who did some heroic things to save lives of the fighter pilots who were in deep "kimchee."

I saw the Air Force as team of experts who, by working together, each doing their job, would succeed at the job at hand. I also don't believe any loyal Air Force members would ever do anything to reduce the chance of bringing a new aircraft into inventory to more effectively get the mission done, be it airlifter, tanker, or fighter.

Lighten up, Major Phillips.

Col. Ross Peeler,  
USAF (Ret.)  
Fort Myers, Fla.

#### No Naughty Bits

I enjoyed the gallery of photographs in the "Tinian's Atomic Bombers" piece in your June 2013 edition [p. 66]. The nose art was especially impressive, offering a perspective into this deep and rich aviation tradition dating back to the early 1900s. I'm happy that your staff saw the historical value of this unique military folk art, especially in this era where political correctness sometimes wins out.

A recent visit to an Air Force office building brought home that reality where I found that a wall mural hung there had not been so respected. The artwork impressively portrayed a World War II-era B-17 flying fortress on a bomb run over Germany. As part of the authentic detailing of the aircraft, the artist had painted nose art in the likeness of a naked female on the fuselage under the pilot-side cockpit windows.

During the Air Force's recent health and welfare inspection the painting was called on the carpet. After review the owning commander directed that the female's offending body parts be "covered up" and a red one-piece bathing suit was subsequently painted over them.

It's not clear which inspection category: pornographic, inappropriate or offensive, or unprofessional, the commander felt this artwork fell into. Evidently he felt his concerns trumped the historical correctness of the artist's rendering.

On the bright side, just thank goodness he's not the director of the National Museum of the United States Air Force.

Col. Bill Malec,  
USAF (Ret.)  
O'Fallon, Ill.



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## BACK TO THE '90S

As the war in Afghanistan winds down, the Air Force will likely go back to a force rotation very much like it had in the 1990s, answering about the same level of demand for its capabilities as it did then, Chief of Staff Gen. Mark A. Welsh III said in a June interview.

The Air and Space Expeditionary Force (AEF) model developed in the mid-'90s to cope with a rising series of back-to-back deployments—mostly to conduct the Northern and Southern Watch no-fly zones in Iraq. It had to be “modified” when the magnitude of the Afghanistan and second Iraq wars became apparent, Welsh said.

“The AEF construct was never going to be able to maintain itself and support that contingency over a 12- or 13-year period,” he explained. The AEF consequently had to be restructured multiple times, developing different time-deployed tracks for combat and mobility forces, and still other tracks for what were then called high-demand, low-density capabilities, such as combat search and rescue and AWACS.

However, now that the American military involvement in Iraq is over—leaving practically no residual US forces there—and the Afghanistan drawdown is underway, Welsh said USAF can revisit the old rotational style of doing business.

“Our intent now is, as we get back to, hopefully, a more stable rotational pattern and demand signal,” is to “go back to some of the precepts of that initial AEF construct,” Welsh said. Speaking in his Pentagon office, Welsh noted the original AEF scheme was “nothing more than a way to provide predictability and consistency” in the way airmen were deployed to “known contingency” operations.

The original scheme deployed “larger groups of people from the same units, instead of ‘rainbowing’ multiple organizations into a single organization at a deployed location.” It gave people warning of when they were vulnerable for deployment, “when they can expect to go, when they can be training to prepare to go,” with minimal disruptions at other times.

“It makes eminent sense to go back to that,” Welsh said. However, “what it doesn’t do is give you more people,” and those career fields still in very high demand will stay that way until the “demand signal starts to slow down ... after 2014, maybe 2015 in Afghanistan.”

Welsh doesn’t think the demand for USAF overseas rotations will abate much.

“There are lots of other combatant commands that want the things that we offer who haven’t gotten them for a while,” he asserted. Regional commanders have constrained their wish for more robust airlift, intelligence, surveillance, and reconnaissance, and “partnership-building capability engagements” with other countries, so the demand for Air Force capabilities “is not going to go away, it’s just going to shift. There was a reason we had an AEF process before the big war started,” Welsh pointed out.

The end of 2014 won’t be a hard stop on USAF deployments in Afghanistan, either, he said. There will still need



USAF photo by Jim Varney

**USAF won't be out of Afghanistan in 2014.**

to be USAF presence “with some of the key enablers to support whatever ... force remains.” Those capabilities will be in ISR, “some level of rapid response capability on the strike side,” and “of course, ... building the Afghan air force.”

As to the latter, “they know how to fly airplanes,” Welsh noted, but lack the ability “or people who are trained to maintain an air force over time: logistical support, infrastructure, those kinds of things.”

He said he thinks USAF “can help them with that. But it’s going to be a few more years before they’re there, in our estimation.”

## THE SKYROCKETING COST OF PEOPLE

If sequestration lasts the 10 years called for by the Budget Control Act, Welsh sees the Air Force getting smaller. A 10 percent budget cut would mean, grossly, about 33,000 airmen and about 700 airplanes fewer, he said.

It’s a question of “capability versus capacity,” he said. A smaller budget can depress either one.

“But we have choices,” he said. “If we want more capacity, we can modernize less ... or we can put more in the Reserve Component. If we want more capability, we can modernize more.”

The service has been hamstrung for some time by two huge cost drivers. One is the “incredible inflation in the cost of people”—their pay and benefits—which has skyrocketed over the last 12 years.

“It’s significant, it has an impact, and we can’t ignore it,” Welsh said. “If our topline budgets come down and we don’t control people costs, we have to lose people.”

The other big driver is Congress’ continuing refusal to let the Air Force close bases. Welsh has said USAF has about 20 percent more facilities and bases than it needs.

The service has thus had to choose between readiness and modernization “for about the last 10 years,” and that is “a horrible trade space for a military service,” Welsh asserted.

A grid of squares, with one square in the center-right area highlighted in a solid blue color. The grid lines are dark and the background is a light, textured grey.

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**Dump the 20-year equipment replacement cycle, stat.**

"I don't believe modernization is optional," he insisted. "We can't quit recapitalizing aging fleets and modernizing systems that make them viable against the future threat. We have to have a capable, credible, ready force."

He dismissed the idea of simply upgrading the existing fleet of fighters and bombers indefinitely. "I do not believe that we can take a fourth [generation] fighter and have it be viable against a fifth generation threat, ... and I think we can prove it," he said.

### UNINTENDED CONSEQUENCES

In remarks at an Air Force Association-sponsored event just a few days later, Welsh said the premature termination of the F-22 left USAF "with a force that can't provide air superiority in more than one area at a time." That means the F-35, he said, "is going to be part of the air superiority equation whether it was intended to be originally or not."

Fifth generation aircraft in competing air forces will soon be appearing in service, not "15 to 20 years from now" but "five to 10 years from now." Without a sufficient number of fifth gen fighters, "you're in trouble ... in a high-end fight," Welsh argued, saying flatly that a fourth gen fighter against a fifth gen fighter is "dead."

"We've got all the analysis in the world to back that up," Welsh asserted. "We've got to keep pushing for this, even if it means a smaller Air Force somewhere else."

The idea of boosting the proportion of people in the Air National Guard and Air Force Reserve is one of the myriad options on the table, Welsh said in the interview. He said the service is trying to come up with an apples-to-apples cost comparison of Active Duty, Guard, and Reserve to find the optimum mix.

"Could there be a higher percentage [of forces] in the Reserve Component? Absolutely," Welsh said.

If the analysis shows that "it is cheaper to have force structure in the Guard and Reserve—and we can still do the operational missions that are required to support the combatant commanders—we've got to look at that option." Right now, he said, "everybody believes" that a person in the Reserve Component, priced "over a lifetime," is cheaper.

### NEED FOR SPEED

"Real speed really compresses kill chains." Huge advantages result when "everything happens faster," Welsh said.

"Hypersonics, or something approaching it" is a critical technology for USAF to pursue, and if the Air Force could achieve it operationally, "then you could change the game." The recent "huge success" of the last X-51 mission produced

"a treasure trove of data," Welsh said, "which will allow us to look much more realistically" at hypersonics. The new mindset should be, "Hey, we can do this, and not in a 10 years but in a much shorter timeline."

There will be big challenges in materials, however, and he's not sure that hypersonic engines will be available in time to power the new Long-Range Standoff missile, a replacement for the aging Air Launched Cruise Missile. A hypersonic weapon, though, would "absolutely" help maintain the relevance of the B-52 and B-1 bombers now relegated to a standoff role against the toughest air defenses.

In the meantime, Welsh said USAF will aggressively pursue new engine technology that could be fitted to the whole fleet.

"We're trying to accelerate the ability of aircraft and weapons to reach a decisive point quicker," he said. The ADVENT engine program—which seeks to provide maximum fuel efficiency all the way up to supersonic dash—could "save us huge amounts of money ... over time. We just have to invest in [it]; there're not options for this kind of development, I don't think."

### NO LIMIT TO CYBER

Cyber should be thought of as a "domain" and not a mission, Welsh said. The domain offers its own opportunities to strike with unprecedented speed. "If you can get to a target through cyber, to strike it, that's just like getting to it through air or space," he asserted, "and the more we think of cyber that way, ... the better we'll be able to do our core missions in that particular domain."

Fundamentally, however, cyber "provides access that's limited only by your imagination, in some cases, to a target set that we had no access to before."

Asked about the future of stealth—Welsh has openly wondered what "stealth" will mean in 30 years—he said the battle is now in every part of the electromagnetic spectrum.

"Every spectrum matters," he said. In electro-optical, infrared, radio frequency, "you can exploit it and you can be exploited in it," he observed. "We've got to realize that integration ... of the spectra we operate in is kind of going to be the coin of the realm, going forward."

Welsh acknowledged that, by traditional benchmarks, the Air Force is already within the replacement cycle for the F-22. It has about 20 years more service life, and it took 20 years to take from concept to operational service.

"I'm more of a practical guy than a visionary," he said. "What is the enemy going to look like in 2035? ... I think we can predict that. And we have to ensure that we have the ability to outperform the threat."

Welsh said the 20-year equipment replacement cycle must become a thing of the past.

"The way technology is advancing, that doesn't make any logical sense at all. We've got to fix this."

The time is coming when USAF will have to assert space superiority, as well, Welsh said.

"We're going to have to exercise some degree of control in space," he said, though he declined to offer specifics. However, it's "the same thing as air superiority. It's the ability to operate in a time and place of our choosing to create whatever effect we're trying to create."

It will include preserving access to orbit and "not [allowing] someone to take away your option of putting something" into geosynchronous orbit. "I think you also have to have the ability to control a signal. You have to provide enough superiority in that spectrum that your signal will get through."

While he specifically said satellites doing kinetic battle will "probably not" happen in his lifetime, "space is now a contested domain. It will remain contested and it will get more contested over the decades." ■

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## Gorenc To Be USAFE Commander

Lt. Gen. Frank Gorenc has been confirmed by the Senate to take the reins as commander of US Air Forces in Europe-Air Forces Africa at Ramstein AB, Germany. Officials with the command announced the news on July 2, although the Senate's action came several days prior, according to the Senate's website.

"I have roots in Europe and as an airman have been fortunate enough to spend three tours there, most recently as the commander of 3rd Air Force," said Gorenc, who has been the Air Force's assistant vice chief of staff since April 2012.

President Obama tapped Gorenc in June to lead at Ramstein, filling the void created when Gen. Philip M. Breedlove left in May to become NATO's Supreme Allied Commander, Europe, and head of US European Command.

In his new post, Gorenc will also lead NATO's Allied Air Command at Ramstein and the nearby Joint Air Power Competence Center.

## Poland Joins Surveillance Program

Poland is set to become the 15th

nation to join the consortium of NATO nations procuring a fleet of five radar-equipped RQ-4 Global Hawk Block 40 air vehicles and associated ground control equipment. The partnership is under the NATO Alliance Ground Surveillance program, according to a NATO official.

"We are in the final stage of negotiating the entry of Poland in the program. This is a process, not just an event, because it involves discussion on industrial participation in the program," said the official, speaking to *Air Force Magazine* during a June 28 interview at NATO headquarters in Brussels. "We believe that by October-November Poland will be a full member of the group of nations procuring the system."

Last September, NATO nations signed the procurement contract for this equipment, which is expected to be fully operational by the end of 2017. It will provide the Alliance with a high-altitude, long-endurance ground-surveillance and reconnaissance capability.

## Boneyard B-52G Fleet Shrinks

The Air Force had 24 out-of-service B-52G bombers in its aircraft boneyard,

## Navy Offers Airplane-Building Advice

The Navy has three times as many airplane projects in production or on the drawing board as the Air Force, and it's because of rigorous and painstaking efforts to reduce costs, Navy Secretary Raymond E. Mabus said.

Speaking with defense writers on June 13 in Washington, D.C., Mabus acknowledged his service is buying three variants of the F/A-18, two variants of the F-35, the P-8 patrol airplane, V-22 tilt-rotors, and has both a new stealthy remotely piloted combat aircraft and a new-start advanced fighter underway. The Air Force, by contrast, is only buying F-35s and C-130Js. It also is preparing to buy tankers and has a bomber in the conceptual phase.

Mabus said the Navy has "done a good job in acquisition, in shipbuilding, and in aircraft programs" by using mature technology—"build the things you know how to build"—as well as should-cost methods—"firm fixed-price contracts with incentives for bringing cost and particularly overhead in contractors down" and using commercial derivatives "to the extent you can." Getting foreign partners to buy the same aircraft also helps reduce unit cost, he added. The big money-saver, though, has been multiyear contracts in which the service agrees to buy a certain number, and the contractor, with solid numbers to plan for, can most efficiently buy materials, hire labor, and schedule work.

"Smooth these programs out," he advised, "then you're able to do stuff like this." He warned, however, that continued sequester would "start to break multiyears, which will mean you get fewer aircraft but they cost more."

—John A. Tirpak

★ screenshot

USAF photo by SSGT Emerson Nuñez





s of March 1, still counted as deployed heavy bombers under the counting rules of the New START agreement with Russia, announced the State Department. That total is down six from the 30 B-52Gs that were there last September, according to data the US exchanges twice a year with the Russians under the treaty's terms.

The Air Force is cutting up these retired B-52G airframes in a manner that eliminates them from the nuclear-capable

heavy bomber inventory for the purposes of the treaty. These activities are part of the service's broader drawdown of the nuclear-capable bomber force to no more than 60 deployable B-2s and B-52Hs so the United States meets New START's ceilings on strategic nuclear warheads and delivery systems by February 2018.

As of the most recent data exchange, the Air Force had a total of 111 deployed heavy bombers (B-2: 10, B-52G: 24, and B-52H: 77), according to the State

Department's July 1 fact sheet. That number grew when factoring the additional heavy bombers in nondeployed status (B-2: 10 and B-52H: 14).

#### **USAFE-AFAFRICA Stand-down**

All bases in US Air Forces in Europe-Air Forces Africa underwent a one-day safety stand-down by the end of June, following a spate of munitions and materials handling mishaps in the command's warehousing operations,



**07.04.2013**

*Fireworks light up the night sky behind an A-10 and an F-16 on the ramp at Osan AB, South Korea, on July 4. The 51st Force Support Squadron hosted the free event, which featured local bands, traditional Korean performances, kids' games, dance groups, and static displays in addition to the fireworks.*



**She's Gonna Blow!:** Air Force and Slovakian explosive ordnance disposal technicians fill a pit with unexploded ordnance prior to a controlled detonation June 12. USAF, Slovakian, and Australian personnel worked together to place the ordnance, while other NATO member states' military forces stood guard and conducted the detonations.

USAFE-AFAFRICA spokesman MSgt. Norris Agnew told *Air Force Magazine*. The safety stand-down applied to all airmen and personnel involved in forklift and material handling operations at all of the command's wings, said Agnew.

"Each base was given the flexibility of scheduling the stand-down during a 24-day window from June 7 to June 30, in order to minimize mission impact," Agnew said.

While USAFE-AFAFRICA did not cite an exact number of incidents, Agnew in July said the command had experienced "several" recently during general warehousing operations. Although no airmen had been injured, "resources have been damaged or destroyed," said Agnew. Incident investigations determined most of these cases were preventable, which led to the stand-down period.

USAFE-AFAFRICA leadership is willing to do "whatever it takes to re-

emphasize our commitment to safety in our handling operations, even if it means briefly halting the mission," Agnew said.

#### NASA Selects 2013 Class

Air Force Lt. Col. Tyler N. Hague is

among an elite group of eight astronaut candidates selected by NASA to train for future space missions. Members of the new class—the first since 2009—could find themselves walking on an asteroid and eventually even Mars, stated a NASA release.

#### F-35 Pushes Forward

The F-35 program has made "major advances" over the last three years and is no longer "one of my 'problem programs,'" Pentagon acquisition, technology, and logistics chief Frank Kendall said. Speaking during a June teleconference following a multiday summit with government, contractor, and allied nation F-35 managers, Kendall said he'll green light boosting the F-35 production rate in September, going to 44 in 2015 and 66 in 2016.

The meeting had a "completely different tone" than last year's summit, noted Kendall. The program is "on track." Negotiations on Lots 6 and 7 are going "more quickly and more smoothly" than on Lot 5, which were tough because it was the first based on DOD's should-cost analysis, he said.

Air Force Lt. Gen. Christopher C. Bogdan, program executive officer for the F-35 Lightning II Joint Program Office, reported far better communication between government and vendor managers and agreed that Lot 6 and 7 talks are moving fast. "We started negotiations about a month ago, and we've made more progress ... in 30 days than we did in about 11 months last year," he said.

Kendall said, "This is not the program of 2010," and while it's too soon to "declare success," there's a clear path to fix any remaining F-35 deficiencies. Operating costs are better understood now that the Marine Corps and Air Force are training F-35 pilots, and he predicted "we can make a substantial dent in projections" of operating costs. They will be reflected in the September cost numbers, he said.

—John A. Tirpak

"These new space explorers asked to join NASA because they know we're doing big, bold things here—developing missions to go farther into space than ever before," said NASA Administrator Charles F. Bolden Jr.

The selection process included a year-and-a-half search and a pool of more than 6,000 applicants—the second largest number of applicants ever received by NASA, stated the release. The four female and four male candidates will report to the Johnson Space Center in Houston this month to begin training; however, they will receive technical training at various space centers to prepare for missions, according to NASA.

Prior to his selection, Hague, 37, worked as deputy chief of the Joint Improvised Explosive Device Defeat Organization. He is a graduate of the US Air Force Academy and the Air Force Test Pilot School.

**Military Legal Authority Intact**

The Senate Armed Services Committee voted on June 12 to strike a proposal removing the authority to oversee the prosecution of military sexual assaults from the chain of command. The committee voted 17-to-9 in favor of an amendment sponsored by SASC Chairman Sen. Carl Levin (D-Mich.) over a proposal by Sen. Kirsten Gillibrand (D-N.Y.). In its place would be a provision requiring an independent review by the next higher level of the chain of command in cases where a commander decides not to prosecute a sexual assault allegation.

However, Gillibrand said at the SASC hearing that she found the provision "insufficient" as it does not adequately address victims' fear of retaliation. She said a distinguishing factor of her bill was how it requests a set of military lawyers, who do not report to the chain of command, to make decisions independently. She argued commanders are not creating a climate where victims believe they can report without "being blamed, being retaliated against, being marginalized."



USAF photo by SSgt. Stephanie Wade

Levin said the new provision addresses the problem of retaliation by making it a crime and establishing an

**Ride 'em, Cowboy:** Pararescueman SrA. Jason Fischman hoists an Army working dog into an HH-60G Pave Hawk during a joint rescue training scenario June 21 at Bagram Airfield, Afghanistan. The working dogs are trained to detect explosives. The dogs work in rough, mountainous terrain, and must be trained to accept a hoist and the sound of the helicopters so that they may be extracted along with their human team members in an emergency.

expectation that commanders will be held accountable for creating a climate in which victims fear retaliation.

**Study Supports F-16 Relocation**

The proposed in-state relocation of the 18th Aggressor Squadron from

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## SAPR Office Makeover

There has been intense energy throughout the Defense Department and Congress over the past few months as leaders tackle a growing and disturbing trend in military sexual assaults. As part of that movement, the Air Force's Sexual Assault Prevention and Response Office is making significant structural changes to strengthen its efforts to combat the problem.

In addition to overhauling the SAPR office, the Air Force has plans to increase its reach and capability. Senior officials announced June 6 that Maj. Gen. Margaret H. Woodward would lead the SAPR office, which serves as the core of the Air Force's effort to reduce sexual assault within the ranks and to provide victims the support they need. Woodward previously oversaw the command-directed investigation into sexual misconduct at basic military training and all other Air Education and Training Command units.

"No one cares more about fixing this issue than we do," said Woodward in a statement to *Air Force Magazine*. "Not only because this is our family, but also because our lives inherently depend on our trust in our wingmen. We must restore the trust of the American people and, more importantly, the trust our airmen have in each other." The changes aligned the office directly under the Air Force vice chief of staff, raising it to a directorate level as opposed to the branch-level position it previously held.

The Air Force also intends to expand the size and scope of the office. Authorized Manning will increase from four people to around 30—all with a range of skill sets, said Lt. Col. Jill Whitesell, spokeswoman for the SAPR office. The Air Force will add an analysis team to take a more analytical and methodical approach to eradicating the problem.

Airmen are expected to play a direct role in the changes too. They will be asked to participate in cultural surveys and focus groups. "We want every airman to be a part of the solution, and by participating in these data polls, [it] will help ensure we are addressing the issues at their root cause," Whitesell said.

The new SAPR office will incorporate some social media elements as well, developing a blog as an attempt to create a platform for open dialogue where airmen can express ideas and thoughts on topics related to sexual assault prevention and response.

While the structural and staff improvements have no set timeline, Whitesell said it needs to be a top priority for Air Force leadership. "We are trying to build the team as quickly as possible in order to move forward with assessing and addressing the issues."

The reorganization of the Air Force SAPR office follows a May directive from Defense Secretary Chuck Hagel aimed at bolstering the Pentagon's response to sexual misconduct. In addition, the House of Representatives in late June passed HR 1864, a bill that strengthens protections of victims against retaliatory personnel actions taken in response to reporting crimes related to sexual assault in the military.

Eielson AFB, Alaska, to Joint Base Elmendorf-Richardson would save the Air Force \$227 million over a five-year period and help achieve operational efficiencies, stated the draft report on the move's environmental impact.

Eielson's 21 F-16s and associated personnel would shift to Elmendorf under the proposal, while Eielson would continue to support major training exercises with a much-reduced personnel footprint, according to the report's executive summary.

Sen. Mark Begich (D-Alaska), a critic of the move, challenged its "phantom cost savings." Similarly, Sen. Lisa Murkowski (R-Alaska) called the plan a "backdoor BRAC" with no validated cost savings.

The Air Force also looked at three alternatives: relocate the F-16s to Elmendorf, but deploy them to Eielson for 12 weeks a year for major exercises; station

the F-16s at Elmendorf and deploy them with tanker support for exercises for 12 weeks per year; and take no action. The release of the final environmental report is expected this fall.

### Hagel Hosts LGBT Event

Defense Secretary Chuck Hagel, the President's Senior Advisor Valerie B. Jarrett, and acting Air Force Secretary Eric K. Fanning all highlighted the issue of lesbian, gay, bisexual, and transgender members of the military at an LGBT pride event at the Pentagon.

"All of us are created equal," said Hagel in his opening speech, stressing the efforts DOD has made to secure equal rights for its employees. Hagel said allowing LGBT service members to serve openly makes "our military and our nation stronger, much stronger."

Jarrett echoed Hagel's comment commending him for the emphasis he has placed on eliminating sexual harassment and discrimination within DOD.

The event capped off with a speech by Fanning, the highest-ranking openly gay official in the Defense Department. "Your presence here ... means more than you could possibly understand," Fanning told Hagel during his speech. He said, "Events like this give voice not just to us, but to those who support us."

### Navy Receives First F-35C

The Navy's first F-35C carrier variant production aircraft arrived at Eglin AFB, Fla., on June 22, announced manufacturer Lockheed Martin. Navy test pilot Lt. Cmdr. Christopher Tabert flew the aircraft, dubbed CF-6, from Lockheed Martin's Fort Worth, Tex., facility. In April 2012, Tabert had become the first military test pilot to fly all three variants.

Strike Fighter Squadron 101, based at Eglin, will be the F-35C fleet replacement squadron and will train pilots and maintainers. Four additional F-35Cs will arrive at Eglin and will join a dozen of the Air Force's F-35A conventional takeoff and landing variants and 13 of the Marine Corps' F-35B short takeoff and vertical landing variants already based there.

"We are committed to the Navy's vision for the F-35 that will revolutionize forward-based combat power in current and future threat environments," said Lorraine Martin, the company's executive vice president and F-35 program general manager.

The Navy plans to declare the F-35 ready for combat in 2019, stated the Lockheed Martin announcement. The sea service will use the aircraft to replace its older F/A-18s.

### CRAF Demand Post-Afghanistan

A recent Government Accountability Office report has directed the Secretary of Defense to shift some of its peacetime airlift workload to commercial sources to buttress the Civil Reserve Air Fleet.

The Defense Department exceeded the flying hours needed to meet military training requirements for mobility aircrews from Fiscal 2002 through Fiscal 2010 due to increased operations in Iraq and Afghanistan, according to the report, released on June 20. However, after the Afghanistan drawdown, demands on airlift are projected to decline by at least 66 percent to pre-9/11 levels, reducing both training opportunities for military aircrews and business opportunities for participants in the CRAF, stated the report.

Because there is no linkage between DOD's process for monitoring flight hours and its allocation of eligible airlift missions

### Operation Enduring Freedom

#### Casualties

As of July 15, a total of 2,245 Americans have died in Operation Enduring Freedom. The total includes 2,242 troops and three Department of Defense civilians. Of these deaths, 1,763 were killed in action with the enemy, while 481 died in noncombat incidents.

There have been 18,957 troops wounded in action during OEF.

#### Afghanistan Leads Security Mission

Afghanistan's National Security Forces took the lead in all security missions in mid-June as US and coalition forces continue the transition from a combat to a support role.

Such an announcement kick-started the final phase of the transition process, stated a June 18 Pentagon news release. Marine Corps Gen. Joseph F. Dunford Jr., commander of US and International Security Assistance Force troops in Afghanistan, called the move a "monumental step forward." Speaking to the Afghan people, Dunford said the milestone is "cause for celebration, not apprehension."

During a joint press conference with Afghan President Hamid Karzai, NATO Secretary General Anders Fogh Rasmussen praised both Afghan and coalition troops.

"We have worked hard, and fought hard, to make this possible. And we can be proud of what we have achieved together," said Rasmussen. "Your forces are showing great courage, great skill, and making great sacrifices."

Defense Secretary Chuck Hagel said in a statement, "This achievement keeps us and our coalition partners on track to bring our combat mission to a close next year and transition to a noncombat, train, advise, and assist mission that will help ensure Afghans can sustain security into the future."

#### Logistical Balance

Afghanistan's geography, weather, security, and limited transport infrastructure present much larger obstacles to the upcoming drawdown than what logistics planners faced in Iraq in 2011, said Scott M. Anderson, US Central Command's deputy director for logistics and engineering.

Kuwait, what Anderson called "the catcher's mitt" for supply and rolling stock coming out of Iraq, has no corollary with Afghan operations. "You can't just go next door to

Pakistan or up into Uzbekistan and park," he said. "Once the movement begins, you have to keep moving ... until [the shipment] gets home to the US."

He said agreements are now in place to channel a growing amount of equipment through Pakistan, which has ample capacity to support the drawdown. Currently, the Northern Distribution Network, through the Hindu Kush mountains and several former Soviet republics in Central Asia, only supports about four percent of retrograde equipment. Most US forces operate in eastern Afghanistan now, Anderson noted, and it would be prohibitively expensive to send them out through the northern passage—particularly in the winter months.

However, Anderson said he is optimistic the drawdown remains on path to meet President Obama's goal of 34,000 troops in country by February 2014 (today's force in country stands around 60,000).

#### Afghan Wing Lacks Personnel, Expertise

The Afghan Special Mission Wing—charged with counternarcotics and counterterrorism operations—does not have enough personnel or expertise to conduct its mission, according to a report from the US Special Inspector General for Afghanistan Reconstruction. Still, the Defense Department is going ahead with a \$772 million plan to procure 48 aircraft—30 Mi-17 helicopters and 18 PC-12 fixed-wing airplanes—for the fledgling Afghan wing, stated the June report.

As of late January, SMW had just one-quarter of the personnel needed to reach full strength. Recruiting challenges include finding literate Afghans capable of passing the stringent US vetting process, the report said. The Afghan defense ministry and interior ministry also have failed to reach an agreement for the wing's command and control structure, which also is slowing recruiting. Although DOD contractors now provide 50 percent of the maintenance and repairs and 70 percent of maintenance and logistics management for the wing's current force of 30 Mi-17s, there is no plan in place to transfer those functions to the Afghans.

"We maintain that moving forward with the acquisition of these aircraft is imprudent," stated the report's cover letter to Defense Secretary Chuck Hagel.

to CRAF participants, GAO said "it cannot determine whether [DOD] is using CRAF to the maximum extent practicable."

#### Canada Is First to Use AEHF

Canada has become the first international partner to communicate using the Advanced Extremely High Frequency Satellite System, announced manufacturer Lockheed Martin. A US-Canada team made contact with the AEHF-1 satellite from a SMART-T terminal near Ottawa, Canada, allowing them to share data with the US Air Force's 4th Space Operations Squadron at Schriever AFB, Colo.

"This event was an integrated effort that spanned countries, armed services, and product lines. It shows our employees are delivering a complex system that works well, enhances capability, and improves

allied missions," said Mark Calassa, vice president of protected communications at Lockheed Martin.

Canada is one of three AEHF international partners; the other two, the Netherlands and the United Kingdom, are expected to test their first terminal connections by the end of the year. The AEHF Satellite System is designed to improve communications among combatants on the ground, sea, and air, as well as provide communication links to national leaders, including the President.

#### A Call For More Nuke Cuts

President Obama called for further nuclear cuts during a speech before thousands at Berlin's Brandenburg Gate. Obama said a completed review of US nuclear forces has determined it can guarantee the potency of the country's

nuclear deterrent even with further reductions of deployed strategic nuclear weapons beyond New START levels.

"I intend to seek negotiated cuts with Russia to move beyond Cold War nuclear postures," Obama said, after announcing the US will reduce its deployed strategic warheads by up to a third of its current arsenal.

The US also will work with NATO to seek reductions in US and Russian tactical weapons in Europe, build support in the US to ratify the Comprehensive Nuclear Test Ban Treaty, and host a conference in 2016 to continue efforts to secure nuclear materials around the world. The proposed cuts would take the number of deployed strategic warheads for both countries below the limit of 1,550 set by the New START agreement. While Obama received support from

## Senior Staff Changes

**RETIREMENTS:** Maj. Gen. Lawrence L. Wells, Brig. Gen. Daniel B. Fincher, Brig. Gen. Dave C. Howe, Brig. Gen. Eden J. Murrie.

**CHANGES:** Brig. Gen. Warren D. Berry, from Dir., Log., Instl., & Mission Spt., USAFE, Ramstein AB, Germany, to Dir., Log., AMC, Scott AFB, Ill. ... Brig. Gen. Casey D. Blake, from Dep. Dir., AAFES, Dallas, to Cmdr., AF Instl. Contracting Agency, Office of the Asst. SECAF, Acq., Wright-Patterson AFB, Ohio ... Maj. Gen. Jim H. Keffer, from Asst. DCS, Intel., Surveillance, & Recon, USAF, Pentagon, to C/S, CYBERCOM, Fort Meade, Md. ... Maj. Gen. (sel.) Lee K. Levy II, from Dir., Log., AMC, Scott AFB, Ill., to Vice Dir., Log., Jt. Staff, Pentagon ... Maj. Gen. Kurt F. Neubauer, from Vice Cmdr., 7th AF, PACAF, Osan AB, South Korea, to AF Chief of Safety, USAF, Pentagon ... Maj. Gen. (sel.) Terrence J. O'Shaughnessy, from Dep. Dir., Politico-Mil. Affairs, Asia, Jt. Staff, Pentagon, to Dir., Ops., PACOM, Camp Smith, Hawaii ... Brig. Gen. Gregory S. Otey, from Dir., US Forces-Afghanistan Liaison to the US Embassy, Kabul, Afghanistan, to Dir., Nuclear Spt., Defense Threat Reduction Agency, Fort Belvoir, Va. ... Brig. Gen. Bradley D. Spacy, from Cmdr., 81st Tng. Wg., AETC, Keesler AFB, Miss., to Dir., Log., Instl. & Mission Spt., USAFE, Ramstein AB, Germany ... Brig. Gen. David R. Stilwell, from US Defense Attaché, China, PACOM, Defense Intel. Agency, Beijing, to Dep. Dir., Politico-Mil. Affairs, Asia, Jt. Staff, Pentagon ... Brig. Gen. Linda R. Urrutia-Varhall, from Dir., Intel., SOUTHCOM, Miami, to Asst. DCS, Intel., Surveillance, & Recon, USAF, Pentagon ... Brig. Gen. James C. Vechery, from Dep. Dir., Strat. Plans, Rqmts., & Prgms., AMC, Scott AFB, Ill., to Dir., US Forces-Afghanistan Liaison to the US Embassy, Kabul, Afghanistan ... Maj. Gen. Joseph S. Ward Jr., from Commandant, Jt. Forces Staff College, Norfolk, Va., to Dep. Dir., AAFES, Dallas ... Maj. Gen. Margaret H. Woodward, from AF Chief of Safety, USAF, Pentagon, to Dir., Sexual Assault Prevention & Response Office, Office of the Vice C/S, USAF, Pentagon.

**SENIOR EXECUTIVE SERVICE RETIREMENT:** David F. O'Brien.

**SES CHANGES:** Mark R. Land, to Dep. Dir., Office of Contracts, Natl. Recon Office, AFSPC, Chantilly, Va. ... James R. Martin, to DUSD, Intel. Strategy, Prgms., & Resources, Pentagon ... Troy E. Meink, to Dep. Undersecretary of the AF, Space Prgms., Pentagon ... Kenneth D. Watson, to Dep. Dir., Strategy, Policy, & Log., TRANSCOM, Scott AFB, Ill. ... Steven J. Zamparelli, to Dir., Contracting, AFMC, Wright-Patterson AFB, Ohio.

Democrats, some Republicans said the approach is reckless without including China in talks.

"Any future nuclear discussions must include China," said Rep. J. Randy Forbes (R-Va.), chairman of the House Armed Services Committee's seapower and projections forces panel. Forbes said China is modernizing its nuclear forces and poses the "most direct challenge to the global rules based order."

## Military Responds to Fires

As wildfires ravaged through the Black Forest, northeast of Colorado Springs, Colo., in mid-June, military personnel and assets were on the scene to help contain the massive flames.

At least 150 Colorado National Guard members; 10 firefighters and two vehicles from the 21st Space Wing at Peterson Air Force Base; one vehicle and a contingent

**Pining for the Fjords: A CV-22 Osprey takes on fuel from an MC-130 Combat Talon II off the coast of Greenland June 21. The aircraft was on its way to RAF Mildenhall, Britain, as part of an expansion of the 352nd Special Operations Group there. Ten CV-22s and 12 MC-130Js along with 900 personnel and family members are slated to be added to the base by 2018.**

USAF photo by SrA. Lau'a Yahemak



## The Syria Question

The United States left a detachment of F-16s and Patriot missiles in Jordan after a military exercise concluded there in June. Exercise Eager Lion involved some 8,000 personnel from 19 countries, including about 5,000 troops from each of the four US military services. The exercise ran from June 9 to 20 at locations across Jordan and challenged participants to respond to realistic scenarios while enhancing regional stability.

Pentagon spokesman George Little said in a statement that Defense Secretary Chuck Hagel "approved the request from the Kingdom of Jordan." However, he also noted that "all other US personnel assigned to Jordan for Eager Lion will depart at the conclusion of the exercise."

For seven years, the US Air Force, Royal Jordanian Air Force, and allied aircraft and personnel converged in the Jordanian desert as part of Falcon Air Meet—but this year's iteration was different because of an unfolding crisis only a car ride away from Amman.

As fighting worsened in and around the southern Syrian city of Daraa, the White House announced plans to begin arming the rebels. The US also reportedly considered a proposed "no-fly zone" in the conflict to protect rebel groups from Syria's potent air forces.

US officials downplayed connecting scheduled military exercises with the conflict and pointed to the ongoing Eager Lion exercises as an effort to build regional assurance to allies. Jordan already is managing a steadily growing stream of refugees from Syria. But there is no mistaking that airpower is playing a strategic role in Washington's decision-making calculus.

While the Colorado Air National Guard's 120th Fighter Squadron were long slated to be the lead US participant in this year's FAM/Eager Lion activities, according to USAF and US Central Command officials, an additional deployment of F-16s from the Ohio Air National Guard's 112th Fighter Squadron arrived in Jordan just after the start of Eager Lion activities—doubling the number of US F-16s in country.

The additional F-16s were already forward deployed to the region when they were moved to Jordan for the duration of the exercise.

of personnel from Schriever Air Force Base; two firefighters and a 5,000-gallon water tender from Buckley Air Force Base; and two Modular Airborne Firefighting System-equipped C-130s from the Air Force Reserve Command's 302nd Airlift Wing at Peterson all provided support.

The MAFFS C-130s conducted more than a dozen airdrops and released more than 35,500 gallons of retardant. Two CH-47 Chinooks and two UH-60 Black Hawks from Fort Carson also provided support. The *Denver Post* reported the blaze had scorched more than 14,000 acres, claimed the lives of two people, and destroyed nearly 500 homes.

## Plan Addresses Claims Backlog

A 10-point plan addressing the Department of Veterans Affairs claims backlog was unveiled in June by Sen. Barbara A. Mikulski (D-Md.), chairwoman of the Senate Appropriations Committee. The plan is to be included in the Fiscal 2014 Military Construction, Veterans Affairs, and Related Agencies Appropriations

**Doctor, Doctor, Gimme the News:** *SSgt. Spencer Zephan, a combat controller with the Oregon Air National Guard, provides air traffic control during Global Medic 2013 at Fort McCoy, Wis., on July 16. Global Medic brings members of both reserve components together to train on all aspects of combat theater aeromedical evacuation.*



USAF photo by SSgt. Heather Cozad



**They Got Schooled:** A1C Ryan Dirks and A1C Christopher Pritchett inspect the rudder and vertical stabilizer on an F-15 Eagle during training at Sheppard AFB, Tex. Some 62,000 people graduate from a training course at Sheppard annually—from pilots and maintainers to specialists in propulsion, fuels, munitions, avionics maintenance, and ground equipment.

66 percent of them pending for more than four months.

**World War II Remains Recovered**

Defense Department forensic scientists identified the remains of Army Air Forces Sgt. Charles R. Marshall, 19, of Martin, Ky., who had been missing in action since 1944, announced the Pentagon. DOD returned Marshall's remains to his family for burial with full military honors, according to a June news release.

Marshall was a member of the nine-person crew of a B-24H Liberator that was shot down on July 21, 1944, southwest of Munich, Germany, while on a bombing raid against enemy targets in Oberpfaffenhofen. Of the crew, six airman parachuted to safety and a seventh airman's remains were recovered near Hadorf, Germany. Marshall and another crewman remained missing in action.

In 2012, a DOD recovery team excavated the suspected crash site after a German national claimed to have recovered human remains and aircraft wreckage at a crash site several years prior, stated the release. The team found additional human remains and aircraft wreckage, including military identification tags bearing Marshall's name. DOD scientists used dental comparisons and mitochondrial DNA testing to help identify Marshall.

Bill that aims to give the VA additional resources to address the backlog and to strengthen training and accountability.

"When our veterans return from war, they shouldn't have to face a quagmire of bureaucracy in getting their claims processed," Mikulski said. "The solution to this problem must come right from the top. ... The Appropriations Committee will keep fighting the red tape across all the agencies responsible for our veterans because our wounded warriors can't wait."

The plan includes: \$20 million above the budget request to upgrade computer hardware in VA regional offices; more training of claims processors; monthly reports by the VA on performance measures to the House and Senate Committees on Appropriations; and an additional \$12.9 million for the Board of Veterans Appeals to hire additional personnel to help the appeals process. Mikulski said the VA has a backlog of 816,839 pending claims as of June 10,



**Welcome Home, Sir:** Members of the honor guard provide planeside honors to the remains of Maj. Larry Hanley at Spokane Airport in Washington state on July 11. Hanley, an F-105 pilot, was shot down over Laos Nov. 4, 1969. He was listed as missing in action until the Joint Prisoners of War-Missing in Action Accounting Command identified his remains this March.





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# Out of Joint

By John A. Tirpak, Executive Editor

*Paratroopers from the 82nd Airborne Division use the Joint Tactical Radio System to communicate during a field test. JTRS has long been a troubled—and expensive—joint program.*

JOINT PROGRAMS WERE TOUTED AS THE ONLY WAY TO GO IN ACQUISITION. WHY HAVE THEY CAUSED SUCH HEARTBURN?

Joint defense acquisition programs have a poor track record. Much more than single-service projects, they have a habit of racking up significant cost increases and schedule delays, and many run into trouble during testing.

Defense leaders can't quite nail down the reason, but they are preparing to do a "deep dive" to figure out why.

"We seem to have a lot of difficulty with joint programs," Pentagon Comptroller Robert F. Hale said at a March acquisition conference in Arlington, Va. "We're trying to get a handle on ... what's behind this."

It's not a new problem. According to a study in *CrossTalk: The Journal of Defense Software Engineering*, joint programs from 1997-2005 were on average about twice as likely to have schedule, development, or other problems compared to those managed by a single service. In the research, development, test, and evaluation phase, joint efforts were three times more likely to have trouble.

Since that study, a raft of joint programs—the Joint Tactical Radio System and the F-35 strike fighter are two prominent examples—have continued this dubious tradition.

"Joint programs stand out" in terms of having problems, said Katrina G. McFarland, assistant secretary of defense for acquisition. McFarland said there's "not a huge delta" between problems on joint projects and those managed single-service, but there are "obvious indices that show" joint efforts "seem to carry a lot of weight with them."

"We're looking into programs that are joint because we want to do some remediation and strengthen [their] performance," she said in a May interview in her Pentagon office.

McFarland concurred that the F-35 has been a poster child for troubled joint programs—if only for its unprecedented size and complexity—but a similar deep dive on the F-35 two years ago seems to have helped. "I'm ... optimistically but cautiously confident" the program is on track, she said.

A deep dive typically entails a forensic examination of a program's requirements, assumptions, contracting vehicle, and performance.

Indeed, Frank Kendall, the undersecretary of defense for acquisition, tech-





USAF photo by Jim Varhagy

Generally, the Defense Department creates a joint program for one of two reasons: either it needs systems that can function cooperatively or “talk” to each other among the services—such as radios or computers—or buying a common product for several services to use aims to reduce unit costs by raising the number bought, such as with vehicles, rifles, or aircraft.

The reasons for the disparity of performance between single-service and joint programs are hard to pin down, McFarland said. They each tend to have the same number of billets associated with them—program manager, contracting officer, logistician,

**Lt. Gen. Christopher Bogdan, the program executive officer for the F-35 program, testifies before a Senate subcommittee. Bogdan is an Air Force general, but leadership on the project routinely switches between the three participating services.**

nology, and logistics, said there’s reason to be optimistic that acquisition reforms broadly—and on the F-35 in particular—are starting to pay off.

“I don’t want to make too much out of a couple of data points,” Kendall told an audience at the Center for Strategic and International Studies in late May, but “we’re sending our Selected Acquisition Reports to the Congress today; [and it’s the] first time in my memory there are zero Nunn-McCurdy breaches, neither critical nor significant, in that report.” A Nunn-McCurdy is a congressionally mandated notification that a program has exceeded its cost estimate or schedule by 15 percent. If a program sees a cost rise of greater than 25 percent, it must be terminated unless the Secretary of Defense certifies that it’s irreplaceable. The bulk of Nunn-McCurdy breaches have occurred in joint programs.

### Pinning it Down

“So there is some evidence that things are getting better,” Kendall continued. “We’re getting some complimentary reports from [the Government Accountability Office] for the first time in my memory.”

In the SAR, released May 23, the F-35 saw a then-year cost reduction of about \$4.5 billion compared to the previous report. Although part of that was due to a reduced buy driven by sequestration, production lots were negotiated at lower-than-expected prices, and there were other efficiencies as well.

etc., she noted. They also are structured similarly. So “why would the color of money make such a difference in terms of an outcome?” she asked.

One key headache is interoperability, she said.

“A lot of the programs that you see in the category of joint is in the [command, control, communications, and intelligence] category, ... those that need to be interoperable.” Often, services have constructed their own, customized networks, formats, and reporting systems, and when these need to talk to each other, sometimes quite a bit is lost in translation.

“C3I programs don’t do very well, for example, compared to others,” Kendall said in his CSIS speech.

In “some sectors” of the C3I world, he explained, commercial technology is moving far faster than military technology, meaning the ponderous DOD acquisition system simply takes too long to acquire products before they are eclipsed by the commercial state of the art.

“We have had a long, troubled program for a long time called JTRS, Joint Tactical Radio System,” Kendall said, adding he’d spent his early years at the Pentagon trying to get it back on track. The system aimed to control radios with software rather than hardware, to be more adaptable to changing technologies and reduce the replacement rate of components. After 15 years and \$15 billion, in 2012 the program was vastly reduced in scope and the Army was put in charge of it.



**Oshkosh Defense's Joint Light Tactical Vehicle prototype negotiates the off-road course at Quantico, Va.**



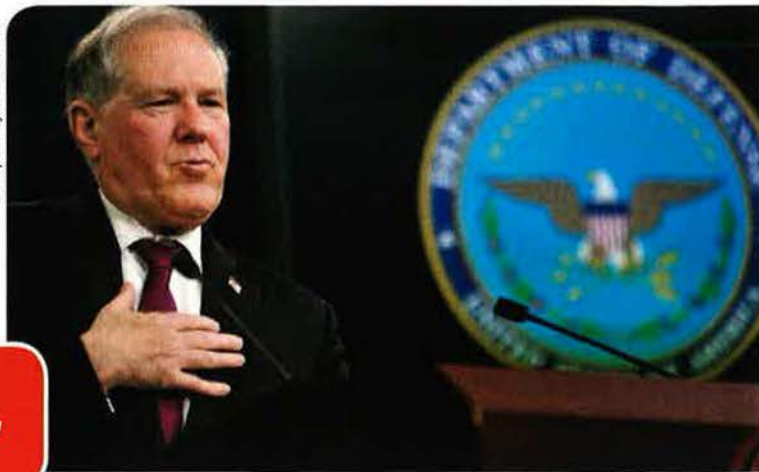
**AM General's version of the JLTV. The program will benefit from the application of lessons learned in the acquisition community.**

The Pentagon acquisition enterprise, Kendall said, has gotten to a point now where we recognize that for some of those products, industry has done some investing on its own” and came up with systems “that were competitive, that would meet our requirements.”

Kendall said, “We ought to give people the chance to build those products. So we’re going to a more commercial-like acquisition strategy for some of those products.”

That approach is mainly applicable to C3I “and commercial electronics, particularly in the RF [radio frequency] domain,”

DOD photo by Glenn Fawcett



**Frank Kendall, undersecretary of defense for acquisition, technology, and logistics, speaks to reporters at the Pentagon in 2012. Kendall is optimistic about joint program reforms, and particularly the F-35 program.**

he added, and competition will be at the heart of it.

“I’m not going to get a commercial fighter plane, but some of the things I’d put in the fighter plane may be commercial,” he said.

Besides the challenges of interoperability, the services have different tactics, techniques, and procedures—TTP—for “how they field, how they maneuver, how they carry,” McFarland noted.

In the Marine Corps, “they have to carry everything with them” for 30 days. The Army, by contrast, expects “a supply chain already built in. Well, that characterizes the operations, and that translates into equipment, and when you translate it into equipment, that means you have competing aspects to the program.”

Typically, this is where the friction happens, McFarland said. While the basic requirements are nearly always the same—because all the services are facing a similar threat that needs to be defeated in mostly the same way—differences abound in how the equipment is transported, networked, operated, manned, and supported. Shipboard operations are very different from land-based operations, for example.

“The threat is agreed upon,” she said. The “trade space” emerges in fielding, and that’s “where some unique facets come to light.”

She allowed that joint programs, because they are populated by managers from multiple services with different ideas and

basic assumptions about warfare, seem not to have the same “focus” that single-service efforts have.

In a single-service program, the managers are “all from that organization, they all have that culture of that organization. They’re trained the same way.” But with a “mix of more than one [entity] coming together to manage a program,” she added, “there’s always going to be a complex dynamic going on with people working together who have different backgrounds, ... experiences, ... training. So you have to manage that.”

Services need to send “their best and brightest” to joint programs just as they would to a program serving only their individual needs, McFarland said. They also need “access to command authority” and a “streamlined chain for decision-making.”

McFarland also said that in joint programs, the program manager must be strong enough to enforce the rules and act as the “umpire” when the services have different ideas about how to proceed. Presumably, there already will be a consensus on the requirements through the tortuous process known as JCIDS, the Joint Capabilities Integration and Development System, as governed by the Joint Requirements Oversight Council, or JROC.

The acquisition leadership is trying to get program managers to identify problems early and quickly, before they get out of hand, McFarland said.

“And so the program manager has to have a chain of command, both up and inside their organization, that facilitates quick



**Lockheed Martin’s offer. The joint program to replace the Humvee got high-level attention from the very beginning.**



**BAE System’s JLTV. The benefits of affordability and competition are clear.**



USAF photo by

*Service members go through maintenance training on a USAF F-35 Joint Strike Fighter. Airmen, marines, sailors, and international partner operators train on the new fighter at Eglin AFB, Fla.*

bringing-forward of issues” and enough access to top leaders that program managers can “get to the executing agent or the service Chiefs ... and get [them] resolved.”

Another healthy step would be to ensure that services have “a common infrastructure” to accommodate joint programs, especially in how career acquisition officers are educated and trained.

Commenting specifically on the F-35, McFarland noted that Air Force Lt. Gen. Christopher C. Bogdan, the program executive officer, is “playing on two ... or three teams, or all the teams right now.” It’s essential that the F-35 program manager not be unduly influenced by his own or any other service, she said. The acquisition leadership “is there to facilitate the success of the program—not the particular service or organization. And that is a balance.”

Bogdan, she said, is a “strong” manager and has the temperament to tell truth to power.

Such a high-profile program might also need an impartial party as the leader at some point, McFarland said.

“Could it, in the future, have a flip where we have a civilian as the [program manager] and a military as the deputy? Quite possibly.”

The F-35 is a unique project in that the services routinely swap leadership of it. When the program manager is an Air Force officer, his deputy is a Navy or Marine Corps officer and he reports to the Navy’s service acquisition executive.

When the program manager is a Navy admiral, he has an Air Force deputy and reports to the Air Force acquisition chief. Although the strike fighter has had “mixed results” in the past, McFarland declined to attribute its performance to the rotating leadership model.

The F-35’s problems, she said, had to do more with “the programmatics and how it was laid in.” Programs often are felled by faulty assumptions at the outset, and the F-35 was no different, she said.

“We assumed that modeling and simulation would answer a lot of the concurrency concerns that we had,” she said. Various offerors had a variety of modeling and simulation tools, and it was thought the eventual winner would have access to all of them, so that capability was included as part of the request for proposals.

### Joint Prognosis

“We ended up having a program that had already been built and funded to a certain paradigm, and the concurrency had been built in” with assumptions that modeling and simulation tools “would be able to mitigate that.”

This problem wasn’t addressed until the F-35 suffered a Nunn-McCurdy breach. More time was added to the restructured program, and “now, we’re seeing very positive results,” McFarland asserted.

As another example, she said that cost assumptions on building missile defense sites in Europe were all predicated on host country “acceptance of the system being

in their backyard.” That issue also “never actually filtered out,” she acknowledged.

So now “we have people ... focused on making sure we didn’t assume away something that is a critical problem.”

McFarland plans to explore why some multiservice programs that don’t have the “joint nomenclature” work quite well. She held up the AIM-120 Advanced Medium-Range Air-to-Air Missile (AMRAAM) as an example of such programs.

It’s one of those that has “really met the criteria of ‘joint’ because [the other] services come in and buy their product,” she said, even though one service—in this case, the Air Force—runs the program.

McFarland said AMRAAM “does very, very well. And I think it has learned over time and has utilized what it has learned effectively and improved continuously. So I think very highly of that program.” It uses appropriate contracting methods, she said, that make sense given the scope of the project.

Kendall said he wants to get away from textbook approaches to defining and structuring programs, including joint ones. He wants the Pentagon to think specifically and clearly about when some kind of contracting vehicle is appropriate and when it isn’t.

There was a lot of “overreaction,” Kendall said, when he and his predecessor—now Deputy Defense Secretary Ashton Carter—pushed for more fixed-price contracting.

“People started thinking that was what they should use all the time and use it for everything,” he said, but that was not the intention. New guidance “modifies that a little bit and says [to] use the right type of contract for the job. We have a range of contracts for good reason.”

Fixed price, he said, should be applied when the work is clearly defined, costs are clearly understood, and there is minimal to no invention required.

“We want to use fixed-price incentive more ... in early production. It turns out that we’re pretty good at predicting the cost of production. We’re not nearly as good ... at predicting the cost of development. ... There, the risk is inherently higher, [and] ... it may not be as appropriate to use a fixed-price vehicle.”

The approach is “paying off for us,” especially on the F-35, Kendall said, asserting, “I think it’s done a lot to get that program’s cost under control.” Starting with the first lot of production F-35s, the government and Lockheed Martin agreed to a fixed price for the fighters.

McFarland said commonsense contracting has been used with the AMRAAM. “The missile round is not as complex” as an F-35. It’s a “classic example of having the right decisions made as they made them—because they could—and they didn’t have to deal with complexity.”

Sometimes programs can be done in by simple things, too. The Joint Air-to-Surface Standoff Missile, or JASSM, had an exasperating run of failures in early tests—not because of any inherent design flaw, but mainly because of maddening small issues like faulty bolts and mistakes in procedures, ultimately traced to vendor quality and operator issues.

After a Nunn-McCurdy breach and a joint scrub of the program by Lockheed Martin and DOD, recent tests of the missile and its extended range variant show much higher reliability.

The days of test failures due to bolts and springs, “I believe, ... are far behind us,” said Frank St. John, vice president of tactical missiles and combat maneuver systems at Lockheed Martin Missiles and Fire Control.

What’s the prognosis for future joint programs? McFarland said she’s “still in the diagnostic phase,” but optimistic about improvement. Service Chiefs, she said, have begun to realize that billions of dollars of their own services’ money are being spent on joint programs, so they need to appoint officers to them who will do well and provide benefit to the acquisition community—and then “make sure [they]

... don’t overlook the people who did acquisition tours when they do promotions.”

Many of the improved practices the acquisition leadership is developing will be applied to the Joint Light Tactical Vehicle program—an Army-Marine Corps-Special Operations Command effort to come up with something to supplant the venerable Humvee for certain applications.

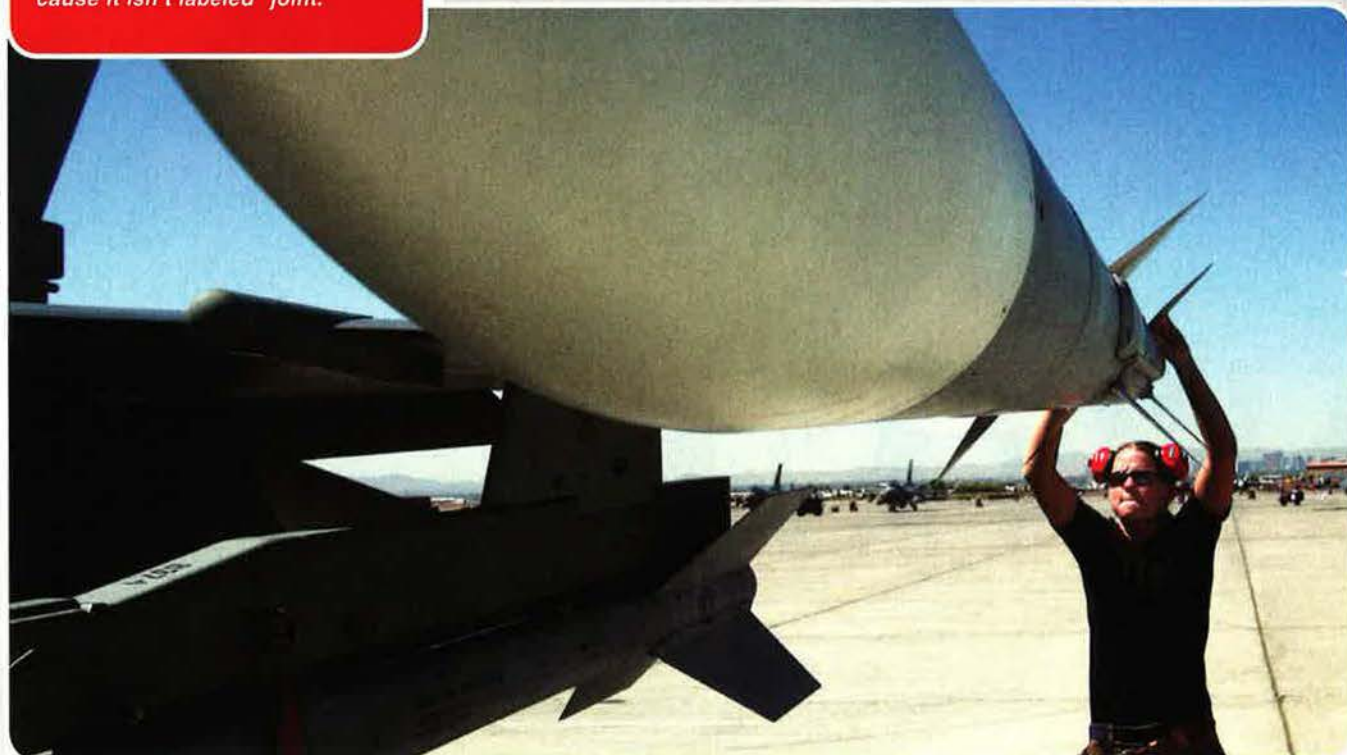
McFarland said the setup of that program got high-level attention “at the very beginning because we had an opportunity to do so.” Leaders focused on “realistic requirements, moderating between the services [on] what is the product that they can agree to.” An emphasis on affordability and the benefits of competition are “coming to bear as we had hoped” on the JLTV, she said.

However, “right now we don’t have too many new starts or programs that are joint coming forward, so I can’t say I have any other program pathfinders.”

What has become clear from managing—and restructuring—many joint programs is that when they are given a go-ahead, McFarland said, it’s with the conscious recognition that this status will exact an early cost. That cost must be deemed acceptable to gain certain benefits later in the program.

Whether it’s the interoperability, hoped-for efficiencies, or other considerations, “the value or the costs” were “applied distinctly when the decision was made to make them joint. Everybody said, ‘Yes, ... we want to do this.’” ■

*SSgt. Jessica Srigley inspects an AIM-120 missile on an F-16 during a Red Flag exercise. AIM-120 is a multiservice program that works well—perhaps because it isn’t labeled “joint.”*





**FOR THE AIR FORCE, IT'S  
NOTHING NEW.**

# WOMEN IN COMBAT

by Amy McCullough, News Editor

AIR FORCE Magazine / August 2010





**M**ORE than 200,000 women serve in the US military—roughly 15 percent of the force. These women lead convoys down Afghanistan’s dangerous dirt roads. They risk their lives every time they diffuse an improvised explosive device. They dodge bullets as they provide medical care to wounded troops. They fly fighter jets and drop bombs.

Three female airmen have made the ultimate sacrifice since the wars in Iraq and Afghanistan began. Twenty-three more have been wounded in action.

After more than a decade of fighting two simultaneous counterinsurgency wars, the front lines have become blurred. One thing is clear: Women have proved capable in combat.

“It’s clear to all of us that women are contributing in unprecedented ways to the military’s mission of defending the nation,” said then-Defense Secretary Leon E. Panetta in January as he announced plans to open up more roles to women in combat. He continued, “They’re serving in a growing number of critical roles on and off the battlefield. The fact is that they have become an integral part of our ability to perform our mission.”

Panetta said female service members have “demonstrated courage and skill and patriotism” as they “have faced the reality of combat, proven their willingness to fight and, yes, to die to defend their fellow Americans.”

During that same Jan. 24 briefing, Panetta and Army Gen. Martin E. Dempsey, Chairman of the Joint Chiefs of Staff, signed a memorandum rescinding the 1994 direct ground combat exclusion rule, which supposedly prohibited women from operating on the front lines.

SrA. Kimberly Pate (l) and SSgt. Stephen Oghe prepare a detonation cord after placing explosive charges around a totaled C-130.

## Expanding Roles for Women in the Air Force

**Aug. 5, 1943** - The Women's Auxiliary Ferry Squadron (WAFS), comprising women flyers with commercial licenses, is merged with the Women's Flying Training Detachment, which had been formed to recruit and train women pilots for ferrying duties. The new organization, the Women's Airforce Service Pilots (WASP), is led by famed aviatrix Jacqueline Cochran.

**Feb. 29, 1968** - Jeanne M. Holm, director of Women's Air Force, and Helen O'Day, assigned to the Office of the Air Force Chief of Staff, become the first women promoted to permanent colonel.

**July 1, 1968** - The first WAF in the Air National Guard is sworn in as a result of passage of Public Law 90-130, which allows ANG to enlist women.

**May 5, 1970** - The Air Force Reserve Officers Training Corps admits women after test programs at Ohio State, Auburn University, Drake University, and East Carolina University prove successful.

**March 2, 1971** - A new policy allows Air Force women who become pregnant to request a waiver to remain on Active Duty or to be discharged and return to duty within 12 months of discharge.

**March 8, 1971** - Capt. Marcelite C. Jordan becomes the first female aircraft maintenance officer after completion of the Aircraft Maintenance Officer's School. She was previously an administrative officer.

**March 17, 1971** - Jane Leslie Holley, from Auburn University, Ala., becomes the first woman commissioned through Air Force ROTC.

**July 16, 1971** - Jeanne M. Holm becomes the first female general officer in the Air Force.

**June 28, 1976** - The Air Force Academy becomes the first of the big three service academies to admit women cadets when it admits Joan Olsen.

**March 23, 1978** - Capt. Sandra M. Scott becomes the first female aircrew member to pull alert duty in Strategic Air Command.

**May 28, 1980** - The Air Force Academy graduates its first female cadets. Ninety-seven women are commissioned as second lieutenants. Lt. Kathleen Conley graduates eighth in her class.

**May 9, 1983** - A C-141 crew from the 18th Military Airlift Squadron, McGuire AFB, N.J., becomes USAF's first all-female crew to fly a round-trip mission across the Atlantic.

**Oct. 5-13, 1984** - On the 13th space shuttle mission, Challenger lifts off for the first time with a crew of seven. Mission 41-G is the first to have two female astronauts, Sally K. Ride and Kathryn D. Sullivan (who became the first American woman to make a spacewalk).



Jacqueline Cochran



*SSgt. Tamara Rhone, a crew chief, watches as Maj. Christine Mau, an F-15 pilot, and Capt. Jennifer Morton, an F-15 weapons system officer, don their helmets before takeoff from a base in Afghanistan.*

Dempsey said the burden now falls on each of the services to demonstrate why a woman should not serve in a particular specialty. "I don't know how all that's going to sort out, but I'm really eager to begin the journey," he added.

On May 15, each of the four services submitted an implementation plan to Defense Secretary Chuck Hagel detailing how they planned to more fully integrate women into the remaining combat roles. The plans, which were reviewed by Hagel and Dempsey before their release on June 18, outline a path to a fully integrated force. Even the most elite positions are expected to open to females in the coming years, including all seven remaining Air Force specialty career fields, Army Rangers, and the Navy SEALs, said Pentagon leaders at the June news briefing announcing the plan's release.

"The department's goal is to ensure the mission is met with the best, most fully qualified, and most capable people



Kathryn Sullivan and Sally Ride



AIR FORCE Magazine / August 2013



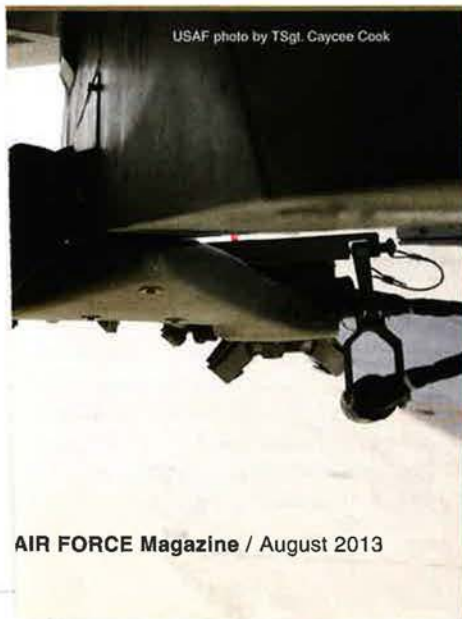
USAF photo by SrA. Shelia Devira

regardless of gender,” said Juliet Beyler, the Pentagon’s director of officer and enlisted personnel management, at the briefing.

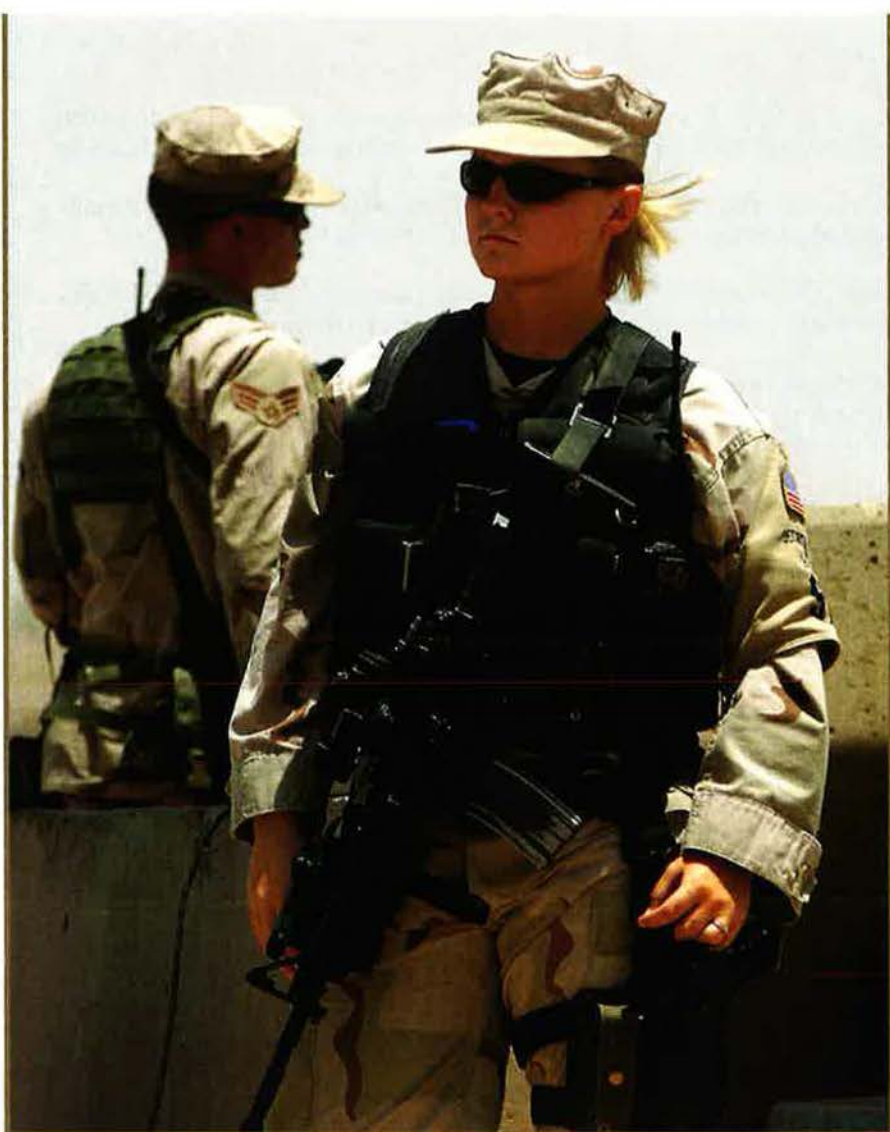
The Army and Marine Corps will be most impacted by the change considering the majority of infantry and artillery positions are closed to females. The Navy, on the other hand, has slowly been integrating women into its submarine fleet and other previously closed positions for the last few years. As of June, 88 percent of its force was fully integrated, said Rear Adm. Anthony M. Kurta, director of Navy military personnel plans and policy, during the briefing. Unlike the other services, most Air Force specialty codes already are open to women—special operations remains the sole exception.

### Old News for USAF

Because special tactics officers, combat control, and special operations weathermen and officers—four of the seven positions currently closed to female airmen—are positioned under US Special Operations Command, SOCOM will have the final say on opening those career fields. That equates to about 800 positions, said Brig. Gen. Gina M. Grosso, Air Force director of force management policy on the Air Staff.



USAF photo by TSgt. Caycee Cook



USAF photo by TSgt. Russell Wicke

**A1C Tiffany Buck, a security forces airman, watches for the approach of suspicious vehicles at Echo One, the main gate at Sather AB, Iraq, in 2007.**

The Air Force, however, will determine the most appropriate way for opening the remaining positions still closed to women: combat rescue, pararescue, and tactical air command and control parties (TACP). These Air Combat Command career fields have both an SOF and non-special operations mission, said Grosso.

All together, there are only about 4,700 positions closed to female airmen today out of a Total Force of 506,000 people, Grosso added.

“The Air Force has been actively integrating women into nontraditional skills” since the early 1970s, she said. “Today, less than one percent of all our positions—Active, Guard, and Reserves—are [closed] to women.”

On March 17, 1971, Jane Leslie Holley, from Auburn University in Alabama, became the first woman commissioned through Air Force ROTC. Just four months later, on July 16, 1971, Jeanne M. Holm

became the first female general officer in the Air Force.

By 1983, the Air Force had sent an all-female airlift crew on a round-trip mission across the Atlantic. Five years later, the Air Force began integrating male and female crews in Minuteman and Peacekeeper ICBM launch facilities.

Female airmen would continue to break new ground throughout the rest of the late '80s into the mid-'90s, when in 1994 1st Lt. Jeannie M. Flynn would become the first female fighter pilot in the Air Force.

Flynn, now Col. Jeannie Leavitt, is currently commander of the 4th Fighter Wing at Seymour Johnson AFB, N.C.—another Air Force first, as she is the Air Force’s first female fighter wing commander.

“Women have participated in combat roles for more than 20 years and we remain energized by the overall collective progression,” Leavitt told *Air Force Magazine*. “The Pentagon’s latest guidance

**A1C Krysta Laird, a weapons loader, prepares an F-16 to take on munitions at Kandahar Airfield, Afghanistan.**

## A Combat Medic

Sparks lit up the darkened interior of the mine-resistant, ambush-protected vehicle as the rocket-propelled grenade pierced through the MRAP's armored shell, striking the empty seat across from SrA. Bryenna L. Brooks.

At the time, Brooks was attached to the Army's 59th Quartermaster Company, 142nd Combat Sustainment Support Battalion, 101st Sustainment Brigade, based out of Bagram Airfield, Afghanistan. She had arrived in theater in November 2010 and only had about two weeks left in her deployment.

While in Afghanistan, Brooks was the lone combat medic on more than 25 supply runs just like this. She traveled more than 3,000 miles across Afghanistan's dangerous and poorly constructed roads and provided care to more than 1,000 personnel.

The June 3, 2011, mission would not be the same as all the rest, though.

It was around 2 a.m. and "quite dark," so it was difficult to make out much other than a few trees from the back of the convoy's tail vehicle, where Brooks sat. She felt the MRAP come to a halt after it got a flat tire.

In early 2011, Ghazni was a volatile province. US forces had successfully taken control of several parts that were formerly under Taliban control, but insurgents who had crossed the border from Pakistan into eastern Afghanistan continued to fight back. Brooks was unsure whether the flat tire was coincidence or if it was deliberate and intended to make them sitting ducks for the upcoming attack (though she suspected that might have been a factor).

She did know, however, that the soldiers she was with remained on alert. As the team sat there, Brooks noticed several flashing lights in the town just outside Ghazni, through which the convoy had just passed.

"I guess they were signaling to each other," said Brooks, because a few minutes later the convoy came under attack by small-arms fire. Just as her vehicle's gunner began shooting back, their vehicle was struck by the RPG.

The nauseating smell of burning copper from the RPG made it difficult to breathe, as

ronments for extended periods of time," said Sacolick. SOCOM's subordinate commands are "reviewing every single task in each of our entry-level qualification courses to ensure that they are decisively tied to an operational requirement." This also will include a thorough review of

**Jan. 1, 1988** - SAC changes its missile crew assignment policy to permit mixed male/female crews in Minuteman and Peacekeeper ICBM launch facilities.

**June 10, 1989** - Capt. Jacquelyn S. Parker becomes the first female pilot to graduate from the Air Force Test Pilot School at Edwards AFB, Calif.

**Dec. 14, 1989** - MAC approves a policy change that allows female aircrew members to serve on C-130 and C-141 combat airdrop missions.

**April 28, 1993** - Secretary of Defense Les Aspin lifts the long-standing ban on female pilots flying US combat aircraft, including Army and Marine Corps attack helicopters.

**Aug. 6, 1993** - Sheila E. Widnall, associate provost and professor of aeronautics and astronautics at the Massachusetts Institute of Technology, becomes Secretary of the Air Force. Widnall is the first female Secretary for any of the armed services.

**Feb. 10, 1994** - Lt. Jeannie Flynn completes F-15E training, becoming the first female fighter pilot in the US Air Force.

**Feb. 25, 2011** - USAF announces that 1st Lt. Candice Killian is the service's first female to qualify as a CV-22 tilt-rotor aircraft pilot. She is Osprey pilot No. 97.



Jeannie Flynn

**June 1, 2012** - Col. Jeannie Leavitt becomes the Air Force's first female fighter wing commander when she takes command of the 4th Fighter Wing at Seymour Johnson AFB, S.C. She is an F-15E Strike Eagle pilot with more than 2,500 hours, including 300 combat hours.

**June 5, 2012** - Gen. Janet C. Wolfenbarger—the Air Force's first female four-star general—assumes command of Air Force Materiel Command, headquartered at Wright-Patterson AFB, Ohio.

**Jan. 24, 2013** - Pentagon officials announce plans to open more combat roles to women in the military. Defense Secretary Leon Panetta and Chairman of the Joint Chiefs of Staff Army Gen. Martin Dempsey sign an official memorandum rescinding the 1994 direct ground combat exclusion rule for women.



Janet Wolfenbarger

is another step in erasing the gender and social barriers our military held in years past. Opening positions to a wider pool of skilled personnel provides a greater range of qualified airmen from which to draw and ensures we put the most capable person in a position, regardless of gender."

"However, any change will eventually force a cultural shift in the mindset of the force," Leavitt noted.

Of all the military leaders sitting at the June 18 briefing, those from SOCOM had the most reservations. Army Maj. Gen.

Bennet S. Sacolick, SOCOM's director of force management and development, said the command will spend the next year collecting and analyzing data before making its recommendations to the Defense Secretary by July 1, 2015. Special operations leaders have some "genuine concerns" that must first be addressed, he said.

"Of particular concern is our mission set, which predominantly requires our forces to operate in small, self-contained teams, many of which are in austere, geographically isolated, politically sensitive envi-

## Front Lines



ie vehicle quickly filled with smoke. Shrapnel had sliced Brooks' chin, her left arm, and her leg—but she didn't have time to think about that.

Although she was still unsure exactly what had struck the vehicle, she knew her comrades needed medical attention. Brooks honed in on her medical bag, which had been placed on the empty seat about a foot away from her. She reached out, but what she found didn't do much to calm her nerves. There was a huge hole where the RPG had hit and most of the medical supplies were ruined.

"I could move my arm, but I guess I was more just in shock. I tried to stand up, but I really wasn't able to," said Brooks.

Wounded, and with very little gear, she began to assess the situation.

The assistant gunner, who was sitting in the back with her, had shrapnel in his legs and his face was bloody from a gash on his lip.

The gunner had sprained his ankle as he ducked down to avoid the incoming RPG and also had shrapnel in his legs.

The driver had shrapnel in his arm.

Only the truck commander escaped the initial onslaught without injury. Brooks said the team was fortunate because, despite the RPG hit, all the crew's wounds were "relatively minor."

Outside, small-arms fire continued to rain down on the convoy, leaving no escape from the suffocating smoke inside. "Because of the injuries there wasn't a whole lot I could do," said Brooks. So she focused on making sure everyone stayed calm. "That was a big thing, especially with all the smoke in the vehicle. It was really hard to breathe."

To keep their minds off the suffocating smoke, they asked each other questions about "how much pain [they were] in, how they were doing, what was going on." Just maintaining that communication helped keep everyone's nerves under control, she said.

The vehicle had caught fire in the attack and the convoy restarted, but had to stop momentarily for a second time so the wrecker could put out the flames. Thankfully, the MRAP was able



to continue on despite the RPG attack, she said.

They were still too far away from Bagram, so they rerouted to COP Sayed Abad—a small, remote combat outpost 45 miles south of Kabul. It took about 15 minutes for the convoy to make its way through Afghanistan's bumpy, dirt roads. When it pulled up to Sayed Abad's clinic, Brooks and the three wounded soldiers were put on stretchers and taken inside for evaluation.

The doctors removed some shrapnel from her chin and stitched up the wound, but there were too many tiny pieces embedded in her left arm and leg, which were nearest the blast. Some of those pieces would eventually work their way out of her body on her own, she said, while others would serve as a constant reminder of her first deployment.

A few minutes later an Army Black Hawk arrived to evacuate all four to Forward Operating Base Shank in eastern Afghanistan's Logar province. They would be treated for the rest of their wounds and then sent to a traumatic brain injury clinic for further evaluation.

For her actions that day, Brooks received the Purple Heart, a Combat Medical

Badge, an Air Force Combat Action Medal, the Army Commendation Medal, and a Joint Service Commendation Medal. She also was named one of the Air Force Association's 12 Outstanding Airmen of the Year for 2012.

She is described by most as "one of the most humble, kind, caring, and nicest people," said Col. Paul M. Fortunato, commander of the 2nd Medical Group at Barksdale AFB, La., where Brooks is now assigned.

Brooks is "the poster child for our Air Force core values," said Fortunato. "She takes the high road all of the time, doing the right thing for the right reason."

Fortunato said what struck him most about Brooks was her willingness to put herself back in harm's way. Today she is essentially recovered, though her left arm is sometimes still numb from nerve damage suffered in the attack. Brooks said it doesn't affect her ability to do her daily job, though.

"I was so impressed with her before she deployed, but even more after she returned," commented Fortunato. "What I remember distinctly was that she said she would be happy to deploy again. Amazing."

"their organization, training, education, and leader development programs."

SOCOM also has either commissioned or is internally conducting multiple studies assessing the social and behavioral implications of integrating women into its small team structure. He said it is fea-

sible that in the very near future a single female commando could be assigned to a 12-member special operations team.

"We're looking for smart, qualified operators. You know, there's just ... a new dynamic. I mean, the days of Rambo are over," said Sacolick. "The defining

characteristic of our operators [is] intellect. And when people fail in the Special Forces qualification course, predominantly, they fail because they're not doing their homework."

SSgt. Kimberly Pate has been in the Air Force for more than eight years. She



USAF photo

**Above: Col. Jeannie Leavitt, USAF's first female fighter pilot, in the cockpit of her F-15 at Seymour Johnson AFB, N.C., where she commands the 4th Fighter Wing. Right: Brig. Gen. Gina Grosso, director of force management policy, answers questions about opening up the last few billets to women during a Pentagon briefing in June.**

wanted a career field that was challenging and made her feel like she was truly making a difference. She chose explosive ordnance disposal—generally a male occupation.

Pate is the only female Active Duty EOD tech assigned to the 4th Civil Engineering Squadron at Seymour Johnson AFB, N.C., and she previously served as one of only three female airmen in the career field at Hill AFB, Utah. Pate says being a minority among her peers has forced her to work extra hard to prove her capabilities.

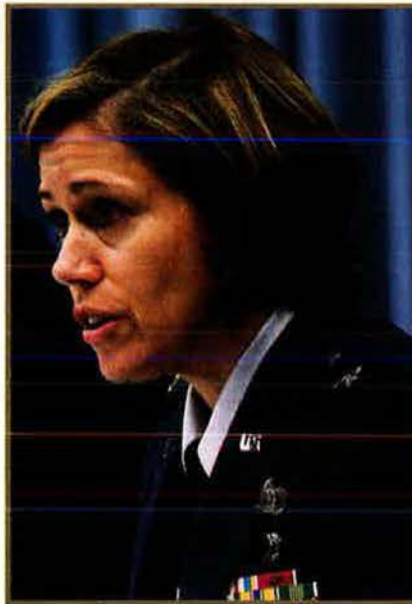
"Especially going through the school-house training, you're surrounded by mostly male students and counterparts. You get stereotypical looks like you're probably not going to make it," she said. "You can't just squeak by on the requirements. You have to prove you deserve to be there."

Eventually, Pate said she did earn her peers' respect.

"Once you have proven yourself you definitely get more respect because you can keep up and can do everything they can do," she said. "They see you have to go through more trials and tribulations to get there and I do think they respect you a little more after that."

SrA. Bryenna L. Brooks, an aerospace medical services technician assigned to Barksdale AFB, La., had a similar experience during her first combat deployment to Afghanistan.

While deployed, Brooks said she noticed she was among a small group of females.



USAF photo by Jim Vanhegyi

"A moment that stands out to me was arriving at my first premission briefing. As the medic, I was to address the group and explain my role," said Brooks. "When looking into the group, I realized not only was I the only Air Force member, but I was also the only female that would be on this convoy mission."

She said at first she "sensed doubt" from the group as to her capabilities as a medic, but overtime "that sense of doubt changed." Once they started calling her "doc," she knew she had earned their respect.

"To me, this was an honor that I can't explain through words," she said. "We were a family: I knew they always had my back and I had theirs. While the official change to allow women to fill combat roles happened almost two years later, I could tell that me being a female made no difference in the minds of my fellow soldiers. I was able to physically and mentally meet the challenges of the job, and that's what mattered."

Brooks traveled from one remote forward operating base to another during her 205-day deployment and earned the Purple Heart for continuing to care for the wounded despite injuries she sustained during a rocket-propelled grenade attack on one mission.

The Air Force's implementation plan is focused on three major tasks, said Grosso. The first is to look at existing policies and procedures prohibiting women from certain positions. The Air Force will then begin updating those policies to be ready for a July 2015 implementation.

The second step is to validate the tasks required for both men and women to go into these positions—something the Air Force typically does every five years. Grosso said the Air Force is not limiting this task to the seven remaining closed positions. "We're doing 100 percent validation," she said.

"We've had these positions open to women for a very long time. ... If you think about an aircraft maintainer, if you look at airplanes over time, they've become increasingly more and more sophisticated and much more computer-driven," said Grosso. "So the skills that [maintainers] may have needed in the 1970s, and the strength, is very different than the skills and the strength they might need in 2013 for an F-22."

Grosso said the Air Force needs to understand "how much does the toolbox weigh 25 years later?" That's part of the validation process—for both men and women—that is slated for completion in 2015, she said.

"The Air Force has a long history of successfully integrating women into combat positions and doesn't expect significant challenges as it completes preparations to integrate women into additional combat roles," said an Air Force spokeswoman.

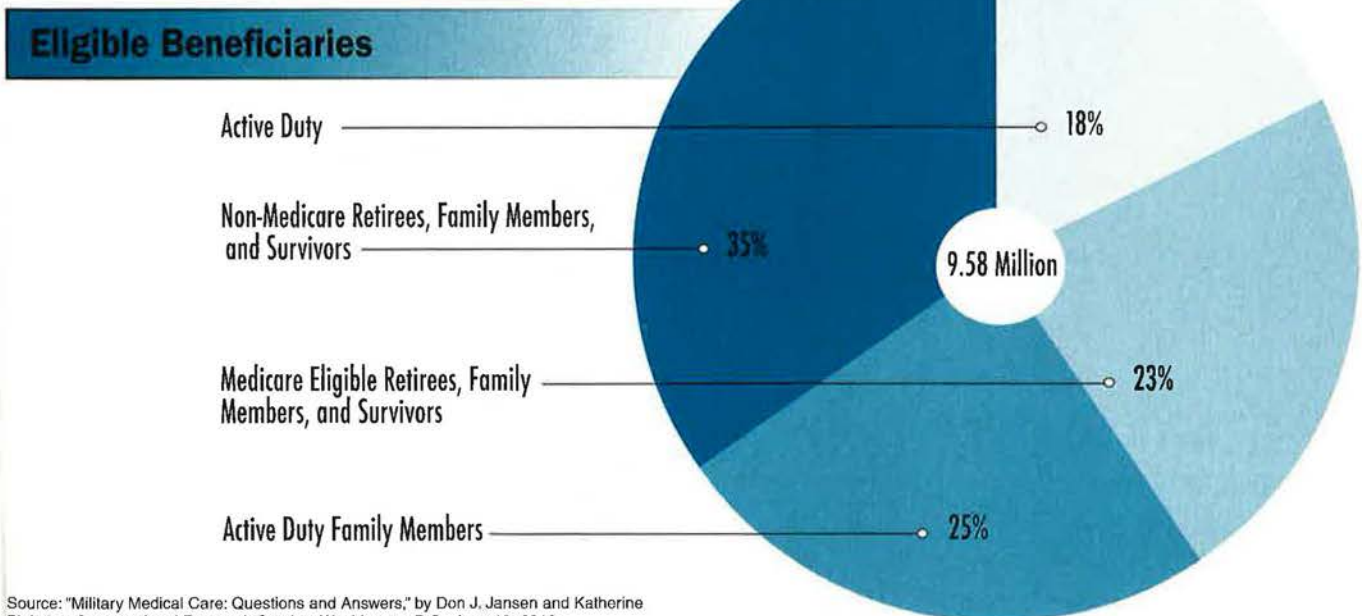
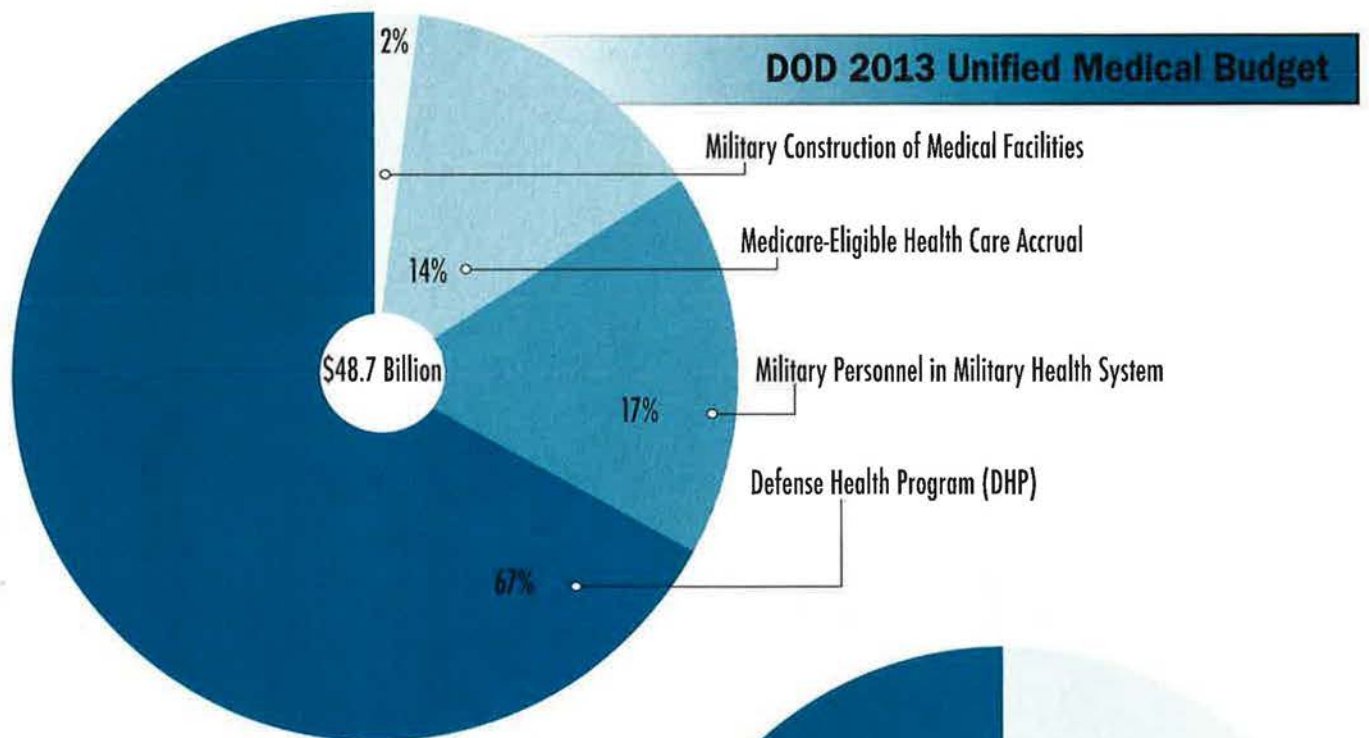
"Opening positions to a wider group of skilled personnel maximizes military capabilities, provides a greater pool of qualified members from which to draw, and reduces the operational tempo for those currently deploying," she concluded.

The goal is to begin recruiting for the newly opened positions by Oct. 1, 2015, and to start bringing women into the pipeline by Oct. 1, 2016. However, Grosso noted that each of the seven off-limits career fields under consideration for women have long pipelines—between a year and 18 months each—so the Air Force does not expect to see women in these operational units until Jan. 1, 2018, at the earliest. ■

## Where 49 Billion Medical Dollars Go

The Defense Department's unified medical budget comprises funding for all treatment facilities and activities, not including funding for combat support medical units and activities (handled by the armed services). As seen in the first graphic, this year's spending plan weighs in at \$48.7

billion, some two-thirds of which goes to the direct-care Defense Health Program. Who receives this care? The second graphic shows that nearly 10 million persons are eligible. Surprisingly, the Active Duty forces account for only 18 percent of the eligible population.



Source: "Military Medical Care: Questions and Answers," by Don J. Jansen and Katherine Blakeley, Congressional Research Service, Washington, D.C., June 19, 2013.



# The ROVER

By Rebecca Grant





**A**s a B-1B headed in to drop ordnance on a target in Afghanistan in early May, MSgt. Randall Hunt, a joint terminal attack controller, knew something wasn't right.

Hunt was listening as another JTAC received a grid coordinate from the B-1B crew. The other JTAC read out the number over the radio during the nine-line briefing for close air support. But the grid was wrong, Hunt quickly realized.

How?

"I was looking at the sensor feed from the B-1 and compared what I heard in my ear to what I was seeing in the ROVER monacle," he said.

As it turned out, the other JTAC had accidentally "passed a grid that was 600

meters off," Hunt explained. Worse, Hunt and his fellow JTAC were only 100 yards away from the grid that was going to get bombed. With the ROVER, Hunt instantly helped the second JTAC check for the correct grid. A potential disaster was averted.

All this rapid cross-check and correction was thanks to a technological achievement that's never even been a formal program of record: ROVER, which stands for Remotely Operated Video Enhanced Receiver.

### Big Safari

"ROVER is probably one of the best investments ever made," said former Secretary of the Air Force James G. Roche, who headed the service when the project was started.

"It allows us to transmit large amounts of data rapidly to the cockpit, where the pilots get visual representations of our targets," said SSgt. Michael Hickey, a controller assigned to the 607th Air Support Operations Group, in a 2011 press release from the 51st Fighter Wing at Osan AB, South Korea.

Today's ROVER 5 device—smaller than most laptops—pulls in video, imagery, and other data from more than 40 types of aircraft and fuses them into a single picture of the unfolding battle. Best of all, the crews in those aircraft see the same view as the controller on the ground.

A total of 18,339 ROVER devices have been delivered or are on order. ROVERs are in the hands of Special Forces, JTACs, soldiers, marines, and civilian first responders. They're mounted on Civil Air Patrol aircraft and Apache helicopters and are slated to be installed in Navy DDG-51 Arleigh Burke-class destroyers.

It didn't start out that way, however. In fact, the first ROVER wasn't even intended for troops on the ground.

ROVER began on the AC-130 gunship as a strap-on method to pipe in video from Predator remotely piloted aircraft. These special operations gunships supported nearly all the major Northern Alliance offensives against Taliban forces after Operation Enduring Freedom began in October 2001. Gunships orbited over target areas for extended periods to provide close air support and overwatch for forces on the move. They flew racetrack patterns over their target area before firing and were keen to avoid the shoulder-fired surface-to-air missiles lurking below. Liaisons monitored Predator video and

often tried to describe over the radio the potential threats and targets they were seeing.

Roche recalled his frustration as he and USAF Chief of Staff Gen. John P. Jumper closely monitored the war in Afghanistan. Officials realized there was a serious communication problem.

In one mission, the talk-on to the target "became a screaming match" between the gunship crew and those who could see the actual Predator video feed.

Then-Col. James G. Clark and the Air Force's Big Safari program office were directed to get the gunships the Predator video needed.

Big Safari, a special Air Force Materiel Command unit known formally as the 645th Aeronautical Systems Group, at Wright-Patterson AFB, Ohio, was in charge of fast, secret modifications to special mission aircraft. They'd worked Predator, too.

Lt. Col. R. Kevin Hoffmann was commander of the Big Safari detachment at Edwards AFB, Calif., in November 2001. "We got the call on a Thursday, and the gunship arrived on Monday," he recalled.

The Big Safari solution was to pop out the forward escape hatch panel on top of the gunship's cockpit area. C-130 experts who knew how to perform rapid installations teamed up with Predator operators from the government and General Atomics to add a C-band receiver on the outside of the hatch.

The slim, aerodynamic antenna was barely noticeable atop the AC-130. Inside went a black box to handle the video feed, with cables that snaked back to display screens mounted in the command module area. A 15-inch display hung over the other banks of screens.

"The gunships were already talking to the Predator guys," said Hoffmann, but "the idea of seeing what the [intelligence, surveillance, and reconnaissance] aircraft were doing—no one had done that."

The Big Safari team modified the gunship in two days. It "flew flight tests on Wednesday and took off to return to Hurlburt [Field, Fla.] on Thursday," Hoffmann said. Engineers from Big Safari sent drawings of how to modify the hatch back to Hurlburt, where four gunships were soon ready to enter the fight.

"It was a great combat need we'd never thought about before," said Col. Charles Menza, a longtime ROVER guru in the Air Force's acquisition directorate.

USAF photo by MSgt. Andy Dunaway

The small system spreads intel to those who need it most, with an outsize impact on the battlefield.

Above: A B-1B deployed from Ellsworth AFB, S.D., over Afghanistan. Here: GBU-1 munitions dropped from a B-1 slam to an al Qaeda facility in northern Iraq. The ROVER's rapid delivery of real-time information has improved communication between the ground and air assets immensely.





*TSgt. Donald Urqhart, a joint terminal attack controller with the 5th Air Support Operations Squadron, calls in a simulated air strike during a Green Flag-West training exercise in 2011. Demand from the field brought the Army on board, and they now field their own version of ROVER, called OSRVT (One System Remote Video Terminal).*

ROVER was a huge success. The modification gave the gunship crew extra time to look over the target area while still on approach. Airmen could pinpoint threats displayed on the Predator feed and fire as soon as they were in range, silencing would-be attackers.

About a month later, in December, Big Safari received a surprise visitor: Army Chief Warrant Officer 2 Christopher Manuel, in Dayton, Ohio, on leave. He told startled personnel at the 645th that he was going to be assigned to search caves in Afghanistan. Now he was home for two weeks, and he wanted to take to his unit a way to see Predator video while on the ground.

Manuel's request was for something new: a method to push an overall view of the battlespace directly to a team on the ground. At the time, only liaisons in distant command centers could actually see the video imagery from Predator and other platforms.

The Big Safari office hastily convened a meeting on how to take the system from the gunship to a portable device. By Jan. 23, they were ready to test the prototype on the Predator training range.

Thus was born the man-portable ROVER family.

ROVER 2 looked like leftovers pulled from a garage sale: a square, pale gray antenna connected to a video decoder and a receiver with open pins and cables.

At nearly 50 pounds, the weight of the batteries, radio, and Panasonic Toughbook was considerable. But ROVER now had receivers and antennae for multiple C-, L-, and Ku-band wavelengths.

Awkward as it appeared, ROVER 2 was a revolution. For the first time, it delivered a real-time ISR picture to those fighting at the leading edge of the battle.

Soon, ROVER users wanted more. "ROVER 2 only brought down Predator video," said Menza, and that was unacceptable to Lt. Col. Gregory E. Harbin.

Harbin, a liaison officer at the Combined Air Operations Center at Prince Sultan Air Base in Saudi Arabia in 2003,

*A gunner aboard an AC-130 loads 40 mm rounds into a Bofors cannon during an operation in Afghanistan. ROVER got its start on gunships in 2001 as a method to allow the aircrews to view video taken by Predator remotely piloted aircraft in Operation Enduring Freedom.*



OOD photo by Army SSgt. Bill J. Nalickin Jr.

new from an earlier assignment that special operations forces were using early ROVER devices.

The combined force air component commander, Lt. Gen. Walter E. Buchanan III, sent Harbin to the US to bring ROVER devices back to downlink Predator video. Three days after he returned from the US, he was showing them to the 82nd Airborne Division in Iraq, Harbin told the *Los Angeles Times* in a 2007 interview.

Tapping sensors other than those on the Predator was the next step, and there were plenty of intel collectors flying in the area of operations. During one engagement in Iraq, Predators were grounded due to weather, but Harbin realized the ROVER operators should have still been able to access intelligence from the F-15Es that were still flying. He eventually took the case for linking ROVER to other aircraft to the top.

Michael W. Wynne, later to be Air Force Secretary, was then serving as principal deputy undersecretary of defense for acquisition, technology, and logistics when Harbin made the rounds about ROVER.

"Greg had come in with a collection of boxes," Wynne recalled. They included a Panasonic Toughbook used by construction crews. "How much of this stuff even has a federal stock number?" Wynne asked him.

Indeed, the ROVER variants were moving as fast as L-3 Communications could make them.

ROVER 3 was a breakthrough. A new software-definable radio enabled this version of ROVER to downlink from a wide array of manned and unmanned aircraft.

"We made ROVER the single point of contact for all full-motion video platforms in C-, L-, S- and Ku-band radar," said Menza.

ROVER 3 also shed weight, bringing the new collection of devices down to 20 pounds. Now they fit in backpacks.

Ingenuity at the tactical level drove the speed of development, but the timing was fortuitous in other ways. ROVER was a convergence of portable display technology, improved precision signals, and demand from the troops.

"At the same time," noted Wynne, there was a better understanding of "how to get signals to the ground. ... The technologies had come together."

Harbin saw the benefits in combat. He was working with a Marine Corps unit patrolling Fallujah, Iraq, in April

2004, when insurgents hit the team with mortar fire and rocket-propelled grenades. Harbin opened up his ROVER kit as the marines returned fire, but the laptop's battery was dead.

He raced to another Humvee and wired the ROVER laptop to its battery to reel in Predator imagery of the mortar site. This let the marines call in a strike, the Predator fired a Hellfire missile, and the insurgents were killed.

### Three-and-a-Half Pounds

Demand for ROVER soared.

"The more people use it, the more it's impossible not to use," said Roche. At one point, Clark's office had 55 people assigned, with many of them deployed. Together they toted up 35,000 days in theater.

"We had guys downrange all the time," Clark said. The office set up a website so that JTACs could send in suggestions. The No. 1 request? Lighten the weight.

Meanwhile, Jumper was passionate about adding the "John Madden feature" to the ROVER. Former Oakland Raiders coach and sports commentator John Madden became famous for sketching football plays on screen during broadcasts of NFL games. Jumper was sure there was a way to do something similar with the ROVER.

Soon, the ROVER enabled ground controllers to annotate the display picture and share it with aircrews.

It took some time, but it worked, and once again, the JTACs loved it.

SSgt. Justin Cry, a JTAC from Shaw AFB, S.C., explained how he'd used ROVER in Iraq. "I can circle an area on my screen, drawing arrows for emphasis, and what I'm drawing appears on [the pilots'] screens as well," Cry told the Air Force Print News in 2005. "The pilots can look exactly where we need them to look."

In the same news article, Harbin said the Air Force "put this technology out there, and it simplifies the process of putting bombs on targets, and it's saving lives, too."

Sometimes the most effective use of the ROVER was orchestrated within the Army tactical operations centers. Such was the case one night in July 2007, at a command post just south of Baghdad. Human intelligence tipped off planners that a roadway was mined with improvised explosive devices. TSgt. Mike Cmelik, an Air Force JTAC, used a ROVER to communicate with a B-1 bomber tapped to bomb the road.

"There's more situational awareness in the headquarters than out in the field," Cmelik said, according to a 2007 Air Force news release. "We're able to see the bigger picture" and ensure no friendly forces are in the area. Cmelik coordinated three passes by the B-1, which dropped nearly seven tons of bombs.

Rippling secondary explosions confirmed the road had indeed been a death trap laid for coalition forces.

ROVER 4 debuted in 2007, just as efforts were shifting from the roads and cities of Iraq to operations against al Qaeda and other insurgents in Afghanistan. Improved antennae and reduced weight made this new ROVER well-suited to the dismounted fight faced by US and coalition partners. This ROVER had encryption and would become the basis of a broad Army contract as well.

The state-of-the-art arrived with ROVER 5, which went into full production in 2008. At only 3.5 pounds, controllers praised its lightness and data capacity.

"Where we're fighting in Afghanistan, it allows us to carry lighter equipment, move further, and do the dismounted job in the mountains," said Hickey in the 2011 interview.

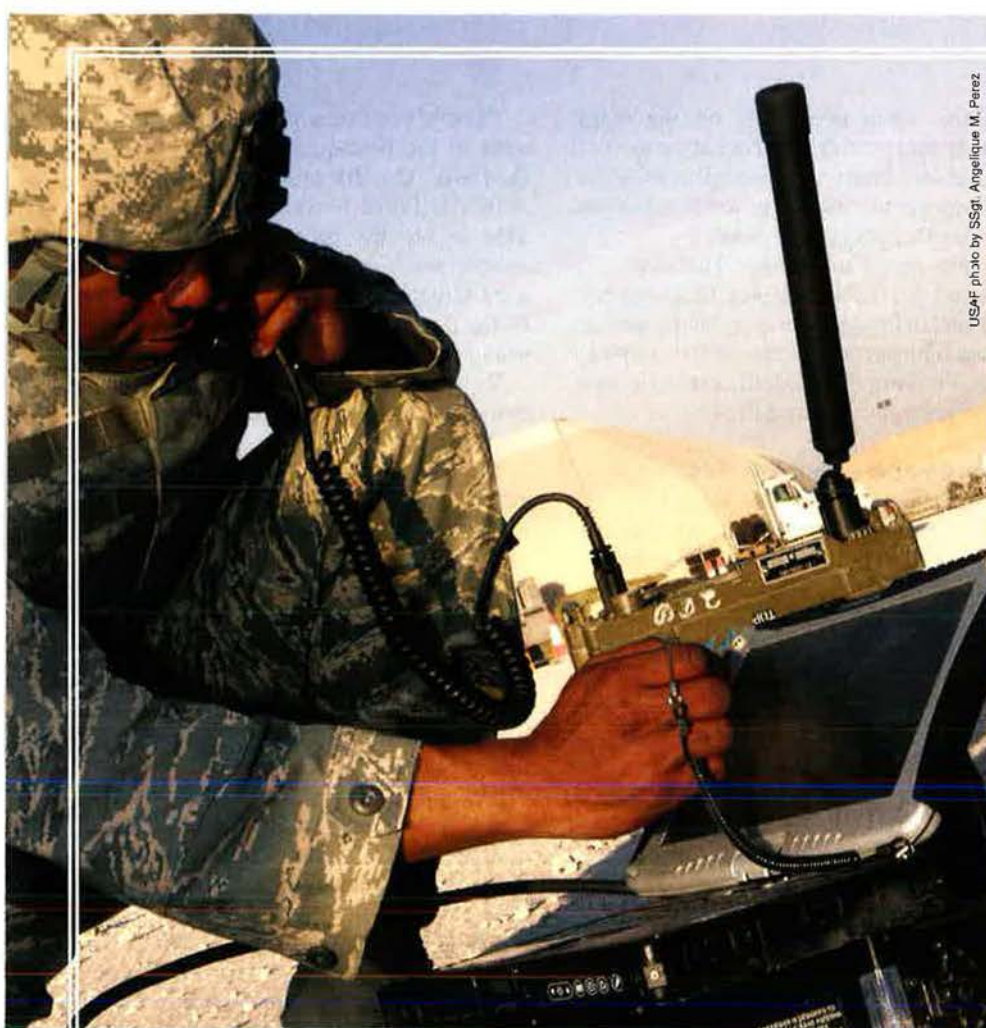
The coordination made ROVER the gold standard for close air support. According to Clark, it's now used on more than 85 percent of close air support missions.

"It was annotated on the [air tasking order] for years—'Are you ROVER-capable?'" Clark said. Controllers sometimes turned back flights that didn't have the capability. ROVER has also reduced collateral damage. "We are precisely targeting what we want to target," Clark said. "It's one more final check."

The ROVER also "quietly helped the notion of fighting jointly," Roche said.

For the Army, the spread of ROVER in Iraq and Afghanistan altered the flow of tactical information. At first, the Army was leery of the ROVER, according to Roche. Predator video was sent to big screens at Army tactical operations centers well to the rear of the battle line. Routing ISR to a higher echelon command was standard for the Army, whereas pushing a shared picture to controllers didn't fit with standard operating procedures.

Of course, ROVER enabled soldiers to take the airborne ISR picture with them. Praise from controllers in the



USAF photo by SSgt. Angelique M. Perez

*MSgt. Chris Thompson, a joint terminal attack controller instructor, communicates with other troops via ROVER on the ground at al Udeid AB, Qatar. Input from JTACs led to ROVER's weight being reduced to three-and-a-half pounds. The ability to annotate the display picture and share it with aircrews—a la John Madden—is another favorite feature.*

field proved irresistible. A few Army units began to buy their first ROVERs directly from Big Safari, using unit funds.

This was a revolutionary development.

Wynne explained the impact of delivering ISR imagery directly to soldiers: "The ground chaos is unique," he said. "From my class at West Point, we lost guys" in Vietnam, Wynne recalled. "You could hear them over the radio getting overtaken, and they could not figure out how to call in air support."

In the heat of battle, the intricate task of identifying positions and verbally passing the information to aircraft sometimes just didn't work. Under fire and on the radio, "they were saying good-bye," Wynne said.

Putting the image in the hands of ground commanders was a complete change for dealing with troops-in-contact situations. Small units could see the best available airborne ISR in real time and be confident that aircrews saw the same thing. "This is the OODA [observe, orient, decide, and act] loop in action," Wynne told Secretary of Defense Donald H. Rumsfeld in a briefing on ROVER.

Ultimately the Army bought into the program and renamed their ROVERs the

One System Remote Video Terminal or OSRVT. And they loved it, too.

"Without a doubt, the best tool we have put into place to decrease the timelines of the kill chain is the OSRVT," said Col. Gregory B. Gonzalez of the Army's unmanned aircraft systems project office, quoted in a 2010 *Defense Systems* article. L-3 Com made the Army's OSRVT—a version of ROVER 4 and ROVER 6.

### Flooded Skies

Word of the ROVER also spread outside the military. First responders became familiar with early ROVER sets after Hurricane Katrina hit New Orleans and the Gulf Coast in 2005.

"Katrina was a catalytic moment," recalled Wynne. Small remotely piloted aircraft couldn't fly over the storm-stricken area due to the number of helicopters operating there and problems deconflicting them. Controllers placed cameras on the roof of a hotel in downtown New Orleans and fed the video through ROVER.

"First responders saw activity, water, and fire trucks on their laptops. It was magic," Wynne said.

Coalition partners concurred. The wars in Iraq and Afghanistan drew in far more air controllers from coalition partner militaries. ROVER was a huge help.

"Shared FMV [full-motion video] helps to overcome situational awareness misunderstandings between air and ground and provides a common understanding of target identity," noted an analyst writing for Britain's *Royal United Services Institute Journal*. "This is important in a coalition environment, where language problems can be exacerbated by poor communications conditions and the stress of combat—particularly for the FAC [forward air controller], who may be under fire."

Australia, Britain, Canada, France, and other countries had many controllers in Afghanistan and led the way with dozens of ROVER sets. Other partners from Saudi Arabia to Latvia acquired the ROVER, too.

ROVERs in use at the Warrior Preparation Center near Ramstein AB, Germany, helped in the training of JTACs across NATO. All told, 24 NATO and ISAF (International Security Assistance Force) partners have acquired ROVERs.

The system has left its mark on the battlefield in other ways, its advocates believe. The combination of the ROVER and the many airborne sensors it taps has changed the game for adversaries, too.

"At its best, [ROVER is] giving an assured view to commanders," said Wynne.

"They know the skies are flooded" with RPAs, Menza explained. The flow of information has "limited [a] potential [adversary's] actions" and "denies him daytime and the use of radio and phone communications."

"We've complicated his combat operations by a factor of 10," he said. ■

*Rebecca Grant is president of IRIS Independent Research. Her most recent article for Air Force Magazine was "Ascendant Eagle" in the July issue.*



Airmen prepare to greet POWs as they arrive home from Vietnam.

# Dinner for the Heroes

By Peter Grier

**POWs from the Vietnam War were recently treated to a celebratory dinner, 40 years after the original that welcomed them home.**

**L**i.j.g. Everett Alvarez Jr. was the first US naval aviator shot down in the Vietnam War. His A-4 Skyhawk was fatally damaged by North Vietnamese anti-aircraft fire on Aug. 5, 1964, during an attack on coastal targets following the Gulf of Tonkin incident. Flying low and fast, he was fortunate to survive ejection, and as he floundered in the waters of Ha Long Bay with captors approaching, he thought—incongruously—of dinner.

“It was roast beef night on the ship. I said, ‘I’m going to miss roast beef night.’ Honest to God. That was just a fleeting thought,” said Alvarez during a recent appearance at the Richard Nixon Presidential Library and Museum in Yorba Linda, Calif.

During his eight-and-a-half years as a North Vietnamese prisoner of war, Alvarez suffered torture and ill treatment and served as a model of stoic survival for the hundreds of



POWs who followed him. He eventually served as deputy administrator of the Veterans Administration in 1982. And in late May, he and his remaining fellow POWs were honored with all the dinner they could handle.

Some 200 Vietnam-era POWs, the vast majority of them pilots downed in the air war over Southeast Asia, reunited for a three-day memorial celebration at the Nixon Museum. They were feted with a flyover, motorcade, and wreath-laying ceremony. But the highlight of the event was a banquet held on the 40th anniversary of the star-studded White House dinner at which President Richard Nixon welcomed them home.

Back then the tide of the Watergate scandal was rising. It was consuming an increasing amount of Nixon's time. For him, the POW dinner was a welcome respite amidst a sea of political troubles.

"Forty years ago, it was my honor to be with you on the South Lawn of the White House for an unforgettable evening which my father recalled was one of the greatest nights of his life, as he hoped it was for you," Tricia Nixon Cox, daughter of the former President, told POWs gathered for the 2013 commemoration.

Many of the POWs, for their part, remember their former Commander-in-Chief fondly. To them, he was not a President who resigned in disgrace but the man who got them out of the "Hanoi Hilton"—and then treated them to a party

that remains the largest in White House history and featured Bob Hope, John Wayne, and other great stars of the era.

"To the man who brought us home due to his strong persistence, fortitude, and courage ... Richard Nixon," toasted retired Air Force Lt. Col. Thomas J. Hanton, president of Nam-POW, the official former-POW organization, at the end of this year's commemorative feast.

US involvement in the Vietnam War was just beginning when Alvarez was hauled out of the sea and moved within days to Hoa Lo prison, later dubbed the Hanoi Hilton.

### Hanoi Propaganda

Over the course of the conflict almost 9,000 US fixed wing aircraft and helicopters were lost in the Southeast Asia area of operations. While some 2,000 pilots and crew were killed in operations, another 500 ejected and ended up in the hands of the enemy. Adding in ground troops, 725 US service personnel were captured and interned by the North Vietnamese and associated forces between 1961 and 1973, according to the Department of Veterans Affairs.

Their treatment was brutal. North Vietnam had signed the Geneva Conventions but regularly tortured and psychologically abused its captives. The North Vietnamese excused these actions in part by claiming that US airmen were committing war crimes by targeting civilians.

"For Hanoi, American POWs served ... obvious political purposes. US 'air pirates' could be displayed not only to dramatize the brutality of US bombing, but to celebrate Vietnam's capacity to shoot down the most advanced aircraft of its superpower enemy. The confessions of American prisoners, most of them compelled by torture, were a staple of Hanoi's propaganda," wrote historian Christian G. Appy in his book, *Patriots: The Vietnam War Remembered From All Sides*.

Those captured in the war's early years had it worst. To this day, Alvarez has little feeling in his fingers. Another famous ex-POW, Sen. John S. McCain III (R-Ariz.), was shot down in 1967 and then beaten for years. Today, McCain cannot raise his arms above his shoulders.

"We never had a pair of shoes, a pair of socks, a bed, an ice cube, an egg, a paper, a pencil, a Bible. We had nothing for six years. They wouldn't even let me have a stick to clean my fingernails," said retired Navy Capt. John Michael McGrath at a discussion of the POW experience hosted by the Nixon Library during the 40th anniversary remembrance.

POWs in particular dreaded the Vietnamese rope tactic. Prison guards would handcuff a POW's hands behind his back and then rotate his arms up over his shoulders until they dislocated.

USAF photo



*Far left: Capt. William Schwertfeger is greeted at Gia Lam Apt., Hanoi, after release in 1973. Center: Lt. j.g. Everett Alvarez Jr., the first pilot shot down in the Vietnam War, is welcomed home by Adm. Noel Gayler, commander in chief of Pacific Command, and USAF Lt. Gen. William Moore Jr., commander of the 13th Air Force in the Philippines. Left: Col. Robinson Risner waves to the assembled crowd as he steps off the second C-141 that left Hanoi. Below: Newly freed prisoners of war celebrate as their C-141 lifts off from Hanoi. Fifty-four C-141 flights between mid-February and early April would carry almost 600 POWs home.*

"They basically tortured all of us. They broke us. They humiliated us. If you didn't die in torture, you broke, and if you didn't break, you died," said McGrath.

In those circumstances, it was unrealistic to expect the POWs to tell their captors only name, rank, and serial number. In the end, virtually all

gave up something—a list of military missions, perhaps, or a "confession" of crimes.

To most, the feeling that they had betrayed their country was worse than physical torture. Retired Navy Lt. Cdr. Paul E. Galanti, shot down and captured near Vinh, North Vietnam, in 1966, remembered feeling like the "biggest traitor in the history of the United States of America" after breaking under abuse.

Then he sat blindfolded in a jeep next to Air Force pilot Robinson Risner, a Korean War ace and at the time the senior US officer in captivity. Ris-

ner—who became a general officer before retiring—told Galanti they had all been broken. Try and tolerate pain to the point of physical disability, said Risner, and if you break, go back and try it again next time.

"The biggest relief, I think, I've ever had in my life, other than surviving my first night carrier landing," said Galanti at the Nixon Library appearance.

Camaraderie helped POWs survive the experience. They communicated cell-to-cell by tap code, telling life stories to neighbors whose faces they never saw. Alvarez recalled that on Sunday mornings the senior officer would send out a signal and all who wished would

stand and quietly recite the Lord's Prayer. Then they would face east, put their hands over their hearts, and recite the Pledge of Allegiance.

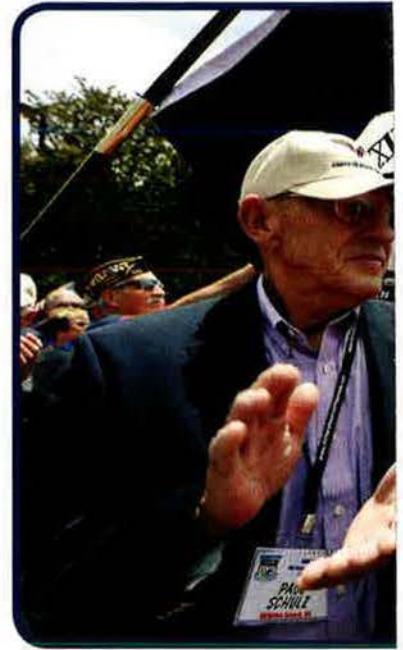
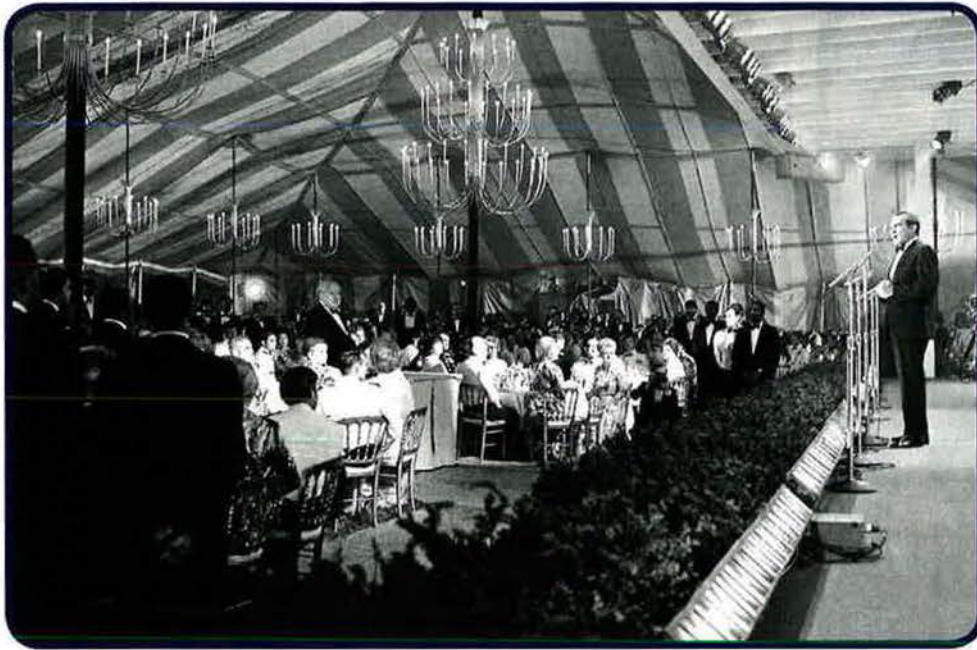
After the death of Ho Chi Minh in late 1969, treatment began to improve. Perhaps the North Vietnamese recognized they were converting no one to communism and the information they were getting from tortured POWs was largely fictional.

Food got better and became more plentiful. Interrogations were less frequent and less brutal. But POW life was still very tough.

Hanton was shot down in June 1972 while flying his F-4 over North Vietnam on a search and rescue mission. He re-



USAF photo



members his first 10 days in captivity as a time of “intense interrogation.” He was jailed inside a room with 20-foot ceilings, and high up on the wall was a speaker through which his captors broadcast the statements of Jane Fonda and other US anti-war activists, as well as the “confessions” of brutalized US POWs.

“I got sick and tired of listening to this loudspeaker,” said Hanton at the Nixon Library.

So he shimmied up the wall, risking injury, to rip out the speaker wires. Afterward he worried that if the guards found out, he’d be beaten—or worse. Fortunately for him his vandalism wasn’t discovered.

“They never came in while ... the camp radio was on,” he said.

By this time President Nixon was under intense pressure to end US involvement in the Vietnam conflict. Polls showed most Americans had soured on the war and Congress was poised to cut off money for American military activity in Southeast Asia unless Nixon could show real progress toward peace.

There was one point everyone from protestors to the President agreed on: The POWs had to be part of any deal. For America, the Vietnam War would not be over until they came home—not that the US knew who all the POWs were.

North Vietnam had refused to produce a list of Americans held in its prisons. For most of the war they refused to allow POWs to write or receive letters or receive visits from the Red Cross.

“We never knew what the situation was. Family members never knew what the situation was. Many families, many wives, many parents never knew whether

**Above: President Richard Nixon speaks to some 450 former POWs and their guests in a giant tent erected on the South Lawn of the White House at a homecoming dinner for the men on May 24, 1973. It was the largest dinner ever held at the White House. Above right: Navy Cmdr. Paul Schultz (l) and USAF Col. Thomas Moe, both POWs in Vietnam, were part of the gathering. Schultz spent five years in the camps, and Moe more than five. Below: Marine Corps Sgt. John Finch plays taps to honor those who fought and died in the Vietnam War during the anniversary dinner at the Nixon presidential library in Yorba Linda, Calif.**

they were wives or widows or parents of children that had perished,” said former Defense Department Coordinator of POW/MIA Affairs Roger Shields at the Nixon Library symposium.

In October 1972, the US thought it had struck an acceptable deal with the North Vietnamese in Paris peace talks, and National Security Advisor Henry A. Kissinger announced that “peace is at hand.” But South Vietnam balked and Hanoi dug in its heels against further tweaks.

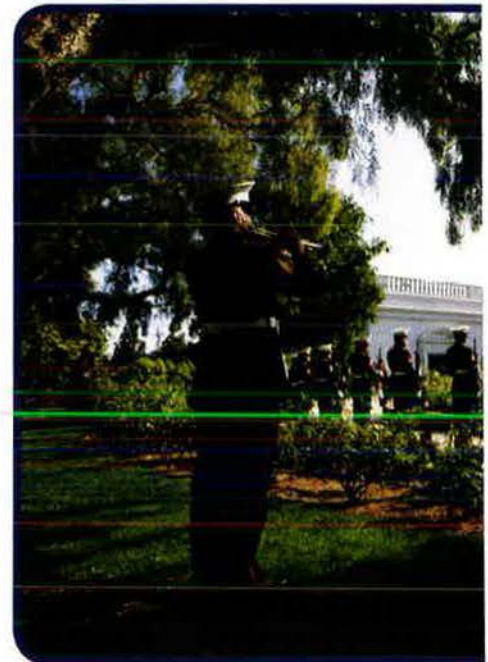
### Bombers for Peace

With negotiations stalled, Nixon ordered B-52s to pound North Vietnamese territory in the Linebacker II bombing campaign. Hanoi then came back to the table. In January 1973, the parties to the conflict signed the Paris Peace Accords,

calling for the withdrawal of US troops, a cease-fire, and the repatriation of all US POWs.

On Feb. 12, Shields and other US representatives sat waiting in a deserted Hanoi airport. Outside C-141 #66-0177 waited on the tarmac to fly the first planeload of POWs to freedom. Then around the corner of the terminal came camouflaged buses painted in all colors, as if they were “circus buses,” Shields later told Nixon in an Oval Office conversation.

Shields jumped up and walked over. North Vietnamese guards tried to stop him but he pushed them back. He gave the men a thumbs-up signal, and they waved. The first man out was a Navy commander on crutches who told the men to







Getty Images photo by Kevork Djansizian

“form up.” Then they marched through a gate toward the airplane, looking straight ahead, their heads up.

As soon as the Navy commander passed the gate he threw down his crutches and embraced Shields. “I’m home,” he said. The POWs then boarded the C-141. Destination: Clark Air Base in the Philippines.

“I could have flown back to Clark without use of the airplane. It was the greatest point in my life,” Shields told Nixon that April.

The men cheered as the aircraft lifted off. They cheered again as it cleared the Vietnamese coast.

By this time, they had “broken the ice with all the hand wringers,” said McGrath during the Nixon Library symposium. That meant they had convinced the medical

professionals on board that they weren’t physically damaged or too ill to eat anything but bland food. When they got to Clark they were met with all the steaks, eggs, and ice cream they could eat.

Over three days, McGrath said dentists fixed their broken teeth while the cook fattened them up and tailors produced new uniforms. Then they caught airplanes for the States.

“When I stepped off that airplane, America said, ‘Welcome home,’ and I had a nice clean uniform and my wife and kids were there to meet me,” said Galanti.

At home Nixon was fighting a deepening political crisis. The Watergate burglars were sentenced to jail in March. White House Counsel John W. Dean III had begun to cooperate with prosecutors; Nixon fired him on April 30, the same day he announced the resignations of Chief of Staff H. R. Haldeman and Domestic Affairs Assistant John D. Ehrlichman. The Senate Watergate Committee began hearings on May 17.

### It Was Magnificent

Thus for the White House, the release of the POWs was a much-welcome piece of good news in a dark period.

It was entertainer Sammy Davis Jr. who suggested to the President that the White House throw the former prisoners a party. Nixon and First Lady Pat Nixon embraced the idea, pushing for construction of a canopy on the South Lawn to hold a mammoth crowd of more than 1,300 guests, renting china and glassware, and ensuring each of the 126 tables was elegant enough for a State Dinner.

On May 24, Nixon addressed the POWs in a State Department auditorium. They gave him an ovation and he shook the hand of each man. It rained all day, but that night “the dinner was magnificent,” wrote historian Stephen E. Ambrose in his biography of Nixon.

The President greeted the POWs by telling them, “Never has the White House been more proud than it is tonight, because of the guests we have tonight.” The POW Chorus rose to sing the “POW Hymn,” secretly written with a fish bone in Vietnamese prisons by downed Air Force F-105 pilot James Quincy Collins.

The menu was all-American: Seafood Neptune, roast beef, and strawberry mousse. The entertainment was all-American as well, with Jimmy Stewart rounding out the A-list of the 1970s. John Wayne told the POWs, “You’re the best we have

and I’ll ride off into the sunset with you any time.” Actress Joey Heatherton sang on the stage in a glowing white dress. Comedian Phyllis Diller (“the Liz Taylor of the Twilight Zone,” said Hope) invited the POWs to her house for dinner, if they thought they could stand the dirt.

The POWs gave Nixon a plaque inscribed to “Our leader—our comrade—Richard the Lion-Hearted.”

Irving Berlin himself led the crowd in singing “God Bless America.”

In his memoirs Nixon wrote that the dinner was one of the greatest nights in his life. Yet, he personally ended the evening on a gloomy note. After midnight, in the Lincoln Sitting Room, he contemplated the dissonance between his reception by the POWs and the drain of Watergate.

This year marks the 40th anniversary of the release of the POWs and the famous White House welcome home dinner. To the Nixon Foundation (jointly operating the Nixon Library with the US government), it seemed right to host a celebration.

The nonprofit Nam-POW already was planning a reunion. The Nixon Foundation offered the library, which includes a room built to duplicate the East Room of the White House, as a venue. Things progressed from there.

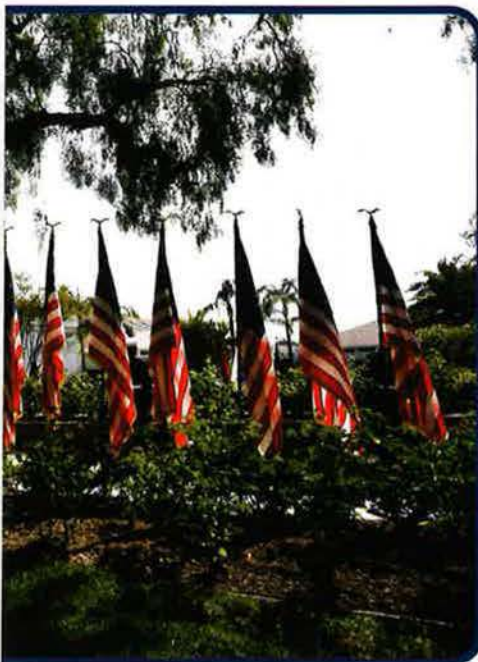
“It was a natural development,” says Nixon Foundation spokesman Jonathan Movroydis.

One hundred and eighty-seven former POWs, about one-third of the original group, attended the event. Retired Lt. Gen. Richard Y. Newton III, the Air Force Association’s executive vice president, gave the keynote address. The highlight was dinner on May 24 in the Library’s East Room, with a menu similar to the original.

The POW Chorus sang again, reprising their hymn of 40 years previous. Collins led the group wearing the same uniform he had worn at the White House.

In 1973 the POWs were a unifying force. Everyone in America was looking for something good out of a war that had split the nation, and their homecoming provided it. But of their captivity, the former prisoners said they were just trying to survive as best they could in a difficult situation.

“The guys that were the real heroes are the guys that are not here, the ones that are on that [Vietnam Veterans Memorial] wall, and the ones they haven’t found,” said Hanton. “It’s just an honor to be here.” ■



AP photo by Joe C. Hong

*Peter Grier, a Washington, D.C., editor for the Christian Science Monitor, is a long-time defense correspondent and a contributing editor to Air Force Magazine. His most recent article, “Firsts in Flight” appeared in the July issue.*

**A vast portion of military service records were lost because there were no copies.**

# The Records

**A** massive orange glow lit up the night sky just after midnight on July 12, 1973, as a devastating fire engulfed the National Personnel Records Center in St. Louis, Mo.

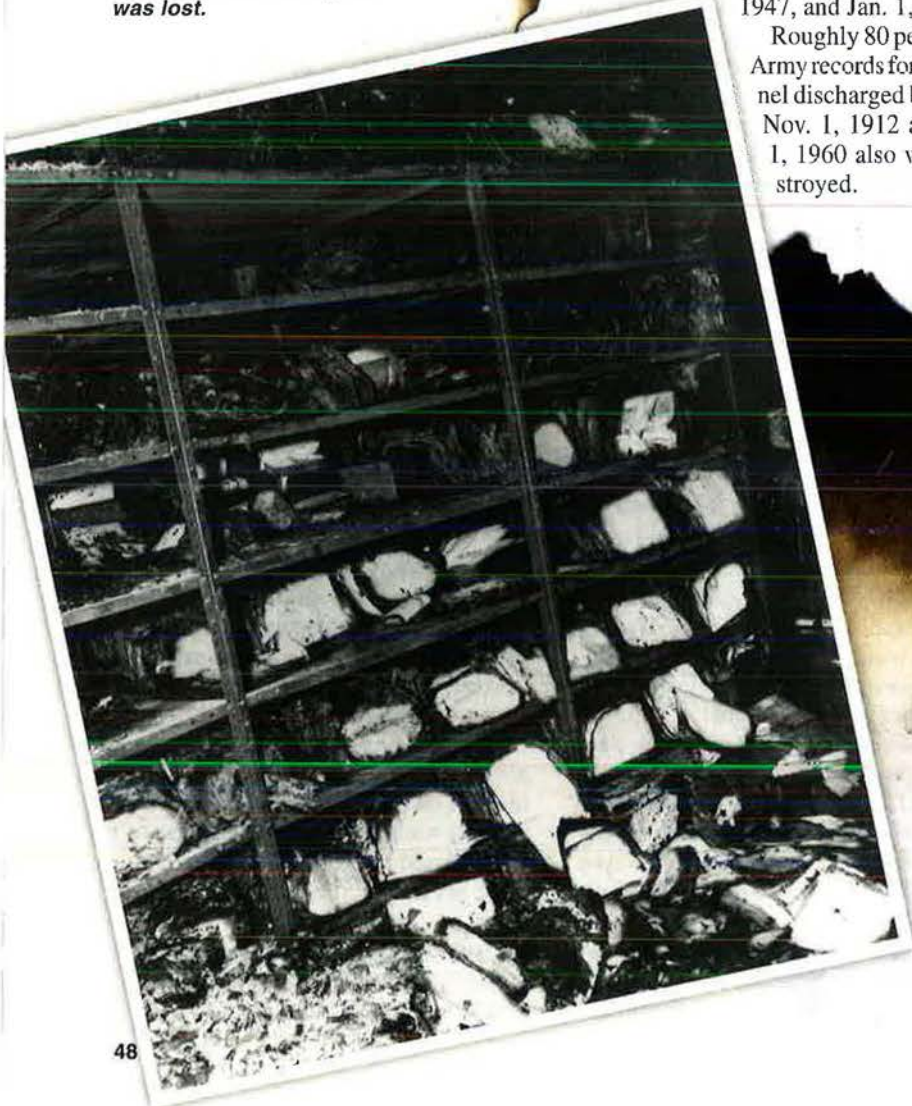
It took just 4 minutes and 20 seconds after the alarm sounded for firefighters to arrive on scene. Although no one was injured in the horrific fire, it was already too late for millions of official military personnel files. The National Archives estimates that 16 million to 18 million files were destroyed in the blaze, including 75 percent of all Air Force records for personnel discharged between Sept. 25, 1947, and Jan. 1, 1964.

Roughly 80 percent of Army records for personnel discharged between Nov. 1, 1912 and Jan. 1, 1960 also were destroyed.

The exact number of files lost is not known because duplicate copies were never maintained and no indexes existed. In addition, millions of documents had been lent to the Department of Veterans Affairs before the fire, making it even more difficult to tally the loss, states the National Archives website.

The fire burned "out of control" for 22 hours. Firefighters were able to make it up to the sixth floor, where most of the damage occurred, but blazing heat and extensive smoke forced them to withdraw by 3:15 a.m. For the next two days,

*The records were not indexed, so no one knows exactly how much was lost.*



*Workers returned to assist with the recovery effort 10 days after the fire began.*

# Fire

By Amy McCullough, News Editor

firefighters had no other choice but to battle the blaze from the outside, using fire hoses to drench the exterior of the building and pouring millions of gallons of water through broken windows to combat the fire still raging inside.

“During the long ordeal, firefighters faced severe problems due to insufficient water pressure. Exacerbating the situation, one of the department’s pumper trucks broke down after 40 hours of continuous operations,” states the website.

Finally, after two days, crews were able to re-enter the building. Still, the fire continued to smolder



until July 16. The blaze was so intense local residents were told to stay inside “due to the heavy acrid smoke.”

A total of 42 fire districts worked to put out the fire, but the damage was so widespread investigators never were able to determine what started it. Staff members worked to recover vital records even as the building burned, including more than 100,000 reels of morning reports for the Air Force and Army. Such records later played a critical role in reconstructing the basic service information for requestors, states the website.

## Fire and Flood

On July 23—just 10 days after the fire began—employees who previously were on administrative leave returned to work to assist in recovery efforts.

“The removal and salvage of water and fire damaged records from the building was the most important priority, and such efforts were overseen by a specially appointed project manager,” states the site. “Their work led to the recovery of approximately 6.5 million burned and water damaged records.”

Although the fire was declared officially out after four and a half days, crews continued to spray the wreckage until late July in an effort to stop sporadic rekindling of the fire. The sixth floor was completely destroyed by the fire, but the fifth floor took the brunt of the water damage.

“In addition, broken water lines continued to flood the building until they could be capped,” states the website.

Staffers shipped water damaged records in plastic milk crates to a temporary facility at the civilian records center on Winnebago. There, “hastily constructed drying racks had been assembled from spare shelving.”

St. Louis-based McDonnell Douglas Aircraft Corp. also offered up three vacuum drying facilities as a means of drying water logged records. “The vacuum dry process took place in a chamber that had previously been utilized to simulate temperature and pressure conditions for the Mercury and Gemini space missions,” states the NPRC site. “The chamber was large enough to accommodate approximately 2,000 plastic milk cartons of water and fire damaged records.”

Once the records were safely inside, McDonnell Douglas technicians lowered the air in the chamber to freezing and then filled the room with hot dry air, “which squeezed out the water molecules.” The equivalent of nearly eight tons of water was extracted during each session—roughly eight pounds of water per container. In addition, an Ohio-based NASA facility also helped dry records.

However, because the experimental vacuum drying process had never been used for records disaster recovery, many of the files were “over-dried, resulting in a higher rate of brittle paper.”



Photos via National Archives



**The one-of-a-kind records were threatened by fire, then water, then mold.**

In the months following the fire, the NPRC established a new branch tasked with dealing with damaged records and reconstructing records for those requesting service information. The NPRC also established a “B” registry file—or burned file—to index the 6.5 million records recovered from the charred remains of the sixth floor.

Containing the inevitable mold was the next major challenge. St. Louis summers are hot and humid, and paper is especially susceptible to mold. Damaged records were placed in a temperature controlled storage area in an effort to prevent further mold growth. Today, most evidence of mold is dormant, but records still must be carefully handled because increased exposure to heat and humidity can cause mold to become active again.

“In terms of loss to the cultural heritage of our nation, the 1973 NPRC fire was an unparalleled disaster. In the aftermath of the blaze, recovery and

reconstruction effort took place at an unprecedented level,” states the NPRC site. “Thanks to such recovery efforts and the use of alternate sources to reconstruct files, today’s NPRC is able to continue its primary mission of serving our country’s military and civil servants.”

The burned file is still utilized today. In fact, as part of the NPRC preservation program, technicians continue to review, assess, and treat burned records.

Last year, NPRC opened a brand new \$115 million building in North County, Mo., where the archives are now stored. Even today archivists painstakingly work to repair what was lost, using new technology not yet available in 1973 to aid in the process. One archivist told *St. Louis Today* the process of piecing together, disinfecting, and preserving the documents can really only be compared to triage.

### **Personal Histories Lost Forever**

However, the fire is still taking its toll on military families, as the lost records were quite literally one of a kind and irreplaceable. It has sadly become common for military retirees and their family members to run into a dead end when attempting to research or access service records.

In just one example among thousands, Debra Griffith learned first-hand the impact the fire can still have as she tried to access her dying father’s records last year, reported *St. Louis Today*. Army Cpl. Lewis Lower was a Korean War veteran and he wanted to be buried in a military cemetery, but Griffith couldn’t track down his files.

Although Griffith was originally told her father’s records may have been among the millions destroyed in the fire, she received a charred facsimile just 10 days after contacting the NPRC with the information she needed. Lower was buried with full military honors in February 2012.

“People just don’t know the scope of what happens when millions of records are burned,” said archivist Debbie Cribbs, who in 1973 wasn’t even born yet. “It would take more than one person’s lifetime to repair what happened, so we just do what we can.”



By Robert S. Dudley

## Readiness: Fading, Fading ...

"The expected level of readiness is different for those units [that] are not scheduled to support a combat role. Particular units cannot be expected to have the same level of readiness when, due to sequestration impacts, we are forced to limit their resources and flying hours. ... Many units are unable to accomplish the flying portion of their scheduled readiness inspection and therefore receive a compliance-based inspection. The decrease in [Air Combat Command] units' abilities to accomplish a readiness inspection has had a significant impact on the readiness schedule."—**Col. Rickey S. Rodgers, chief of ACC's inspections division, Air Force Times, July 7.**

## Commonsense Solution

"Most of us inside the business right now are kind of tired of talking about this. Let's just figure out where we're going and get moving."—**Gen. Mark A. Welsh III, USAF Chief of Staff, on the confusion caused by trying to build a budget around the sequester cuts, Aviation Week, June 24.**

## Jurassic Parks

"If any country's security is threatened by nuclear inferiority, it is Russia. ... The latest data exchange mandated by the [New START] treaty, and verified by on-site inspections, showed that, as of March, the Russians had 1,480 operational warheads on 492 long-range missiles and bombers. Meanwhile, the United States maintained 1,654 operational warheads on 792 long-range missiles and bombers. No wonder Russian President Vladimir Putin is so belligerent—and beginning to allocate resources to nuclear modernization. ... If the Russians want to waste their resources on nuclear dinosaurs, let them."—**Barry M. Blechman, former US defense and arms control official, op-ed in the Washington Post, July 5.**

## That's a Ratio of 26 to 1

"The way that the Air Force chooses to field its RPA [remotely piloted aircraft] force limits wing-command opportunities for RPA airmen, thus creating a career-path bottleneck. Despite fast-

paced growth over the last decade that led the RPA community to balloon into the second-largest group of aviators in the Air Force, RPA pilots have the fewest opportunities for wing command. ... The Air Force centralized RPA management, establishing one massive RPA wing at Creech AFB, Nev. The 432nd Wing commander has responsibility for two operations groups and eight squadrons. ... In contrast, fighter wings normally consist of two or three squadrons. ... The Air Force's approach to RPA basing—standing up isolated RPA units dominated by other communities and disproportionately sending RPA units to the Guard—amounts to the organizational equivalent of political gerrymandering. This process results in malapportionment of institutional power that overwhelmingly favors fighter pilots. RPA personnel enjoy one wing command. ... Fighter pilots, though, control 26."—**Lt. Col. Lawrence Spinetta, F-15 pilot and former RPA commander who now heads J-7 Force Development Directorate on the Joint Staff, Air & Space Power Journal, July-August issue.**

## You Don't Want To Know

"HUMERUS REUNION: DOC RETURNS VIETNAMESE VET'S ARM—An American doctor arrived in Vietnam carrying an unlikely piece of luggage: the bones of an arm he amputated in 1966."—**AP story from Hanoi about the strange visit of Dr. Sam Axelrad of Texas, July 1.**

## Well, If You Must Know

"I can't believe that an American doctor took my infected arm, got rid of the flesh, dried it, took it home, and kept it for more than 40 years. I don't think it's the kind of keepsake that most people would want to own. But I look forward to seeing him again and getting my arm bones back."—**North Vietnamese soldier Nguyen Quang Hung, whose shot-up left arm was amputated, and then returned, by former military doctor Axelrad, same AP dispatch.**

## They Are Not Victims

"After every conflict, there's a period of time when the nation kind of decides what it will think of the veterans of that

conflict. It happened after World War II, 'the Greatest Generation.' I think you would agree after Vietnam there was—the military was held in far less esteem. After Desert Storm, ... we were embraced as conquering heroes of a sort. And I think now is the time for us to begin thinking and discussing what is it that we—what images that we want to have of this generation's men and women who serve. ... I don't want to have this generation's young men and women, the warriors, seen as victims, somehow. This conflict has been a source of strength as well for many, many veterans. ... So I want it to be a positive image. But there are moments when it feels as though it's slipping to a negative image."—**Gen. Martin E. Dempsey, Chairman of the Joint Chiefs of Staff, CNN's "State of the Union" program, July 7.**

## Why Pakistan Failed

"The failure [to find Osama bin Laden] was primarily an intelligence-security failure that was rooted in political irresponsibility. In the premier intelligence institutions, religiosity replaced accountability at the expense of professional competence. ... There was no real and sustained priority given to the search for OBL, although from time to time US raised the issue in an accusatory manner. [There was] culpable negligence and incompetence at almost all levels of government."—**Excerpt from leaked, 337-page report of a blue-ribbon Pakistani commission on the 2011 killing of Osama bin Laden, Washington Post, July 8.**

## An Ellsberg Bloviation

"Snowden believes that he has done nothing wrong. I agree wholeheartedly. More than 40 years after my unauthorized disclosure of the Pentagon Papers, such leaks remain the lifeblood of a free press and our republic. One lesson of the Pentagon Papers and Snowden's leaks is simple: Secrecy corrupts, just as power corrupts."—**Daniel Ellsberg, who in 1971 leaked the so-called Pentagon Papers to the media, on National Security Agency leaker Edward Snowden, Washington Post, July 8.**





USAF photo

# CHECKLIST

By Walter J. Boyne

**A 1935 crash almost killed the B-17 program. The accident led to the modern checklist, and the B-17 survived.**

as too costly to buy and too difficult to fly, the Air Corps pressed on.

Then on Oct. 30, 1935, with the suddenness that characterizes experimental test flights, Boeing's great gamble seemed to fail when the beautiful silver Model 299 crashed on takeoff from Wright Field. The tragic event seemed certain to lead to the cancellation of the program and an immediate change in Army Air Corps planning.

No one then could have guessed that with a little clever management and a dose of politics, the program not only would be salvaged, but the accident would bring a long overdue idea into existence: the checklist.

The checklist ultimately would alter the way aircraft were tested and flown around the world.

## The Crash of 299

At about 9:30 a.m. on that October day, the Model 299 was manned by a very experienced crew, including Maj. Ployer P. Hill, Wright Field's Flying Branch chief, and his copilot, 1st Lt. Donald L. Putt. Also on board were John B. Cutting, a flight-test observer; Mark H. Koogler, also from the Flying Branch; and Tower. Hill was an experienced test pilot, having flown the earliest versions of the Martin B-10. It was his first flight in the Model 299. Tower was positioned behind the two pilots, ready to give advice.

Observers described the initial run of the Model 299's takeoff as normal, even though it broke ground at about 74 mph in a "tail low" attitude. As its speed increased, the bomber's nose

went up much higher than normal. Two men, 1st Lt. Robert K. Giovannoli and 1st Lt. Leonard F. Harman, sensed it was in trouble and ran forward as the airplane reached an altitude of about 300 feet.

The Model 299 stalled, turned 180 degrees, and fell back onto a field. It landed on its left wing, cushioning the impact, which probably saved the lives of several crew. Lying flat on the field, the bomber burst into flames. Amazingly, four crew members were able to crawl from the blazing wreckage.

Putt and Tower emerged from the cockpit area, while Cutting and Koogler got out from the rear. Giovannoli rushed into the fire to find Hill jammed behind the controls. Harman crawled in and cut Hill's shoe off, freeing him from the rud-



**The cockpit of Model 299. The controls were not ergonomically designed. Right: Boeing's bombardment airplane in pieces at Wright Field, Ohio, in 1935. The crash killed two crew members and destroyed the airplane.**



der pedal. Giovannoli handed Hill out of the cockpit into the arms of Barney Miller, an employee of the Martin Co., but Hill died later from his injuries.

Tower, also grievously injured, gave testimony about the accident and apparently blamed himself for the crash. He, too, died not long afterward from the injuries sustained in the accident.

A board of officers convened at Wright Field to investigate the crash. The presiding officer was Lt. Col. Frank D. Lackland, for whom Lackland AFB, Tex., was later named. The board determined the accident was "not caused by": structural failure; malfunction of flight controls, engines, or propellers; the automatic pilot; or any faulty structural or aerodynamic design. Instead, it ascribed the direct cause to the elevator control being locked.

This is, by implication, a "pilot error" verdict—but the board did not say that directly. The board's determination was based on a detailed analysis of the flight-control mechanism and the testimony of Tower and Putt on how the aircraft behaved in the air. This assessment was corroborated by eyewitnesses on the ground, many of whom were experienced airmen who watched the flight from takeoff to impact.

The tail section of the aircraft was virtually all that survived the fire, but

it contained the cause of the accident: an internal control lock that controlled both the elevator and rudder. There were three positions for the elevator on this lock. Two of these were "up"; one was "down."

#### Enter the Checklist

The board concluded that the elevator control could not have been in the extreme up position, because at that position the control yokes would have been inclined back at an angle of 12.5 degrees, and the pilots would not have been able to climb into their seats without releasing the controls. They also deduced that it could not have been in the down position because the aircraft would not have been able to take off.

Further, the Pratt & Whitney representative, Henry Igo, had conducted the engine run-up with the controls locked in the first up position. This meant the pilots could have initiated takeoff without realizing the controls were locked. The flight would have seemed normal until they increased the speed, which would have affected the locked control surface, forcing the aircraft's nose up into a stall.

Both Tower and Putt believed the control was locked.

The investigators concluded that when the pilot pushed forward on the

control yoke, the small elevator trim tabs moved to the up position, contributing to the nose-up attitude. Tower said he made an attempt to unlock the controls when he realized the situation, but could not reach them.

The board stated that—due to the size of the airplane and the inherent design of the control system—it was improbable that any pilot, taking off under the same conditions, would discover the locked controls until it was too late to prevent a crash. Ordinarily, pilots make checks of their movement as a precaution, but apparently this did not occur.

In the aftermath of the Boeing Model 299's crash, the Air Corps declared Douglas Aircraft Co. to be the winner of the multiengine bomber competition. Douglas' DB-1 was redesignated the B-18 and later given the name Bolo. Some 350 were built, and they gave excellent service—but not in the long-range bomber role.

The Air Corps still wanted B-17s, and Boeing received a consolation prize, a contract for 13 aircraft designated Y1B-17. Still, the Air Corps faced arguments that the aircraft was too big to handle.

The Air Corps, however, properly recognized that the limiting factor here





was human memory, not the aircraft's size or complexity.

To avoid another accident, Air Corps personnel developed checklists the crew would follow for takeoff, flight, before landing, and after landing.

The idea was so simple, and so effective, that the checklist was to become the future norm for aircraft operations. The basic concept had already been around for decades, and was in scattered use in aviation worldwide, but it took the Model 299 crash to institutionalize its use.

According to the Merriam-Webster dictionary, the term "checklist" first appeared in 1853. There is no mention of its specific use, but the need for it in operating heavy machinery or railroad equipment is obvious. Some similar types of reminders probably have been in use for centuries for complex tasks.

One current formal definition has special meaning for anyone who has made a wheels-up landing. It says that a checklist is an "informational job aid used to reduce failure by compensating for potential limits of human memory and attention."

Checklists are intended to be used precisely. Every certified aircraft has to have an approved cockpit checklist easily

accessible. The checklist must have all the necessary items from engine start to engine shutdown, including emergency procedures. But it is impossible to remove the human element—errors still occur.

### Forget Memory

Today the checklist can take several forms, including paper, a scroll giving line by line actions, and various mechanical types, some involving a voice presentation. Modern glass cockpits use different methods, including a computer-based text on the display screens and even electronic checklists that sense the state of a system.

The paper checklist has been the most common.

Aircrews can either "run a checklist," where each item is called out and the action or status is reported in reply, or they can configure the aircraft from memory then use a checklist to verify that all the steps have been taken.

There are great improvements over the earlier mnemonic checklists. These varied from the familiar "GUMP" check for the gear, undercarriage, mixture, and propeller to the Royal Air Forces' wartime "TMP and Flaps," i.e., trimming:

neutral; mixture: rich; pitch: fine; and flaps. This was used to preflight everything from a Tiger Moth to a Lancaster.

The creation of the checklist was delayed by an unrealistic reliance on the memory of pilots. This dated all the way back to 1903, with the Wright brothers' intimate knowledge of airplanes. The precise care and organization of their preflight techniques often was commented upon at the time, particularly in the demonstrations Wilbur Wright conducted in Europe. Audiences for his flights sometimes became restive with his deliberate, unhurried, and comprehensive checks of the aircraft, catapult system, weather, and everything else.

Wilbur knew well that if something could go wrong it would, and he took his time to be sure to prevent a mishap.

This same philosophy has endured through the years, both before and after checklists became commonplace. It was the pilot's responsibility to ensure the aircraft is ready for flight.

Still, this approach does not result in uniform success. Aircraft accident reports are replete with findings that the failure to use a checklist properly resulted in an accident.



**Capt. Benjamin Foulois at the controls of a Wright military biplane in 1911. Foulois advised preflight actions that resemble today's checklist procedures.**

Like the Wrights, Glenn H. Curtiss began a pilot training program to enhance the sale of his aircraft. In 1911, he established a flying school at North Island, Calif., where Lt. Theodore G. Ellyson, the Navy's first aviator, was among his students. Although articles on the school mention that Curtiss demanded a checklist be made for his students, there is no hard evidence of such a checklist.

During the same year in San Antonio, a young Benjamin D. Foulois wrote the "Provisional Aeroplane Regulations for the Signal Corps." In it he wrote, "Immediately preceding every flight, an aeroplane will be carefully inspected by the pilot and mechanic. Each inspection is to be made independently of the other. Upon completion of both inspections the mechanic will report the result of his inspection to the pilot; the pilot will then report the result of both inspections to the senior officer present on aeronautical duty."

While not a checklist in the modern sense, Foulois' instructions have the challenge-response element of today's procedures.

Other training schools recognized the need for systematic care in operating aircraft. Sometime in 1915, engineer George E. A. Hallett developed a checklist-like procedure for the Army at North Island. Hallett went into much greater detail than Foulois. The document, "Inspection of Aeroplanes Before Flight," included extremely precise

instructions on the inspection of every element of the aircraft, from the correct tension of wires to the proper inflation of tires.

#### **Hubris, then Accidents**

By 1918, with vastly expanded pilot training in the United States, a special handbook was created by Curtiss for the JN-4 "Jenny." One section was titled "Hints on Flying" and provided a list of 18 items, each with considerable detail. Five items were devoted to actions to take before takeoff, nine covered in-flight procedures and safety precautions, two advised on landings, and two discussed ways to avoid stalls and spins.

While not a handheld checklist that was carried in the cockpit, it was a manual that contained all the advice necessary for the operation of the aircraft. It also set a pattern for the future around the world—most air forces would depend on the appropriate flight manual to be an adequate source of knowledge.

As was the case with all of these checklist predecessors, pilots were expected to know the manual by rote. Sometimes this led to hubris, which led to accidents.

Given its wild expansion from a handful of aircraft in 1912 to the largest air force in the world in 1918, it is

not surprising that the Royal Flying Corps—and its successor, the Royal Air Force—created the closest ancestors to the modern checklist.

The nearest relative to a post-1935 checklist is found in "Hints on the Bristol Fighter," dated March 30, 1918, and written by the officer commanding No. 39 Squadron. The section headings are similar to modern checklist, including specific sections designed to ensure pilots see that the pressure is holding, the ignition is fully advanced, the temperature is at least 65 degrees and not over 85 degrees, the oil pressure is OK, the blinds are open, and the tail lever is forward.

In 1919, the Director of Air Service published "General Rules to be Observed at all US Flying Fields." This order listed 33 items vital to the safe operation of aircraft. In the same year, the Royal Air Force Air Publication 129 stated that a pilot should always carry out his preflight walk-around "systematically in order that no part may escape notice."

Even by 1937, two years after the Model 299 crash, RAF instructions still depended on memorization for their execution. They were much more precise, offering checks that had to be accomplished before each stage of flight, but pilots were "required to learn the drill" rather than have something written in hand.

It should be remembered that cockpit ergonomics were not a big consideration anywhere at this time, and the placement of even such basic controls as throttle, mixture, and propeller varied from type to type.

The general attitude within the US Army Air Forces continued to be, "If it has a stick and a throttle, go fly it," but increasingly after 1935 paper checklists were more available, particularly on multiengine aircraft.

The success of aviation checklists led to their adoption by many other disciplines, including the quality assurance for software engineering, in civil litigation, and even in tracking and evaluating sports card collections.

So as tragic as the Model 299 Wright Field crash was, it almost unquestionably has saved thousands of lives over the ensuing decades. ■

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*Walter J. Boyne, former director of the National Air and Space Museum in Washington, D.C., is a retired Air Force colonel and author. He has written more than 600 articles about aviation topics and 40 books, the most recent of which is How the Helicopter Changed Modern Warfare. His most recent article for Air Force Magazine, "C-124 and the Tragedy at Tachikawa," appeared in the July issue.*

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# The Decade *of* Détente

By John T. Correll

To the dismay of Henry Kissinger,  
his masterpiece.

**T**he crowning moment for US nuclear superiority came during the Cuban Missile Crisis of 1962 when Soviet Premier Nikita Khrushchev withdrew the ballistic missiles he had intended to target on American cities.

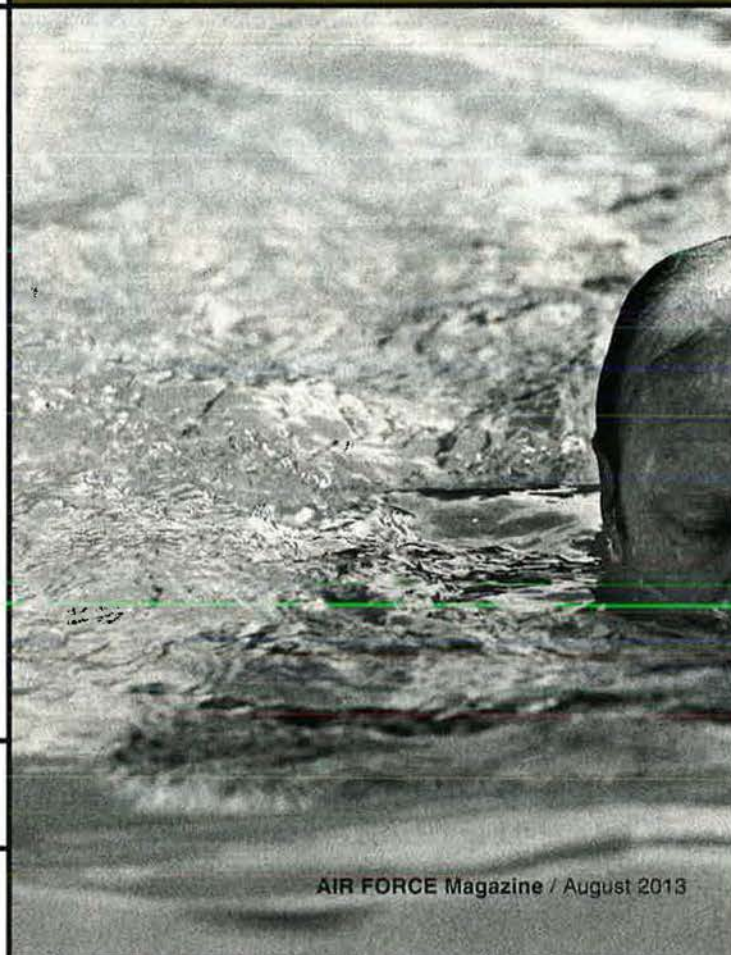
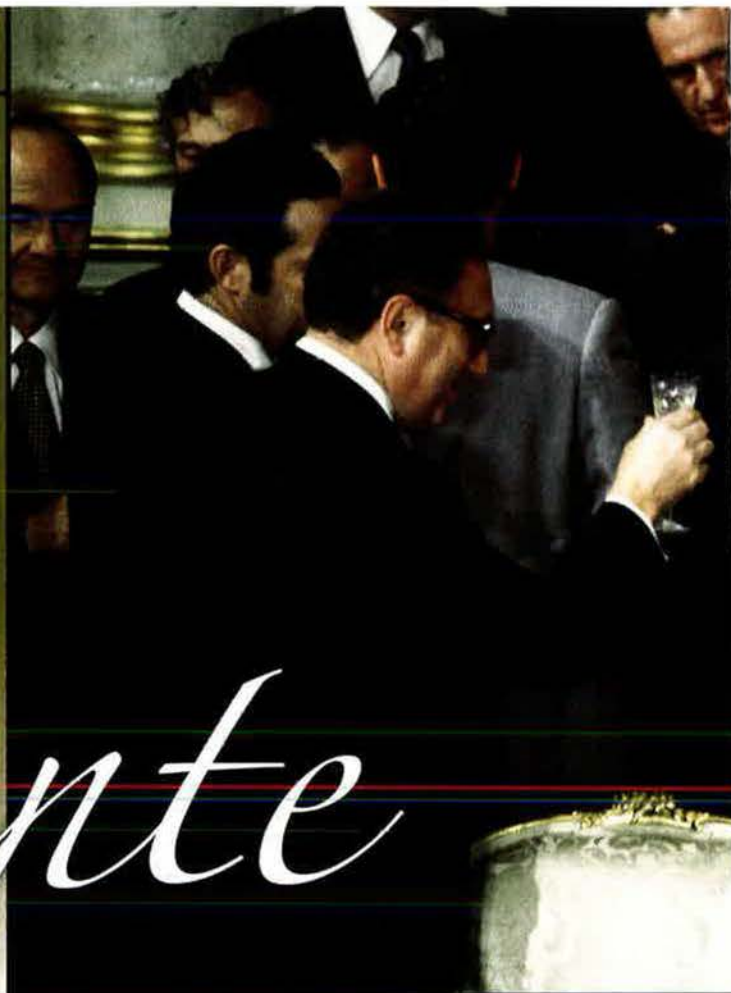
Khrushchev's power play failed when his missiles in Cuba were discovered before they were operational and ready to use. That left him with the existing disadvantage in deliverable weapons—5,100 for the US, only 300 for the USSR. Although the Soviet Union might inflict massive casualties, it could be wiped off the map in a nuclear exchange.

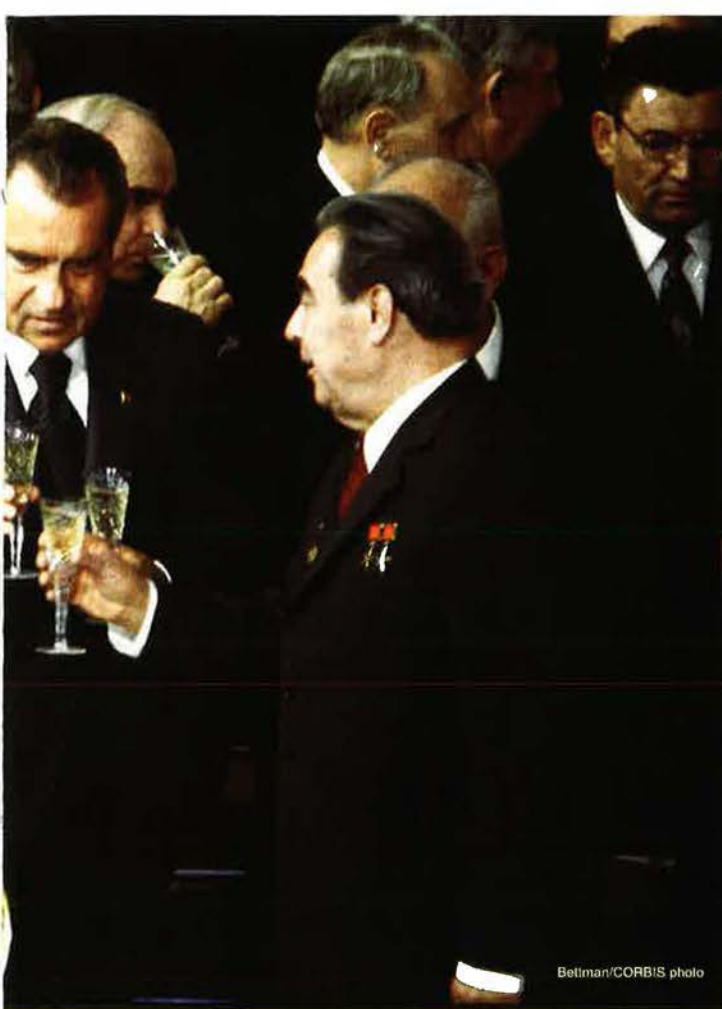
The superpowers came away from the experience heading in opposite strategic directions. The Soviets, determined not to be humiliated again, pushed their nuclear buildup with unrelenting vigor. The United States stopped building its forces and cut back on nuclear programs.

US policymakers had developed doubts about strategic superiority. President John F. Kennedy understood the need for military strength, but he also saw it as provocative.

"Truman and Eisenhower believed that Hitler had started World War II because he had thought his enemies were

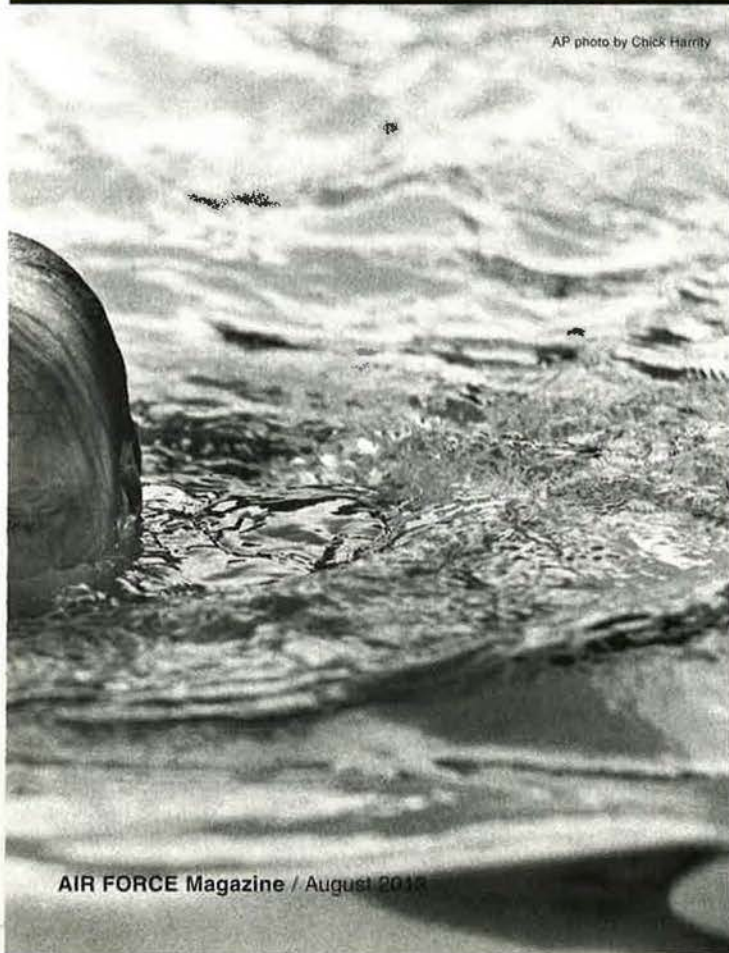
*President Gerald Ford swims at his home in Alexandria, Va., in 1974. Ford did not have Nixon's depth in foreign affairs, and it showed.*





*President Nixon (c) and Henry Kissinger (l) meet with General Secretary Leonid Brezhnev in Moscow in 1974. Brezhnev was the Soviet leader for the entire decade of détente.*

ot everyone saw the benefits of



AP photo by Chick Harrity

weak and not ready to act,” said Cold War historian W. R. Smyser. “They strengthened and united the West to avoid having Moscow repeat Hitler’s mistake. But Kennedy and his advisors looked more closely at the events that had led to World War I. They believed that a sequence of mutually threatening mobilization plans and actions had gotten out of hand and escalated into war in 1914. They thought that US policy should strive to avoid such misunderstandings.”

The CIA’s National Intelligence Estimate for 1964, one of several later proved to be faulty, reported no evidence of a Soviet force buildup. In 1965, Secretary of Defense Robert S. McNamara said, “There is no indication that the Soviets are seeking to develop a nuclear force as large as ours.”

The emergence of ICBM technology had simplified the fielding of long range nuclear strike capability, so the loss of US nuclear superiority was probably inevitable, but the United States abandoned the effort and decided unilaterally to accept parity in strategic weapons. The Minuteman missile program was cut by half, the B-70 bomber was canceled, and a unilateral limit was imposed on the ICBM fleet. In 1965, McNamara promulgated Mutual Assured Destruction, or MAD, as the planning base, setting the strategic force requirement at no more than what was necessary to inflict reciprocal destruction on the enemy.

In the next four years the Soviets would draw even with the United States on numbers of strategic missiles and then pull significantly ahead. Defense cutters in Congress opposed any attempt to regain superiority as destabilizing. Besides, the ongoing Vietnam War was making money in the defense budget scarce for anything else.

In October 1968, during the presidential election campaign, Republican challenger Richard M. Nixon promised to restore “clear-cut American military superiority” over the Soviet Union, but that was wishful thinking. It fell to Nixon, the consummate Cold Warrior, to confirm the new balance of power in the doctrine of détente.

### Sufficiency

In his inaugural address in January 1969, Nixon said, “After a period of confrontation, we are entering an era of negotiation.” He was more specific in a press conference a week later. In reply to a question, he said, “Our objective is to be sure the United States has sufficient military power to defend our interests and to maintain the commitments which this Administration determines are in the interest of the United States around the world. ... I think sufficiency is a better term, actually, than either superiority or parity.”

Once he had stated sufficiency as a principle, Nixon never again raised the goal of strategic superiority. At first, however, Nixon avoided the newly popular term “détente,” a French word meaning “a relaxation of tensions.” He used it for the first time in a speech to the UN in 1970.

Nixon had depth in foreign affairs in his own right, but the high priest of détente was Henry A. Kissinger, the national security advisor and later secretary of state, who overshadowed both Secretary of Defense Melvin R. Laird and Secretary of State William P. Rogers.

Congress was not willing to keep pace with the Soviet nuclear buildup, much less seek to recover dominance. By

### The Odd Couple



In this 1973 political cartoon, the US and Russia are proud parents to détente, holding an olive branch.

1970, the Soviet Union surpassed the United States in the number of ICBMs possessed, although the US was still ahead in other aspects of the strategic balance, such as the number of warheads.

The question, Kissinger said, was “how to respond to Soviet expansionism when we no longer possessed a credible counterforce capacity and were inferior in conventional forces.” The point of détente, he said, was not friendship with the USSR but an effort “to manage the emergence of Soviet power.”

Kissinger did not regard the loss of superiority as all that important. “What in the name of God is strategic superiority?” he asked. “What is the significance of it? ... What do you do with it?”

The Soviet leader through the entire period of détente was Leonid Brezhnev, the general secretary of the Communist Party of the Soviet Union. Brezhnev had his own reasons for wanting to tone down the confrontation. Among them was a rift with China, which triggered a redeployment of forces to the Soviet-Chinese border. Détente made this reallocation easier by reducing the pressure elsewhere.

Brezhnev gained further flexibility from the “Ostpolitik” initiative by West German Chancellor Willy Brandt, which included a nonaggression pact with the Soviet Union and acceptance of the Soviet presence in central Europe.

Kissinger introduced “linkage” as an adjunct to détente. He insisted that all aspects of the US-Soviet relationship be treated as if they were connected. Linkage was useful as a bargaining tool in matters on which the United States would otherwise have had little or no leverage to negotiate.

For example, Kissinger said, “We made progress in settling the Vietnam War something of a condition for advance

in areas of interest to the Soviets, such as the Middle East, trade, or arms limitation.”

### Against All Challengers

The Strategic Arms Limitation Talks became “the flagship of détente,” said Raymond L. Garthoff, senior arms control specialist at the Brookings Institution. Preliminary discussions had begun in the Johnson Administration but the SALT I treaty in 1972 was concluded on Nixon’s watch.

SALT froze strategic nuclear forces at existing numbers—deployed or under construction—for five years. It did not address bombers. Since the Russians were ahead in ICBMs, they got a three-to-two advantage in launchers.

Kissinger defended the agreement in a briefing to the Senate Foreign Relations Committee. “First, the present situation is on balance advantageous to the United States,” he said. “Second, the interim agreement perpetuates nothing which did not already exist and which could only have gotten worse without the agreement.” The United States was not going to increase its ICBM force with or without SALT I, and the treaty might have some restraining effect on the Russians, who continued to add to their missile force.

“SALT imposed a sacrifice on the Soviets if it did on anyone,” Kissinger said in his memoirs. “They had been building 200 new launchers a year. They had to dismantle some 210 ICBMs of older types to come down to the agreed ceiling. We had stopped building during the Johnson Administration; we had no new missile program in production and the Vietnam-era Congress would not have approved one. For us the sacrifice was theoretical.”

The hawkish Sen. Henry M. “Scoop” Jackson (D-Wash.), who had been Nixon’s first choice for secretary of defense, took exception. His amendment to SALT I, adopted by Congress in approving the agreement, urged the President to seek a future treaty that “would not limit the United States to levels of intercontinental strategic forces inferior to the limits provided for the Soviet Union.”

Jackson, Kissinger said, was “the most implacable foe of the Administration’s Soviet policy.” To the fury of Nixon and Kissinger, Jackson found an ally in Secretary of Defense James R. Schlesinger, who Kissinger described as the “leader of the revolt within the Administration.” Like Jackson, Schlesinger thought that Kissinger was giving away too much. Schlesinger had powerful supporters in and out of government so Nixon hesitated to fire him.

Schlesinger refined strategic sufficiency as “Essential Equivalence,” one test of which was whether the equivalence would be “perceived not only by ourselves but by the Soviet Union and Third World audiences as well.”

Détente had begun as the best available adjustment to a deteriorating situation, but had evolved into the centerpiece of foreign policy and Kissinger would defend it aggressively against all challengers.

### The Foibles of Ford

Nixon’s presidency was cut short by Watergate, and Gerald R. Ford, who succeeded him in August 1974, did not have Nixon’s depth in foreign policy. He was dependent on Kissinger and deferred to him in affairs of state. He did not like Schlesinger, who, according to Kissinger, made Ford feel “extremely uncomfortable.” Ford told Kissinger, “He thinks I’m stupid and believes that you are running me.”

In 1975, Kissinger steered Ford into the Helsinki Accords, a 35-nation agreement that recognized the “inviolability

of frontiers” in Europe and proclaimed an assortment of human rights assurances. The *New York Times* called it a mistake, “symbolically ratifying” the Soviet annexation of Eastern Europe. Kissinger argued that this “posed a much greater restraint on the power possessing the largest land army” than it did on the democracies. The Warsaw Pact nations hailed it as a great triumph.

A month before the signing of the Helsinki Accords, Ford refused to meet with Aleksandr I. Solzhenitsyn, author of *The Gulag Archipelago*, who had been deported from the Soviet Union because of his criticism of the system. A White House spokesman said that Ford had done so on advice from the National Security Council and had been persuaded that a meeting with Solzhenitsyn would be inconsistent with the policy of détente.

“All hell broke loose,” Kissinger said. “Jackson issued a statement that it was a sad day for the country when the chief spokesman of American foreign policy sided with the Soviets instead of with freedom of speech.” Kissinger tried to blame it on a scheduling problem but said the meeting would have been “disadvantageous” at that particular point. The *New York Times* asked, “Does President Ford know the difference between détente and appeasement?”

Schlesinger’s clash with Kissinger, and by extension with Ford, worsened and in November 1975, Ford fired Schlesinger. “Henry is always tough with everybody except the Russians,” Schlesinger told the *Washington Post*. Donald H. Rumsfeld, who followed Schlesinger as secretary of defense, recast “Essential Equivalence” as “Rough Equivalence,” which made no difference except to put Rumsfeld’s name on the terminology.

Ford, still bobbing and weaving, declared several months later, “I don’t use the word détente anymore.” However, the White House said that did not mark any change in policy. Ford was soon back in the soup again. In an election campaign debate on national television in October 1976, Ford defended the Helsinki Accords, declaring, “There is no Soviet domination of Eastern Europe and there never will be under a Ford Administration.”

The moderator, Max Frankel of the *New York Times*, gave Ford a chance to clarify and recover, but he was having none of it. “I don’t believe, Mr. Frankel, that the Yugoslavians consider themselves dominated by the Soviet Union. I don’t believe that the Romanians consider themselves dominated by the Soviet Union. I don’t believe that the Poles consider themselves dominated by the Soviet Union. Each of these countries is independent, autonomous, it has its own territorial integrity, and the United States does not concede that those countries are under the domination of the Soviet Union.”

### Tackled by Team B

Once SALT had imposed a limit on launchers, the Soviets concentrated on increasing the accuracy and throw weight of their missiles. In 1973 alone, they tested four new ICBMs, three of them with MIRVs, or multiple independently targetable re-entry vehicles.

The CIA’s National Intelligence Estimates, perceived as reflecting the bias of the liberal and academic communities, downplayed the challenge. The 1975 NIE was especially egregious. It said that the best of the Soviet missiles were not accurate enough to threaten US Minuteman silos.

In 1976, Director of Central Intelligence George H. W. Bush appointed “Team B,” headed by Professor Richard

E. Pipes, to take an independent look at whether Soviet objectives were more ambitious and more threatening than depicted by the NIE. The Team B report confirmed an inclination by drafters of the NIEs to “minimize the Soviet strategic buildup because of its implications for détente” and that Soviets leaders were, beyond a reasonable doubt, reaching for strategic superiority.

Force reduction advocates hoped the Team B report would have no effect on the Jimmy Carter Administration, which took office in January 1977, but the Democrats’ best strategic thinker was Secretary of Defense Harold Brown and some of his positions sounded a lot like Team B. “Soviet spending has shown no response to US restraint,” Brown said. “When we build, they build. When we cut, they build.”

National Security Advisor Zbigniew Brzezinski took a harder line than Secretary of State Cyrus Vance, who was a firm believer in détente. President Carter himself was also inclined toward détente. He abandoned the B-1 bomber, stretched out the MX ICBM, and slowed down the Trident submarine-launched ballistic missile.

What spoiled détente for Carter was the Soviet invasion of Afghanistan in 1979. He reacted by withdrawing the SALT II treaty, which he had sent to the Senate for consideration, and expressed hope that the principles of détente might be resumed at some later date.



*President Jimmy Carter, followed by Secretary of Defense Harold Brown, waves as he leaves a speaker’s podium at the Pentagon. Carter was inclined toward détente, but fell out with the Soviets over Afghanistan. Brown said that no matter what the US did, the Soviet buildup continued.*

AP photo



**President Ronald Reagan addresses the nation in a televised event in support of his proposed defense budget. Reagan revoked détente, saying the Soviets had treated it as a one-way street.**

“Irritated by the vacillations of the Carter presidency, they [the Kremlin] had finally come to treat him with contempt,” said Martin Walker, US bureau chief for *The Guardian*.

Brandt, the architect of Ostpolitik, had moved on to the presidency of Socialist International and was more enthusiastic than ever. In November 1980, he called for nations to put aside their “deep-seated ideological differences” and carry détente into the 1980s.

In Brown’s estimation, the Soviets in the early 1980s could have “reasonable confidence in destroying nearly all US Minuteman silos.” There was a “dangerous asymmetry,” he said. “The Soviet ICBM force is not at similar risk because the US ICBM force does not have enough re-entry vehicles of high accuracy to pose a like threat to the larger number of Soviet ICBM silos.”

### Reagan Pulls the Plug

Ronald Reagan, running against Carter in the 1980 election, said that if the United States made a serious effort at rearmament, the Soviets could not afford to keep up. “I think there is every indication and every reason to believe that the Soviet Union cannot increase its production of arms,” he said. “They’ve diverted so much to military [spending] that they can’t provide for the consumer needs. So far as an arms race is concerned, there’s one going on right now, but there’s only one side racing.”

At his first press conference as President in January 1981, Reagan revoked détente. “So far, détente’s been a one-way street that the Soviet Union has used to pursue its own aims,” he said. For the first time in more than 20 years, it was again US policy to roll back the Soviet advance.

British Prime Minister Margaret Thatcher agreed, saying there was no “evidence of a real Soviet interest in genuine détente.” So did NATO Secretary General Joseph Luns, who said détente had weakened NATO’s resolve to maintain an effective military defense, and that this may have been “one of Moscow’s goals when it helped to initiate détente more than 10 years ago.”

Reagan’s critics were outraged, declaring that Reagan had revived the Cold War. Typical of their objections was a

*New York Times* op-ed piece by Stephen F. Cohen of Princeton, who complained that “the only sane alternative in the nuclear age” had given way “to the militarization of foreign policy” and the “pursuit of strategic superiority.”

Reagan could hardly be accused of categorically opposing arms reductions. At the Reykjavik summit in 1986, he proposed mutual elimination of all ICBMs and SLBMs. The deal fell through only because Soviet leader Mikhail Gorbachev insisted that the “Star Wars” Strategic Defense Initiative be included and Reagan refused.

Ten years after Reagan pronounced the end of détente, the Soviet Union was gone, disestablished in the dramatic close of the Cold War. Reagan critics would say his actions had nothing to do with it, that the USSR was already in deep decline.

Such claims were undercut, however, by earlier assessments. In 1982, Arthur M. Schlesinger Jr., court historian to the Kennedy Administration, returned from a trip to the Soviet Union with the conclusion that “those who think the Soviet Union is on the verge of economic and social collapse are kidding themselves.”

The critics said Reagan had been more lucky than prescient, but whatever it was, it seemed to work.

### Détente’s Fatal Flaw

“Détente of the kind that existed in the mid-’70s was really undermined by the Soviets, who thought they could have détente and a fundamental shift in the balance of power at the same time,” Brzezinski said. “Instead of accepting détente as a relationship designed to stabilize the relationship between the two major countries, they viewed détente as essentially an umbrella under which a fundamental shift in the relationship of power could be effected.”

Gorbachev, the last leader of the Soviet Union before its collapse, confirmed Reagan’s perspective to a considerable extent. In his memoirs, he acknowledged that the Soviet objective had been “military supremacy relative to any possible opponent” and that as a consequence, “the arms race continued, gaining momentum even after achieving military and strategic parity with the United States of America.”

In some years, Gorbachev said, Soviet military expenditures “reached 25 to 30 percent of our gross national product—that is, five or six times greater than analogous military spending in the United States and the European NATO countries.”

“We were living much worse than people in the industrialized countries were living and we were increasingly lagging behind them,” Gorbachev said. “Doomed to cater to ideology and suffer and carry the onerous burden of the arms race, [the Soviet Union] found itself at the breaking point.”

In *Diplomacy*, published in 1994, Kissinger said that Reagan “had only a few basic ideas” and that his conception of the Soviet threat “reflected an oversimplification of the nature of military superiority in the nuclear age.” Reagan, he said, was “in the fortunate position of dealing with a Soviet Union in precipitate decline.”

Nevertheless, “Reagan put forward a foreign policy doctrine of great coherence and considerable intellectual power,” Kissinger conceded somewhat grudgingly, and this hastened the disintegration of the Soviet Union and the end of the Cold War. ■

*John T. Correll was editor in chief of Air Force Magazine for 18 years and is now a contributor. His most recent article, “The Halt on the Elbe,” appeared in the July issue.*



## Give and Take, Jug Style

Photo from National Air and Space Museum



In World War II, the P-47 Thunderbolt certainly dished it out to the enemy, but the "Jug" could take it, too. The large photo, snapped by a Twelfth Air Force aircrew member in March 1945, shows how a Jug's bulls-eye bombing disrupted traffic on a northern Italian railroad line, near Milan, which was being used to resupply German forces. The inset demonstrates that the fighter-bomber could also take a punch. This Jug, of the 364th Fighter Squadron, banged into treetops during low-level strafing of an Italian target. The badly damaged aircraft was flown 120 miles for a safe return to base.

Photo via www.w2aircraft.net



## THE NO-NONSENSE GENERAL MADE AIRPOWE

**“THIS IS MOMYER.”**

Those three words put the listener on notice that it was Gen. William Wallace Momyer calling, and he meant business. He made his own calls, wanting the right answers right away. It was his style and he applied it across the board.

Momyer was one of the brightest and hardest-working four-star generals in Air Force history—acknowledged by all to be a true expert in tactical air warfare. He demanded much from his people and more of himself. It was never easy to work for him or to be his boss.

Described by Gen. Gabriel P. Disoway as hard to deal with because he was “so

much smarter than most people,” the ascetic Momyer eschewed the stereotype of the hard-drinking, smoking, and profane fighter pilot.

Quick-thinking and decisive, he brushed off subordinates’ opinions even though he often questioned his superiors’ views when they differed from his own. However, when a decision was made, he carried out orders to the letter.

“Spike” Momyer laid out his distinctive views on airpower doctrine, strategy, and tactics in his book, *Airpower in Three Wars*. He had an unusual career; in retirement, he guessed some of his superiors might have been

grooming him for promotion without his knowledge.

During World War II, the green Second Lieutenant Momyer rose in just four years to combat-seasoned colonel, becoming an ace with eight victories along the way. He wore eagles nearly 13 more years before gaining his first star. He became a full general in 1967.

The outspoken firebrand received his last combat command in the Vietnam War, where for the most part, White House politics overruled his military expertise.

He was tasked to execute Rolling Thunder, the long, largely ineffective

# MOMYER

By Walter J. Boyne



## WORK IN SOME OF THE TOUGHEST ENVIRONMENTS.

bombing campaign that contravened his instinct and methods. Though bitterly disappointed, he was a trooper, fighting the war as best he could. This was despite micromanagement from the Oval Office, which issued directives on everything from arbitrary rules of engagement to basic decisions on targets and ordnance.

In Vietnam, Momyer sometimes relaxed by talking with the pilots who flew for him. He often astounded them with his knowledge of their missions: when and where they flew, their call signs, ordnance, results, everything. Occasionally he would indulge himself by relating lessons he'd learned the hard way from his own combat experience.

Anecdotes about him from Vietnam fighter pilots offer divided opinions.

In one instance Momyer approved Robin Olds' idea to conduct the famous Operation Bolo, despite the fact that Olds' image and demeanor went entirely against Momyer's grain.

In another, Momyer backed Jack Broughton's concepts on local planning of attacks but later blocked Broughton's decorations. Momyer reputedly didn't want to cross Gen. John D. Ryan, who disliked Broughton.

Born in 1916, Momyer hailed from Muskogee, Okla. Hatbox Field, within the Muskogee city limits, caught his interest. The primitive US Army Air Corps field was important at the time—a stop for both the 1924 Around the World Flight and the air mail. Momyer remembered seeing Charles Lindbergh land there in 1929. But he often said it was the smell and feel of the old de Havilland DH-4 biplanes that really snared him.

A fierce competitor, and always getting into fights despite his small size, Momyer was determined to excel in sports and played on many school teams. Later he said the qualities of aggression and determination were part of a great fighter pilot's make-up.

His father died when Momyer was 14, and he needed to earn money, so he dropped athletics. He finished high school after the family moved to Seattle, and then graduated with a liberal arts degree from the University of Washington in 1937.

The next year he entered the Army. He attended primary and basic training at Randolph Field, Tex., flying the Consolidated PT-3 and the North American BT-8. He then went to nearby Kelly Field, where he reveled in the Boeing P-12 and fulfilled his ambition to become a pursuit pilot.

Receiving his wings and commission in February 1939, he reported to the 35th Pursuit Squadron at Langley Field, Va., commanded by then-Maj. Glenn O. Barcus.

**“[So] much smarter than most people,” the ascetic Momyer eschewed the stereotype of the hard-drinking, smoking and profane fighter pilot.**

The timing was exactly right as the 35th was converting from the two-seat Consolidated PB-2 to the Curtiss P-36. In June 1940 it became one of the first units to receive brand-new Curtiss P-40s fresh off the Buffalo, N.Y., production line. For the next year Momyer combined flying as a flight leader at Langley with running P-40 service tests at Wright Field, Ohio.

### To Be Shot At

This experience led to his being sent to Cairo, Egypt, in March 1941. He was a technical advisor to the Royal Air Force on their new Curtiss P-40 Tomahawks, passing back all that he learned to Washington.

Momyer relished the job; it allowed him to fly combat missions with the Western Desert Air Force. Among the first units to get the Tomahawk was RAF No. 112 Squadron, the first Allied unit to use the “shark mouth” paint scheme

later immortalized by the American Volunteer Group.

He later complained that he never got into position to shoot an enemy aircraft down because the RAF put “the Yank” in the rear of their formations and protected him. However, the assignment provided him vital experience at “what it is like to be shot at and to shoot.”

Upon returning to the States, he became deputy commander of the 60th Pursuit Squadron at Bolling Field in Washington, D.C. There he permitted his pilots to use their free time in the operations area to do one of two things: read their technical orders or play checkers.

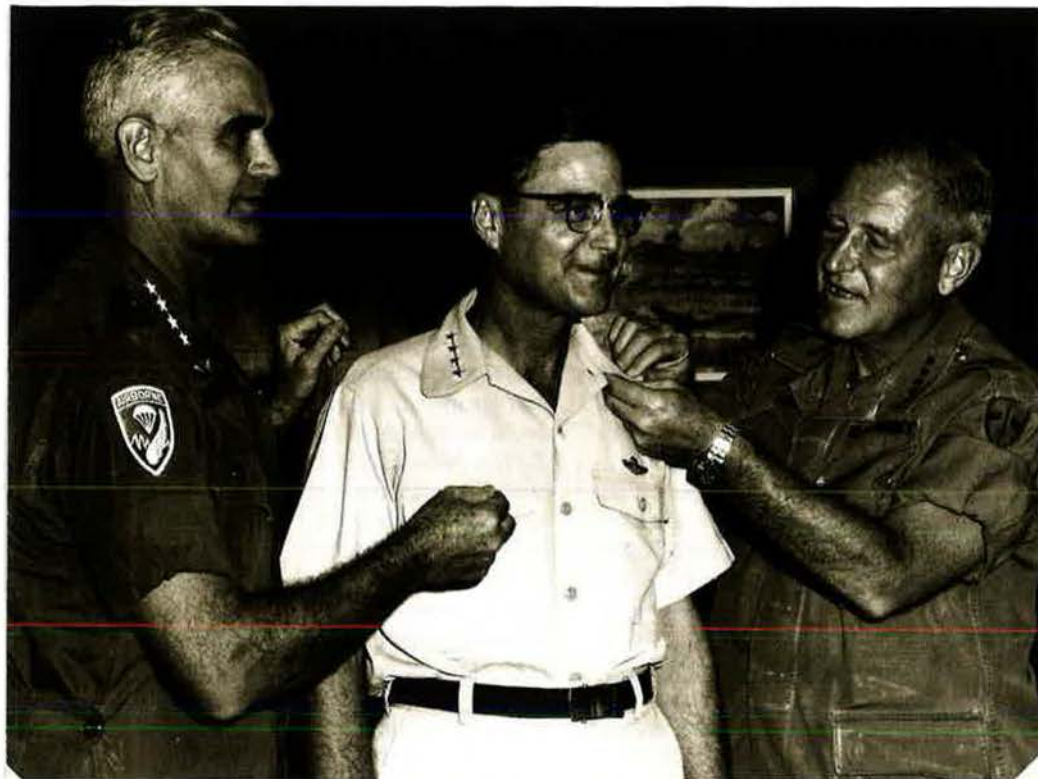
After a short stint with the 60th, he assumed command of the 58th Pursuit Squadron in March 1942, at age 25. Within weeks, the newly promoted Major Momyer replaced then-Col. Elwood R. Quesada as commander of the 33rd Fighter Group. Quesada was impressed by Momyer's toughness and many years later was instrumental in Momyer becoming commander of 7th Air Force in Vietnam.

The 33rd Fighter Group went to war on Oct. 22, 1942, to participate in Operation Torch, the invasion of North Africa. The aircraft were carried aboard a converted tanker ship, and they would reach land by taking off from the erstwhile carrier USS *Chenango*. The mission was a one-way trip to the Port Lyautey airfield in French Morocco, which was still being fiercely defended by the French.

The 33rd received orders to launch on Nov. 10. The first P-40 was already positioned on the catapult. Its pilot, Lieutenant Daniel B. Rathbun noted how his rate-of-climb indicator needle went up and down with the *Chenango's* bow.

Rathbun launched successfully and arrived over the airfield to find it in American hands but still under fire. Its 2,000-foot-long concrete runway was marred with craters. Rathbun, trying to avoid the craters, stalled and hit one, wiping out his landing

**Lt. Gen. William Momyer speaks at a press conference in 1967. He led that year's Rolling Thunder airpower campaign against North Vietnam, but was hampered by convoluted and bizarre stages of approval.**



USAF photo

**Gen. William Westmoreland (l) and Gen. Creighton Abrams (r) pin on Momyer's fourth star in Saigon in 1967. Although denied centralized control of air assets in Vietnam, Momyer made sure airpower was used to the maximum allowable effectiveness.**



gear. He crawled out of the cockpit and ran to the destroyer USS *Dallas*, already tied up at the pier, requesting that a message be sent to *Chenango* to cancel any further launches.

About 45 minutes later, while making an effort to fill up the runway craters, Rathbun was dismayed to see the first element of the 33rd P-40s arrive.

Momyer, in the lead ship, attempted to land at the very edge of the runway, obviously hoping to stop in the first few hundred yards before a crater. He came in a hair too low, striking the slightly elevated lip of the runway and tearing off his landing gear. When his aircraft stopped sliding, Momyer jumped out and strode over to Rathbun, yelling, "If you had used your head, you could have prevented all of this."

Then, without regard to shell or sniper fire, Momyer began directing repair of the runway. A few minutes later, another P-40 crashed and flipped over on its back. Momyer ran to the aircraft, ignoring the possibility of it exploding. The pilot was trapped inside and Momyer had to tear away strips of jagged aluminum before he could remove him from the cockpit. Momyer was awarded the Silver Star for his heroism.

Despite the inauspicious start, Momyer would lead the 33rd in an intense year of tactical air combat. Luftwaffe elements with excellent pilots moved from Sicily into Tunisia, equipped with the

Messerschmitt Bf 109 F and G models. They were equally expert at dogfights and attacking airfields.

In later years, Momyer often remarked that enemy air attacks on American airfields in the Korean and the Vietnam conflicts would have been a good thing. In these and later wars, he explained, American air superiority was so great that the Army took it as a given. Consequently, airpower came to be viewed by some as a support function, ignoring its overriding importance in combat.

During December 1942, the 33rd moved from Telergma airfield in Algeria to Thelepte, in western Tunisia, on the site of a Roman ruin that highlighted the wretched living conditions there. Momyer was charged with attaining air superiority and supporting Allied ground units offensively and defensively.

On Jan. 4 Momyer scored his first victory, shooting down a raiding Junkers Ju 88 bomber. He followed this up four days later with a victory over a Messerschmitt Bf 109.

The 33rd was able to maintain a one-for-one parity in aerial victories, but the Luftwaffe's combination of air and ground attacks gradually gained it air superiority. By the beginning of February, the 33rd was worn down to the point that it had to be withdrawn to be brought up to strength.

Coincidentally, the Allied command structure was reorganized, with Momyer

now reporting to Air Marshal Arthur Coningham. A man after Momyer's own heart, Coningham believed attacking enemy air bases was an essential element in gaining air superiority.

The tide soon turned against the Germans, and Momyer secured his third and fourth victories.

On March 31 he began his greatest air battle, leading his entire group of aircraft against German positions in El Guettar Valley. In a 1977 interview, Momyer recalled seeing a large formation that he took first for Martin B-26s, but then identified as Junkers Ju 87 Stukas. He





*Momyer (r) presents the Air Force Association's 1969 Outstanding Airman of the Year award to TSgt. Louis Benavides Jr. Although widely admired, it wasn't easy to work for Momyer, who was a perfectionist.*

Momyer's illustrious combat record was tarnished by an incident of racial intolerance in 1943, at a time when such attitudes were still pervasive and with the armed services not yet integrated.

Momyer asserted that one of the units under his command—the 99th Fighter Squadron, known unofficially as the Tuskegee Airmen—was not effective in combat. His opinion was officially transmitted to Maj. Gen. John K. Cannon, deputy commander of the Northwest African Tactical Air Force. The comment was also picked up by the press, causing a furor in Congress. Eventually, an unbiased analysis of the 99th record against similar units showed that Momyer's assessment was wrong.

In the course of his time in combat, the young colonel had learned a lot, and he put that knowledge to use in a new job as a member of the US Army Air Forces Board, in Orlando, Fla. The board was intended to make recommendations to the commanding general on all matters of strategy, technique, organization, equipment, training, and so forth.

### Making Airpower One

In March 1944, Momyer became chief of the board's Combined Operations Branch with responsibility for projects where air, land, and sea components were used. One of its chief conclusions was that after the main goal of gaining air superiority, second priority was to cut off the enemy's forward forces by destroying his forces in the rear. The concept was later validated in Korea, Vietnam, and the wars in the Middle East.

Momyer became assistant chief of staff to Lt. Gen. Quesada when Tactical Air Command was established in March 1946. Quesada later remarked on Momyer's excellent leadership in the planning of joint maneuvers with the Army.

In 1949, Momyer entered the Air War College at Maxwell AFB, Ala. While there he became an early advocate for treating "Air Power" as a single entity, rather than dividing it into tactical and strategic elements. He was also instrumental in creating a series of doctrine manuals, including the seminal AFM 1-2. On graduation in 1950, he was selected to become a member of the faculty.

Momyer distinguished himself at the National War College from 1953 to 1954. His experience there convinced him that setting aside some officers to be front-

line pilots for their entire career was a mistake. Momyer felt the Air Force was better off with personnel having a broad background, that this made airmen better able to handle new situations.

After the National War College, he embarked on a fast-paced series of important jobs.

First of these was in Korea, where he commanded the 8th Fighter-Bomber Wing for six months. In March 1955, when the 314th Air Division was reactivated, Momyer assumed command of all US Air Force units in Korea.

Since July 1954 a "permanent" colonel, he returned from Korea in October 1955 to assume command of the 312th Fighter-Bomber Wing, Clovis AFB, N.M. Two months later he was promoted to brigadier general.

In May 1957 Momyer took command of the 832nd Air Division at Cannon AFB, N.M. It had two wings of North American F-100D Super Sabres. The aircraft fitted with Momyer's long-held view that fighter aircraft had to be versatile, able to take on more than one role in combat.

There followed a series of assignments where Momyer continued to distinguish himself. He returned to TAC in July 1958 as director of plans. In 1961 he moved to the Air Staff at USAF Headquarters as director of requirements. Such was the force of his personality that he was informally recognized as the man "running the Air Staff."

Characteristically, he continued to do as much work as possible himself, earning fame for his reading speed and total recall. This performance masked an important shortfall, though: By failing to use his deputies effectively, he also failed to train a next generation to replace him.

Momyer gained his third star in August 1964, becoming commander of the Air Training Command, a job generally regarded as a "preretirement" posting. There he demonstrated his customary brilliance while still coveting what seemed an impossible dream—another combat assignment.

He was thus delighted in July 1966 to be named deputy commander of the Military Assistance Command Vietnam (MACV) for air operations and also head of 7th Air Force. The new assignment would call on all of his military skills, not least of them flying. He saw to it that

called to his wingman that they would attack from the rear.

Boiling with enthusiasm, he told the interviewer, "I shot four Stukas down real quick. Bang! Bang! In the meantime the wingman got shot, ... so I pulled him off and took another shot then started on back home. I really shot down that day, they think, six or seven or even as high as eight [four were confirmed] because the whole place was littered with them."

With Allied airpower now ascendant, Momyer led his group in combat over Pantelleria, Sicily—which surrendered just to airpower—and Italy.



*New York Air National Guard Col. Curtis Irwin (l) briefs Momyer (c) in 1971 on a tactical system training program, Guard Thunder. New Jersey ANG Brig. Gen. Joseph Zink looks on. Momyer was a widely acknowledged tactical air warfare expert.*

he flew in every kind of USAF aircraft in the theater—and on every type of mission.

Operation Rolling Thunder began on March 2, 1965, and continued until Oct. 31, 1968. It summarized all that airmen complained about during Vietnam: a futile theory of “gradualism,” complex and unfair rules of engagement, and decisions about targets and bomb loads handed down from a weekly White House conference.

Momyer’s job was complicated by the tortuous structure of military command and rivalries he inherited. He reported to Army Gen. William C. Westmoreland, who commanded MACV for air operations in South Vietnam, Laos, and the very southernmost parts of North Vietnam.

For the other parts of North Vietnam, Momyer reported to Gen. Hunter Harris, commander of Pacific Air Forces, who in turn reported to Adm. U. S. Grant Sharp Jr., the commander in chief of Pacific Command (CINCPAC).

Further muddying the chain of command, Momyer controlled USAF aircraft operating from South Vietnam and Thailand only when they were airborne.

Meanwhile, all Boeing B-52 attacks were controlled by Strategic Air Command.

This byzantine system was maddening to Momyer, but he soldiered on. Denied centralized control of air assets, he nevertheless struggled to coordinate attacks to best advantage.

In Rolling Thunder, Momyer had operational control of the missions but virtually no control over the strategy they carried out. Any request for a particular operation had to go through seven stages of approval that included PACAF, CINCPAC, the Joint Chiefs of Staff, the Chairman of the Joint Chiefs, the Secretary of Defense, the Secretary of State, and finally, the President.

Despite the built-in bureaucratic headaches, Momyer realized that air operations were integral to ground operations in South Vietnam and ensured that airpower was applied with maximum possible effectiveness.

He also accomplished a much more difficult task: adhering to the official line and then, shortly afterward, requesting changes to it.

First, in a briefing to Defense Secretary Robert S. McNamara in July 1967, Momyer convinced the defense chief that airpower was having a “profound effect” on the enemy’s ability to fight—in effect, arguing that a system he knew to have terrible flaws was working well.

Momyer knew better than to suggest McNamara change the system and adopt his views on airpower to make it work

better. Instead, he fought against further restrictions and a reduction in capability. McNamara went away impressed with Momyer and said so to President Lyndon B. Johnson.

A second triumph followed a few days later. Appearing before a Senate Armed Services subcommittee, Momyer was asked how it might be possible to bring the war to an end. He answered by requesting a larger approved target list, flexibility to attack



**Momyer (l), then-commander of Tactical Air Command, was a guest of honor along with Sen. Barry Goldwater (r) at a 1971 AFA event at Langley AFB, Va. Momyer retired in 1973.**

targets of opportunity, and greater capability to attack the lines of communication.

The two briefings illustrate Momyer’s thinking and speaking skills. At once he reassured McNamara on the effect of airpower, using the systems management language McNamara understood. He then communicated his real needs to the Senate, without overtly contradicting what he’d told McNamara.

Based on his combat performance in Vietnam and the halls of Washington, Momyer had opportunity to prove his approach at an opportune time, when he was able to convince Westmoreland that centralized air control was vital if the fateful battle for Khe Sanh was to be won.

The battle of Khe Sanh was fought from Jan. 21 to April 1968. The site of the battle had little strategic value, but the North Vietnamese hoped it would

reprise their triumph over the French at Dien Bien Phu. They had mustered about 20,000 troops and heavy artillery around 6,000 US marines.

Momyer insisted to Westmoreland that without centralized air control, Khe Sanh would be lost. Westmoreland responded, “Spike, Khe Sanh has become a symbol. It is of no importance to me, but it has become of great psychological importance to the United States. ... If I lose Khe Sanh I am going to hold the United States Air Force responsible.”

Despite Marine Corps opposition, Momyer was formally given command of the air assets on March 8. He readily accepted the responsibility, knowing that if Khe Sanh fell, North Vietnamese troops could run wild in South Vietnam. The marines who had opposed centralization now accepted Momyer’s centralized control of the air assets.

Momyer proceeded to apply airpower to rain destruction upon the North Vietnamese forces. Coordinated Air Force, Navy, and Marine Corps aircraft attacks dropped more than 100,000 tons of ordnance on the enemy in 24,674 sorties. Two regular North Vietnamese divisions were decimated, with an estimated 10,000 killed. More than 12,000 tons of supplies were delivered in 1,124 sorties. Some 845 badly wounded men were evacuated by air.

The North Vietnamese lifted the siege and Westmoreland stated that “the key to our success at Khe Sanh was firepower, principally aerial firepower.”

Momyer was vindicated; he had imposed his will at long last on the conduct of the air war—and had succeeded.

The general concluded his Air Force service as the commander of TAC from 1968 to 1973. From his perch at Langley, he remained intimately involved with the Vietnam War and was correctly regarded in all circles—political, military, and popular—as being the most knowledgeable man on the history, strategy, and tactics of fighters.

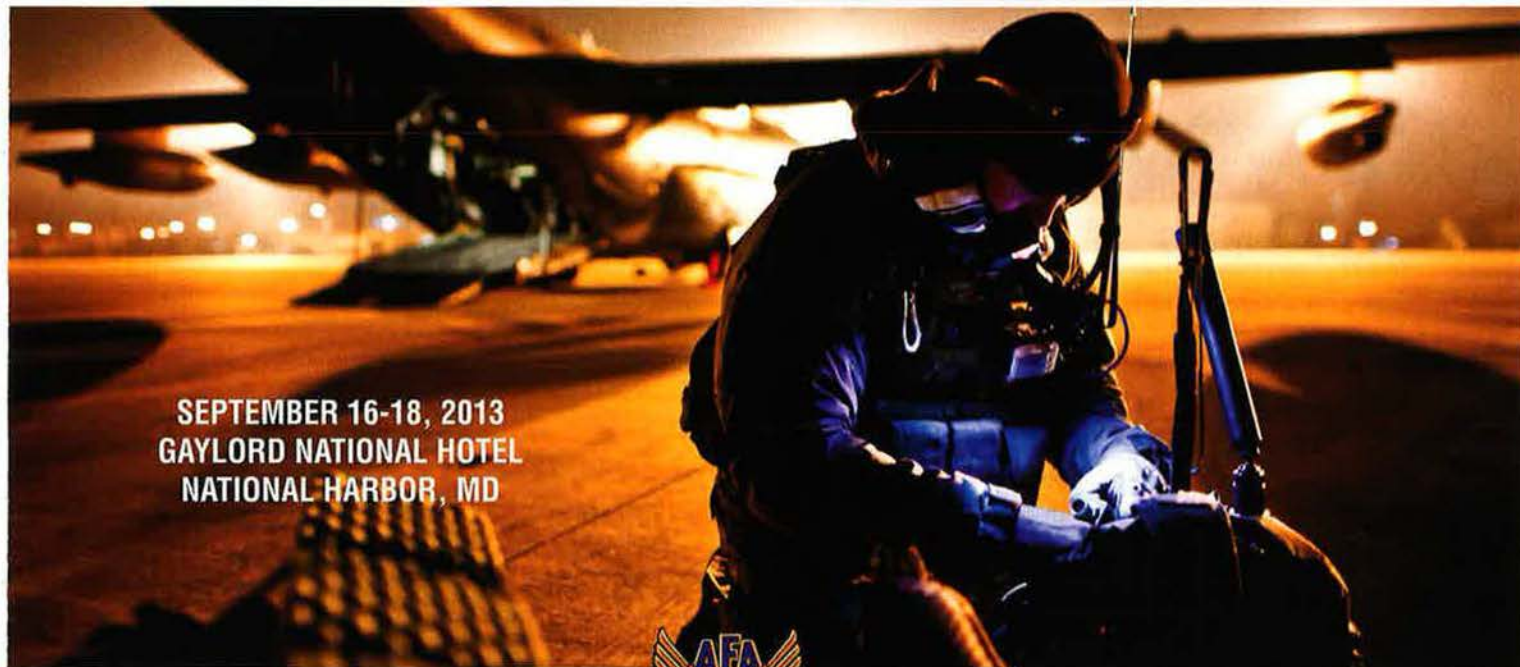
After retirement, Momyer researched *Air Power in Three Wars* for five years and continued to be an asset and inspiration to the Air Force for many years. He died in Florida on Aug. 10, 2012, at the age of 95. ■

*Walter J. Boyne, former director of the National Air and Space Museum in Washington, is a retired Air Force colonel and author. He has written more than 600 articles about aviation topics and 40 books, the most recent of which is How the Helicopter Changed Modern Warfare. His most recent article for Air Force Magazine, “C-124 and the Tragedy at Tachikawa,” appeared in the July issue.*

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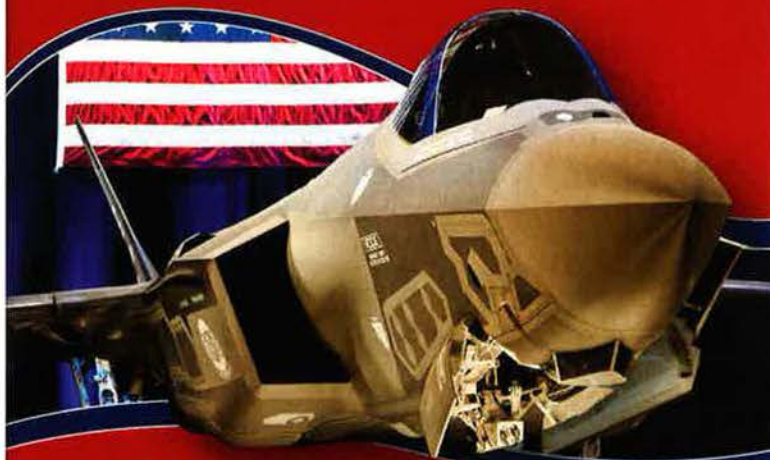
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A collage of three images: a satellite in orbit, a rocket launch, and a large aircraft on a runway. The background is a blue and white space-themed pattern.

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2013-14

# AFA Nominees

**T**he Air Force Association Nominating Committee met on April 20 and selected candidates to send forward for five national officer positions and three elective National Director positions on the Board of Directors. The committee comprises three most recent past Chairmen of the Board, one person selected by each of the two Vice Chairmen of the Board, two persons representing each geographic area, and one person each representing the Total Air Force, Air Force veterans, and aerospace industry constituencies. The slate of candidates will be presented to the delegates at the National Convention in National Harbor, Md., in September.

## Chairman of the Board

**George K. Muellner**, Huntington Beach, Calif., nominated for a second one-year term. He is a Life Member and has served as Vice Chairman of the Board for Aerospace Education; a National Director; a member of the Compensation Committee; and a member of the Aerospace Education Council. He is a past recipient of the AFA Theodore von Karman Award. Muellner retired from

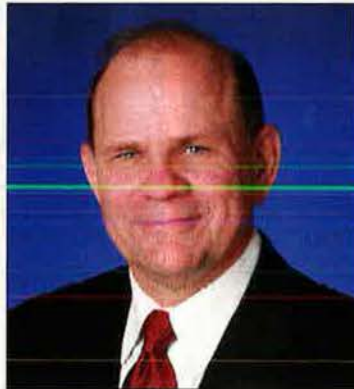
Boeing in 2008 as President of Advanced Systems, with previous positions as VP-GM of Air Force Systems and as President of Phantom Works. He served for 31 years in the Air Force, retiring as a lieutenant general, as Principal Deputy for the Office of the Assistant Secretary of the Air Force for Acquisition. Key Air Force assignments included Program Executive Officer for the Joint Strike Fighter program and Deputy Chief of Staff for Requirements, Air Combat Command. Muellner spent most of his career as a fighter pilot, fighter weapons instructor, test pilot, and commander. He flew combat missions in Vietnam and commanded the JSTARS deployment during Operation Desert Storm. He is Past President of the American Institute of Aeronautics and Astronautics. He holds a bachelor's degree in engineering from the University of Illinois; master's degrees in engineering from the University of Southern California and from California State University; and an M.B.A. from Auburn University. He consults in the aerospace industry, is a Director on several boards, and serves as a Fellow of the Scientific Advisory Board.

## Vice Chairman Field Operations

**Scott P. Van Cleef**, Fincastle, Va., nominated for a second one-year term. He is a Life Member and was Central East Region President before assuming his current duties. While President of Virginia's Roanoke Chapter, it was named AFA Medium-size Chapter of the Year for 2005 and winner of an AFA Unit Exceptional Service Award in 2006. He was the State President when Virginia was named the Outstanding State Organization of the Year for 2008. He was a member of the AFA Board of Directors, 2008-2011. He served on the afa21 Internal Review Group in 2005 and afa21 Field Structure Team in 2006. He was also a member of the Field Council and Strategic Planning Committee, which he chaired for two years. Van Cleef was Virginia's Member of the Year in 2004 and 2010 and recipient of the Central East Region President's Award, AFA's Medal of Merit, Exceptional Service Award, and Chairman's Citation. Van Cleef served for more than 29 years in USAF. He commanded an F-16 squadron, was Vice Commander of an F-16 training wing, and Commander of a fighter wing. He is



**Muellner**



**Van Cleef**



**White**





a self-employed maker of fine furniture, chapter officer in MOAA, and a Civil Air Patrol senior member and pilot. He serves on the Board of Directors for the Virginia Museum of Transportation and on the Board of Visitors for the Virginia Women's Institute for Leadership at Mary Baldwin College.

#### **Vice Chairman Aerospace Education**

**Jerry E. White**, Colorado Springs, Colo., nominated for a second one-year term. He is a Life Member, member of the Thunderbird Society and a Platinum Member of the Wings Society, and has served for several years on the Aerospace Education Foundation and AFA Boards. He was Chair and Co-Chair of the Development Committee. He served one year as an appointed member of the AFA Executive Committee. He serves on the Aerospace Education Council. He was active in the combining of AEF and AFA organizations and boards. White served for 37 years, Active and Reserve, in USAF, retiring as a major general. His Air Force career had been primarily in space and development. He is the co-author of the Air Force Academy's primary text on astrodynamics. As a former Air Force Academy faculty member, he remains engaged with the academy and technical education. White has extensive experience in leadership of nonprofit organizations, with 18 years as CEO and Board Chair of a large nonprofit (4,500 employees). He was Chair of an association of several hundred nonprofits. He was a member of the congressionally mandated Reserve Forces Policy Board. He holds degrees from the University of Washington and AFIT and a Ph.D. from Purdue University. White chaired the Rhodes

Scholarship Colorado Selection Committee for three years. He is President Emeritus and Chairman Emeritus of an interdenominational Christian ministry.

#### **Secretary**

**Angela M. Dupont**, Haverhill, Mass., nominated for a first one-year term. Dupont is the Vice President for Corporate Development, Director of Air Force Programs, Technical Engineering and Operations Sector, Alion Science and Technology. In this role she is responsible for all aspects of account management and business development activities regarding the Air Force. She joined Alion in April. Prior to that, Dupont was the Vice President of Business Development, C2 Programs, and the Air Force Life Cycle Management Center/Hanscom, Account Manager for SAIC and was responsible for all C2 business activities. She is active in organizations that promote the exchange of ideas within the defense industrial community. She is a Life Member, and her primary focus has been as a leader in the Paul Revere Chapter, serving eight years on the Executive Committee. Dupont entered the aerospace and defense in-

dustry when she joined the Titan Corp. in 2002. Before that, she spent six years at the Massachusetts Port Authority, as deputy director, international marketing and administration, responsible for developing new direct international routes to Boston's Logan Airport. Rep. Martin T. Meehan (D-Mass.) chose her to serve as his Director of Finance from 1993 to 1995. She represented the Congressman at public events, acted as primary liaison for contributors, and recruited and trained volunteers. As Director of Marketing and Sales Development for an international marketing company from 1989 to 1993, Dupont created new sales territory and served on the company's Advisory Board to develop strategies for corporate growth.

**Justin M. Faiferlick**, Fort Dodge, Iowa, nominated for a first one-year term. Faiferlick was formerly the Vice Chairman of the Board Field Operations, as well as an AFA National Director at Large. He is a Life Member and has been active in AFA, chartering the Fort Dodge Chapter and serving as Chapter President, Vice President, Secretary, and Treasurer, and as a State Vice President and President. He serves in the AFA



**Dupont**



**Faiferlick**

## 2013-14 AFA Nominees

Wounded Airman Program and the AFA Senior Leadership Advisory Group. His national awards include the Medal of Merit and the Exceptional Service Award. In Iowa, he has received the Governor's Volunteer Award and was one of the Top 40, under the age of 40, outstanding community leaders. He started his military career as an enlisted member in the Active Duty Air Force in 1987. He continued his enlisted career in the Iowa Air National Guard in 1991 and received his commission in 1998. He was deployed for Operation Iraqi Freedom and Operation Enduring Freedom. Faiferlick holds a bachelor's degree from Buena Vista University and a master's degree in management, with a concentration in organizational leadership, from American Military University.

### Treasurer

**Leonard R. Vernamonti**, Clinton, Miss., nominated for a fourth one-year term. An AFA member since 1964 and a Life Member since 1984, he has served as a Chapter, State, and Region President and was on the Board of Directors. He has been active at the national level since 1989, having served on the afa21 Field Structure Team, Field Council, and Constitution and Nominating Committees. He was Chairman of the Audit Committee and is Chairman of the Finance Committee. He has received the Exceptional Service Award and two Medals of Merit. Vernamonti's more than 40-year military and civilian professional careers have focused



**Vernamonti**

on management and finance. He was the Comptroller for all USAF ballistic missile programs and President, CEO, and CFO of a nonprofit with an operating budget twice that of AFA. He serves as a Senior Consultant to the aerospace industry, specializing in strategic planning, acquisition, and budget and cost analysis. Vernamonti has a bachelor's degree in economics from the Air Force Academy and a master's degree in systems engineering from the University of Florida. He is a graduate of the National War College and the Industrial College of the Armed Forces.

### National Director at Large

The Nominating Committee submits four names—**William J. Begert, Kevin L. Jackson, Peter E. Jones, and David B. Warner**—for National Director at Large. Two will be elected for a three-year term.

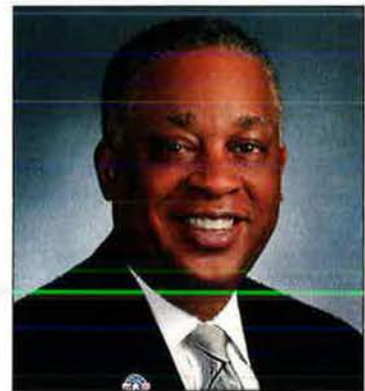
**William J. Begert**, New Gloucester, Maine. He has been an AFA member since 1970 and is a Life Member. Begert retired from Pratt & Whitney in 2012, after seven years as Vice President of Business Development and Aftermarket Services. He served in the Air Force for 36 years, retiring in 2004 as a general. Key Air Force assignments include Pacific Air Forces Commander, Air Force Assistant Vice Chief of Staff, and Vice Commander of US Air Forces in Europe. He spent most of his career as a mobility pilot. He served in Vietnam, flying the O-2 as a Forward Air Controller, logging more than 900 combat hours and more than 300 combat missions. Begert consults in the aerospace business; serves as a Trustee at the Falcon Foundation; is a Board Member of the Foundation Board at the National Museum of the US Air Force; and is a member of the Sabre Society of the Air Force Academy. Begert holds a B.S. degree in international relations from the Air Force Academy and an M.P.A. from the University of Colorado. He is a graduate of Air Command and Staff College and the National War College. He also attended executive courses at Harvard's JFK School of Government,



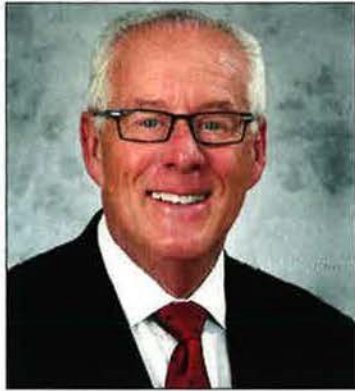
**Begert**

the Katz Graduate School of Business at the University of Pittsburgh, and the Darden School of Business at the University of Virginia.

**Kevin L. Jackson**, Washington, D.C. Jackson has been a member of AFA since 1994 and is a Life Member. He has served AFA as the Vice President of the Donald W. Steele Sr. Memorial Chapter and is the President of the Nation's Capital Chapter. His national-level AFA awards include the Medal of Merit and two Exceptional Service Awards. He has served at the national level on the Nominating Committee and the Business Development subcommittee. Jackson is the Vice President of Sales and Marketing, Air Domain, for Saab North America. He is an Associate Fellow at AIAA and the former Vice Chairman of the National Guard Association of the United States (NGAUS) Corporate Advisory Panel. Jackson holds a bachelor of science degree in business and economics from Lehigh University.



**Jackson**



**Jones**

**Peter E. Jones**, Potomac Falls, Va. Jones is a Life Member. In the last 10 years he has served AFA in multiple roles, including manager of the Virginia AFA Hospitality Suite at the National Convention from 2003 to 2008; as Vice President, and later President, of the Donald W. Steele Sr. Memorial Chapter in Northern Virginia; and as VP for Virginia State AFA. He is the Virginia State President. He is in his third year as a member of the AFA Strategic Planning Committee. He is also a member of the Field Council, chairing the e-business subcommittee, and leads a Field Council/Aerospace Education Council joint committee, which oversees all reviews and updates of the AFA Field Operations Guide. He has received numerous Chapter, State, and Region awards, and his national awards include the Medal of Merit, the Exceptional Service Award, and AFA Fellowship for exceptional leadership at the chapter and state level. Jones served on Active Duty for 28 years, including tours in Alaska, Hawaii,



**Warner**

Germany, Italy, and CONUS. He retired from the Air Force in 1997 at the end of his assignment at the Defense Information Systems Agency, Washington, D.C. Jones holds a bachelor's degree in electrical engineering from Grove City College and a master's in systems management from the University of Southern California. He holds an FAA commercial rating in gliders and a private rating in single engine aircraft. In addition to AFA, he is a member of AFCEA and American Mensa.

**David B. Warner**, Colorado Springs, Colo. A Life Member, active since 1980, and son of a chief master sergeant, he grew up Air Force before experiencing his own 30-year career. After being a distinguished graduate from ROTC at Southwest Texas State and being a Senior Executive Fellow at Harvard's JFK School of Government, he went on to a career ending as a brigadier general as AFSPC/A6 and retired in 2010. He was responsible for planning/security of network/information systems for the Air Force (AFSPC and USAFE), Joint Forces Command, and in other capacities while leading at the squadron and group level. He was instrumental in integrating the AFSPC cyber mission through stand-up of 24th Air Force, establishing a new AFSC career field and developing Undergraduate Cyber Training. He participated in AFA's second CyberPatriot competition. His strength is in serving and building teams. He serves as CEO of a nonprofit organization, 17,000 strong and growing, of Active Duty, retired military, and family members. He leads 50 paid and 300 volunteer staff across the nation and wherever the US military is located. He regularly travels to major military bases and visits with cadets, junior officers, Active Duty, Guard, Reserve, and families and knows their needs. He serves on the Christian Services Charities board, raising \$8 million annually through Combined Federal Campaign activities, and is active in his local church.

**National Director**

The Nominating Committee submits one name—**David A. Dietsch**—for National Director, Central Area.



**Dietsch**

**David A. Dietsch**, Arlington, Tex., nominated for a first one-year term. A Life Member active in AFA since 1992, he has served as Executive Vice President of the Lubbock Chapter, President of the Fort Worth Chapter, Texas State President, and Texoma Region President. He is Vice President for the state of Texas for Industrial Relations and Government Relations. He co-founded and became the first Chairman of the Board of the AFA Texas Aerospace Education Foundation. Dietsch has served at the national level on the Constitution Committee, Membership Committee, and Nominating Committee. He is on the Field Council. He has been AFA Texas Member of the Year twice and has received the AFA Texas Claire Chennault Patriotism Award. He also received the AFA Medal of Merit and three AFA Exceptional Service Awards. Dietsch served for 27 years in USAF in aircraft maintenance and logistics positions. Following retirement in 1992, he managed the aircraft maintenance contract workforce at two USAF flying training wings. He received a bachelor's degree in American diplomacy and foreign affairs from Miami University in Ohio and a master's degree in public administration from Golden Gate University. He graduated from the resident courses of Squadron Officer School, Armed Forces Staff College, and Air War College and completed the Lockheed Advanced Management Institute and the W. Edwards Deming Quality Management Institute. He serves on the local Salvation Army Management Committee and is a part-time consultant. ■

## The Perry Doctrine

*In 1984, President Reagan's secretary of defense, Caspar W. Weinberger, called for sharp restraints on use of US forces—"the Weinberger Doctrine." The Clinton Administration, taking office in 1993, had a different idea. It thought that US power could and should be used for purposes other than major war. In a formal departure, Secretary of Defense William J. Perry in 1995 declared the military would be used not only to protect vital interests—the Weinberger view—but also to protect sub-vital interests, as in Haiti and Bosnia, and for purely humanitarian purposes. He rejected the idea that small interventions inevitably escalate into something much bigger. This was contradicted by subsequent US experiences in Somalia, Bosnia, and Kosovo.*

**T**oday I believe there are basically three different cases in which we may use our armed forces. ... The first category is when our vital national interests are threatened. Our second category is when important, but not vital, national interests are threatened. The third category is when a situation causes us deep humanitarian concern. ...

A threat falls into this first category of vital interest if it threatens the survival of the United States or key allies, if it threatens our critical economic interests, or if it poses a danger of a future nuclear threat. ...

Our confrontations with Iraq these past few years involved our vital national interests. Indeed, they involved all three of the threats which I mentioned. They were a threat to key allies; they were a threat to critical economic interests; and a future nuclear danger.

In 1990 Iraq invaded Kuwait and threatened Saudi Arabia. It verged on controlling all of the gulf's oil, which amounts to two-thirds of the world's proven reserves. Control of that much oil would allow a hostile state to blackmail the industrial world and threaten the health of the world economy, and the revenues from that much oil would allow Iraq to renew—and to renew with vigor—its plans for building a nuclear bomb. So in 1990 we knew that our vital interests were at stake. ...

The political and the ethical questions are ... even more difficult in the second category, when we have important, but not vital, interests at stake. These cases are more difficult because we have an obligation to weigh the risks against the interests involved and because the threats are not always clear-cut. ... Our use of force must, therefore, be selective and limited, reflecting the relative importance of the outcome to our interests.

We have a range of options here, from using US military assets for logistical operations to using US combat forces. The decision of what to use, whether it's a C-130 transport or an Army combat division, will reflect the costs that we are willing to pay to achieve the outcome that we want. ...

Bosnia is [a] case where important, but not vital, US interests are threatened. ... The atrocities perpetrated by the Serbs, in particular the ethnic cleansing, are abhorrent. Therefore, some say that America has an ethical obligation to solve the Bosnian tragedy by entering the war on the side of the Bosnian government.

We have rejected that advice, because America does not have enough at stake to risk the massive American casualties—and they would be massive—as well as the casualties to other parties

### "The Ethical Use of Military Force"

Secretary of Defense William J. Perry  
The Forrestal Lecture  
US Naval Academy, Annapolis, Md.  
April 18, 1995

Find the full text on the  
*Air Force Magazine's* website  
[www.airforcemag.com](http://www.airforcemag.com)  
"Keeper File"

and civilians that would occur if we participated in a wider war. Therefore, that course is unacceptable. ...

Doing nothing is unacceptable, too. ... It is a tough ethical decision to stand aside when we perceive that evil is being done, but we have decided to not commit US combat troops to Bosnia to end the war. The cost in American lives, not to mention the cost in Bosnian lives, would be too great, especially when weighed against the limited US interests at stake. But we have decided to commit US military forces to the region to prevent the spread of the war, to limit the violence, and to mitigate human suffering. ...

In spite of these efforts, nobody can feel satisfied from an ethical standpoint about Bosnia. The cases where we weigh our interests against our risks are, by their very nature, ethically unsatisfying. ...

Under certain conditions the use of our armed forces is appropriate [in the third category, humanitarian intervention], and in other conditions it is not appropriate. ...

The civil war in Rwanda was a human catastrophe of massive proportions, yet intervention of US forces would not necessarily have been effective but certainly would have involved very large casualties. Like many other nations, we decided to concentrate on using diplomatic tools until the military and civil contact exhausted itself. Those diplomatic tools proved ineffective. ...

At that point and under unique conditions we were able to act. ... Only the US military could conduct a massive airlift over long distances on short notice to bring in the specialized equipment needed to relieve its suffering. And we did. ...

The lesson learned from Rwanda is that there are times when we can, and we should, intervene in humanitarian crises. But Rwanda also gave us a set of criteria which we use for looking at future humanitarian issues.

The first of those is if we face a natural or manmade catastrophe that dwarfs the ability of normal relief agencies to respond. The second test is if the need for relief is urgent and only the [US] military has the ability to jump-start the effort. Third, if the response requires resources unique to the military. And finally, if there is minimal risk to lives of the American troops. Rwanda met all of those tests. ...

Choosing the right thing to do in a chaotic world is not as simple as some may think, particularly when it comes to using military force. It's not merely a matter of asking our heart. We also have to ask our head. ■



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By Frances McKenney, Assistant Managing Editor

## Tickled by the Prince

At the Warrior Games in Colorado in May, Brandon Bishop—sponsored in part by Colorado State AFA—competed in sitting volleyball against other military services athletes and—oh, by the way—Britain's Prince Harry.

To hear Colorado State President George T. Cavalli tell it, an exhibition match took place, with players including Gen. William L. Shelton, commander of Air Force Space Command; Misty May-Treanor, the Olympic beach volleyball gold medalist; and Bishop, among those on this US team.

Bishop was sitting directly across the net from the prince—who is a British Army captain—when the sometimes mischievous royal reached out and tickled him. The two men began laughing, says Cavalli.

Bishop in fact told Cavalli that it had been years since he had smiled as much as he had at the Warrior Games. The week of athletic competition between injured veterans and service members—including those from the British armed forces—took place at the Air Force Academy and US Olympic Training Center in Colorado Springs.

Bishop, a medically retired senior airman originally in security forces at F. E. Warren AFB, Wyo., traveled to the games from Milwaukee, with Colorado State AFA pitching in \$800 to help defray expenses.

Cavalli, a **Lance P. Sijan Chapter** member, attended all seated volleyball games held in the evening. He also supported Bishop by listening to him, taking him to church—after noticing a cross highlighted in Bishop's tattoos—and introducing him to people with similar backgrounds and others who could help him reach his goal of earning a degree in criminal justice and starting a security company. He bought Bishop a laptop computer and has tried to stay in touch with him daily.

Cavalli expressed admiration for the 24-year-old, pointing out that the young man played in the last volleyball games, including the one against the prince, even though he had pulled a leg muscle.

"Brandon has a very bright future ahead of him," Cavalli commented in an e-mail. "He has a very positive attitude, and given his competitive nature, I know he will succeed."

The 50 Air Force athletes and their alternates who competed in the games received one-year memberships in AFA.

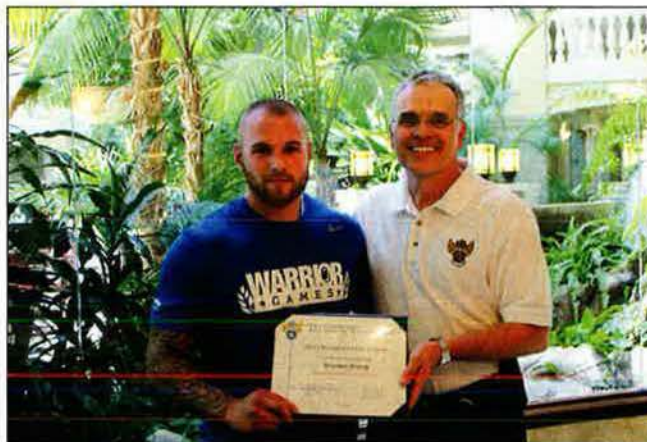
## A Visit From the Head Shed

Gen. Edward A. Rice Jr., the head of Air Education and Training Command, and AETC's top enlisted leader, CMSgt. Gerardo Tapia, kicked off their tour of Columbus AFB, Miss., with a reception sponsored by the Golden Triangle Chapter in West Point, Miss.

In his remarks to guests at the reception, Rice spoke about changes in Air Force training priorities caused by sequestration. He said AETC's flying training missions continue at the expense of standing down more than 10 CONUS-based combat flying squadrons, reported Chapter President Richard T. Johnson.

Rice also stated that it will take 20 years to recover from cuts made today and that he is comfortable with the numbers of pilots being produced, foreseeing no decline in the future, Johnson wrote.

See more photos from events at: [airforcemag.com](http://airforcemag.com).  
Choose "This Month's Table of Contents."



Brandon Bishop and Tom Cavalli (right) display an AFA Wounded Airman Program Certificate of Recognition.

Staff photo by Caitie Craumer



Gen. Edward Rice Jr. speaks at the Golden Triangle Chapter's reception. Third from his right stands Col. James Sears. Mayor Robert Smith stands sixth on Rice's right.

USAF imagery by ATC Charles Dickens



CMSAF James Cody (left) with Paul Revere Chapter scholarship winners and Chapter President Keith Taylor (right).

USAF photo by Rick Berry



The mayor of Columbus, Miss., Robert E. Smith Sr., and the 14th Flying Training Wing's commander, Col. James R. Sears Jr., were among the community and base leaders at the June 17 event, held at Prairie Wildlife Preserve's lodge.

**A Word From Chief Cody**

In Massachusetts, the **Paul Revere Chapter** invited CMSAF James A. Cody to Hanscom Air Force Base as keynote speaker for what President Keith M. Taylor calls "the chapter's signature event": the Chief of Staff Scholarship Dinner.

Cody arrived the night before and made the most of an opportunity to listen to Hanscom airmen. He held two enlisted calls, met base leadership, and, according to Taylor, found time for one-on-one mentorship sessions. Cody's escorts included chapter members CMSgt. Cindy Rainey and CMSgt. Kathleen M. McCool—a 2011 Outstanding Airman of the Year—and CMSgt. Mitchell K. Balutski.



*At top: "Give thanks to all who came and served," recited Capt. Joseph Stallings. He read the poem "The Warrior's Shield" at a Memorial Day observance at JB Langley-Eustis, Va. The Langley Chapter and Order of Daedalians organized the ceremony at the base's B-52 Memorial Park.*

*Left: Eglin Chapter President Shannon Farrell and SMSgt. Chris McWilliams from the Eglin Top 3 Association hold the donation presented to the local Fisher House.*

**Partners With One Goal**

AFA's goal has been to provide the aerospace industry with a strong sense of value as a result of their participation with us and the opportunities we provide. As we look to the future, AFA is pleased to announce its Corporate Membership Program. This program provides a variety of opportunities for industry to put its products and programs in front of decision-makers at every level.

**Some of the benefits of AFA's new Corporate Membership Program include:**

- Invitations to monthly briefing programs conducted by senior Air Force leaders (planned 10 times per year) and periodic policy discussions about topical issues and emerging trends
- A CEO gathering with senior Air Force and DOD leaders held in conjunction with the AFA Annual Conference in September
- Invitations to meet senior leaders from foreign air forces at numerous events, including AFA's Annual Air Attache Reception and official foreign air chief visits

**Corporate Membership also comes with:**

- Exclusive access to exhibiting and sponsorship opportunities at AFA's conferences
- Up to 50 AFA individual memberships



**For more information contact:**

Dennis Sharland, CEM  
 Manager, Industry Relations  
 & Expositions

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 dsharland@afa.org



In Arkansas, the Lewis E. Lyle Chapter named Angela Stanford (center) its Elementary School Teacher of the Year. Chapter Secretary Morris Cash (l), President Larry Louden (r), and aerospace education VP George Carrithers attended the ceremony at Gardner Magnet School.

That evening, Cody served as keynote speaker at the annual scholarship dinner, held at a local hotel, addressing the audience of some 130 people.

He then helped Paul Revere Chapter President Keith M. Taylor present \$15,000 in scholarships.

The prestigious Chief of Staff Scholarship went to Erika Hill, from Wachusett Regional High School, who heads to MIT this month. Other recipients were: SrA. John Fay from the 66th Air Base Group, SSgt. Justin Beckett from the 66th Medical Squadron, Hill, Halie LeSavage, and Tom Kobylarz, representing his daughter Karlie.

Fay's and Beckett's scholarships were named for Louis A. Emond, an AFA leader in New Hampshire and later North Carolina, who died in May 2012.

LeSavage and Kobylarz each received a \$4,500 scholarship named for Charles E. Jones and Brian D. Sweeney, respectively. Jones, a retired USAF colonel, and Sweeney, a defense contractor, died on airliners that hijackers flew into the World Trade Center's north and south towers on 9/11.

Industry support makes these scholarships "self-sufficient," says Taylor. Corporate sponsors bought tables at the dinner and the next day raised more funds at a golf outing.

#### Run for the Money

The Eglin Chapter in Florida joined forces with the Eglin Top 3 Association to host their third annual 5K run and walk—plus a one-mile fun run for kids—at Fort Walton Beach. Held in March, the event benefitted the local Fisher House.

Chapter President Shannon Farrell, who finished No. 35 overall in the 5K field of 215, said the runners and walkers "braved the unusually cold morning for Northwest Florida, where temperatures hovered around 40 degrees," to support the cause. The Fisher House Foundation has built homes on the grounds of military and Veterans Affairs medical centers nationwide and in Europe. Fisher Houses enable family members to stay near loved ones who have been hospitalized for combat injuries, illness, or disease.

The Magnolia Grill hosted participants at an after-party and awards ceremony. The restaurant's owner, Tom Rice, is both a Chapter Community Partner and board member of the local Fisher House of the Emerald Coast.

Combined with cash donations from Quality Toyota, Northwest Florida Regional Airport, and the Crestview Military Affairs Council, the chapter, and Eglin Top 3 raised \$11,000 for the Fisher House.

The check presentation took place in June. On hand were: SMSgt. John



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Promoting Air Force Airpower





**Northern Shenandoah Valley Chapter honors its Teacher of the Year Sara Beltran of Sacred Heart Academy in Virginia. L-r: Raleigh Watson, Tom Shepherd, Beltran, Central East Region President Joe Hardy, and Chapter President Norm Brander.**



**Thomas W. Anthony Chapter member Shirley Hardy and retired CMSgt. Cornell Langford of the Central Maryland Chapter present \$800 to Oxon Hill High School principal Jean-Paul Cadet (third from left). The donation helped these cadets travel to a drill competition.**

Lang, Eglin Top 3 president; MSgt. Kerry Miller, a Top 3 VP; Eglin Chapter VP Eddie McAllister; Farrell; SMSgt. Chris McWilliams, Top 3 past president; Chapter Secretary Shirley Piggott, who is also on the Fisher House board of directors; Valene Harris, also a board member; Rice; and Chapter Treasurer Steve Czonstka.

**More Chapter News**

- In Newport News, Va., **Langley**

**Chapter** President Vince Wisniewski presented a \$1,000 grant to Menchville High School's AFJROTC senior aerospace science instructor, retired Lt. Col. Kristopher J. Alden, and cadet Grey Davenport. Alden is a chapter member. The chapter donated half the funds, with Virginia State AFA matching it. The donation helped cadets attend their Summer Leadership School. Chapter Communications VP John Murphy explained that the

optional extracurricular SLS teaches cadets citizenship and leadership in a structured and focused environment. SLS took place in late June at JB Langley-Eustis, Va.

■ **Sarasota-Manatee Chapter** members, including President Michael Richardson and Bud Freeman, held a chapter barbecue in Florida. Martin Sobel spoke to the group about the Experimental Aircraft Association's Young Eagles program.



**Eglin Chapter's Bill Kirk (far left); Teacher of the Year Randy Joyce (next to Kirk); and Brig. Gen. Scott Jansson (second from right) line up with chapter scholarship winners. In May, US Rep. Jeff Miller (R-Fla.) read into the Congressional Record a description of Joyce's achievements, including this Teacher of the Year award.**

**AFA Conventions**

Aug. 2-4	<b>Texoma Region Convention</b> , Wichita Falls, Tex.
Aug. 17	<b>Indiana State Convention</b> , Indianapolis
Sept. 14-15	<b>AFA National Convention</b> , National Harbor, Md.
Sept. 16-17	<b>AFA Air &amp; Space Conference</b> , National Harbor, Md.

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**Paul Revere Chapter President Keith Taylor (left) honored Chapter and State Teacher of the Year Richard Duncan (second from left) at Montachusett Regional Vocational Technical School in Fitchburg, Mass.**



## Reunions

reunions@afa.org

**18th Fighter Wg Assn, Korea.** Oct. 17-20, Doubletree Hotel, Maryland Heights, MD. **Contact:** Rich (314-434-1380).

**39th Fighter Sq Assn, all eras, including the 31st Pursuit Gp, 35th Fighter-Interceptor Wg, 39th, 40th, & 41st FS, 39th Flying Tng Sq.** Oct. 23-27, San Antonio. **Contact:** L. Haddock (719-687-6425) (comm63@mac.com).

**93rd Bomb Sq.** Oct. 2-7 at Barksdale AFB, LA. **Contact:** Mark Alvarez (318-529-3137) (mark.alvarez@us.af.mil).

**384th Bomb Gp.** Oct. 10-13, Sheraton Norfolk Waterside Hotel, Norfolk, VA. **Contact:** 384th Bomb Gp, Armed Forces Reunions, Inc., 322 Madison Mews, Norfolk, VA 23510 (www.afr-reg.com/384bg2013).

**485th BG, Italy (1944-1945).** Oct. 9-13, Doubletree Hotel, Tampa, FL. **Contact:** Jim Scheib (jimannscheib@comcast.net).

**F-4 Phantom II Society** and all F-4 fans. Oct. 21-25, National Museum of the US Air Force, Dayton, OH. **Contact:** Bill Crean (856-461-6637) (williamcrean@comcast.net).

**Misty Fast FACs.** Oct. 27-30, Ramada Plaza Beach Resort, Fort Walton Beach, FL. **Contact:** Jack Doub (229-415-3579) (jack.doub@gmail.com).

**Phan Rang AB, Vietnam, all units, all eras.** Oct. 3-6, San Antonio. **Contact:** Doug Severt (dougsevert@cox.net).

**REDHORSE Assn, all past and present and Prime BEEF members.** Sept. 22-26, Holiday Inn University Plaza, Bowling Green, KY. **Contact:** Charlie Hogan (270-749-5461) (chogan@scrtc.com).

**Tac Recce Reunion Assn.** Oct. 9-12, Fort Walton Beach, FL. **Contact:** C. Choate (850-279-3037) (coyotef15@gmail.com).

**Travis AFB Aero Repair Shop** and all aero repair shop alumni. Aug. 30-Sep. 1. **Contact:** Eric Jaren (aralumni@live.com).

**UPT Class 68-A, Webb AFB, Tex.** Sept. 12-15, National Museum of the US Air Force and Holiday Inn, Fairborn, OH. **Contact:** Larry Bowers (540-828-4858) (ldbowers65@gmail.com).

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.

Photos courtesy of 49th Wing Public Affairs



**The Fran Parker Chapter's leadership and development VP, CMSgt. Tony Gurrola (left), presented AFA Pitsenbarger Awards at the Community College of the Air Force graduation at Holloman AFB, N.M. TSgt. Leilani Hilton (right) will use the award to help her pursue a bachelor's degree in emergency and disaster management.**

**SrA. Yesenia Benjamin, 49th Aerospace Medicine Squadron, will continue studies in public health technology. She plans to become a physician's assistant.**



**SrA. Bryan Thayer, 49th Communications Squadron, received his CCAF degree in electronic systems technology. AFA Pitsenbarger Awards provide \$400 to top Total Force enlisted personnel graduating from CCAF who plan to continue on for bachelor's degrees.**

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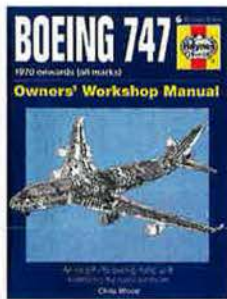
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# Books

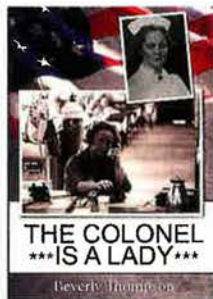
Compiled by Chequita Wood, Media Research Editor



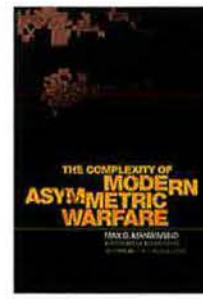
**Berlin on the Brink: The Blockade, the Airlift, and the Early Cold War.** Daniel F. Harrington. University Press of Kentucky, Lexington, KY. Order from: Hopkins Fulfillment Service (800-537-5487). 414 pages. \$40.00.



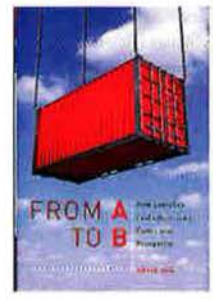
**Boeing 747, 1970 Onwards: Owners' Workshop Manual.** Chris Wood. Zenith Press, Minneapolis (800-458-0454). 168 pages. \$28.00.



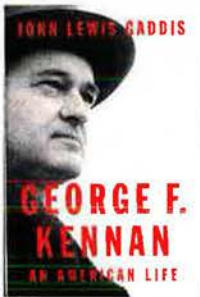
**The Colonel Is a Lady.** Beverly Thompson. Order from: www.thecolonelisalady.com. (972-617-0858). 181 pages. \$10.00.



**The Complexity of Modern Asymmetric Warfare.** Max G. Manwaring. University of Oklahoma Press, Norman, OK (800-627-7377). 208 pages. \$45.00.



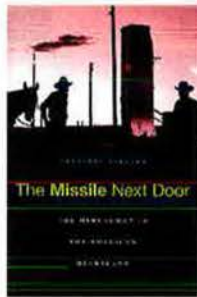
**From A to B: How Logistics Fuels American Power and Prosperity.** David Axe. Potomac Books, Dulles, VA (800-775-2518). 243 pages. \$24.50.



**George F. Kennan: An American Life.** John Lewis Gaddis. Penguin Press, New York (800-631-8571). 784 pages. \$39.95.



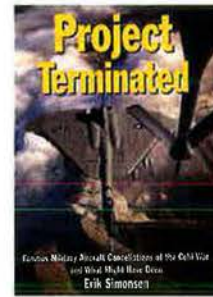
**The Me 262 Stormbird: From the Pilots Who Flew, Fought, and Survived It.** Colin D. Heaton and Anne-Marie Lewis. Zenith Press, Minneapolis (800-458-0454). 322 pages. \$30.00.



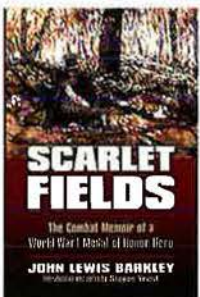
**The Missile Next Door: The Minuteman in the American Heartland.** Gretchen Heefner. Harvard University Press, Cambridge, MA (800-405-1619). 294 pages. \$35.00.



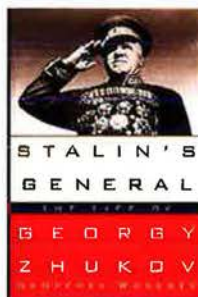
**Mission to Tokyo: The American Airmen Who Took the War to the Heart of Japan.** Robert F. Dorr. Zenith Press, Minneapolis (800-458-0454). 328 pages. \$30.00.



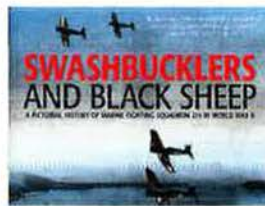
**Project Terminated: Famous Military Aircraft Cancellations of the Cold War and What Might Have Been.** Erik Simonson. Specialty Press, North Branch, MN (800-895-4585). 224 pages. \$39.95.



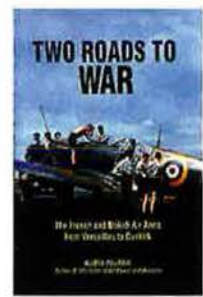
**Scarlet Fields: The Combat Memoir of a World War I Medal of Honor Hero.** John Lewis Barkley. University Press of Kansas, Lawrence, KS (785-864-4155). 268 pages. \$29.95.



**Stalin's General: The Life of Georgy Zhukov.** Geoffrey Roberts. Random House, New York (800-726-0600). 375 pages. \$30.00.



**Swashbucklers and Black Sheep: A Pictorial History of Marine Fighting Squadron 214 in World War II.** Bruce Gamble. Zenith Press, Minneapolis (800-458-0454). 216 pages. \$40.00.



**Two Roads to War: The French and British Air Arms From Versailles to Dunkirk.** Robin Higham. Naval Institute Press, Annapolis, MD (800-233-8764). 410 pages. \$44.95.



**Vultures Over Israel: The Vautour in Israeli Service: Squadron 110, 1957-1971.** Shlomo Aloni. Schiffer Publishing, Atglen, PA (610-593-1777). 264 pages. \$59.99.

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## Me 163 Komet



**This aircraft:** Luftwaffe Me 163B-0 PK+QL—V41—as it looked in May 1944, when assigned to Operational Test Detachment No. 16 and based at Bad Zwischenahn. It is painted in the colors of Manfred von Richthofen—the famed “Red Baron” of World War I.

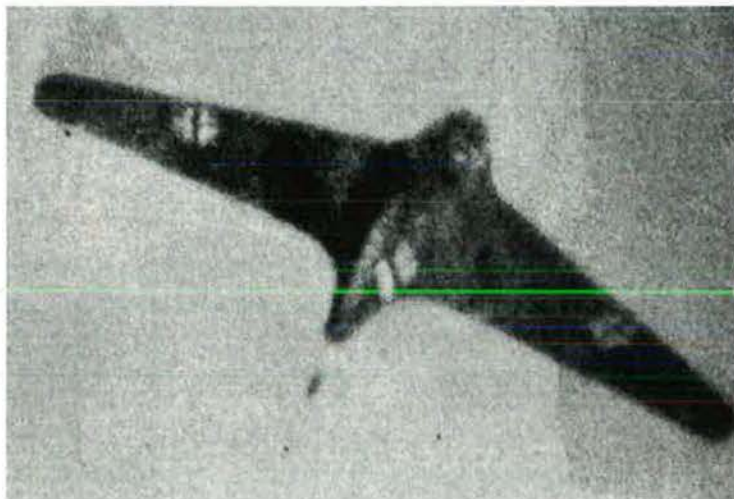
The German Me 163 Komet was the world's first and only operational rocket-powered fighter. The Messerschmitt aircraft was an odd system; it combined a design from the mind of aviation genius Alexander Lippisch with a remarkable liquid-fueled rocket from the vaunted Hellmuth Walter Co. Its great speed could have made it a tremendous bomber interceptor, but its operational value was diminished by extremely short flight durations—less than eight minutes of powered flight.

The Me 163 used swept-back wooden wings, split flaps, a tall vertical stabilizer, and an aluminum alloy fuselage. It had no undercarriage because it took off from a dolly and landed on a metal skid. The Walter engine was inherently dangerous and pilots wore special asbestos flight suits to shield them from the corrosive fuels. Many fliers were killed in accidents. In fact, the aircraft was as dangerous to

German pilots as it was to Allied bomber crews. For all that, the aircraft had excellent flying characteristics. And it was fast. In 1941, it hit 623.85 mph; this speed was unmatched until 1947.

As the Allied bomber offensive grew in scope and impact, the Luftwaffe moved to distribute Komet squadrons all over Germany to guard key targets. Tactics called for reaching high altitude, diving through a bomber formation, soaring upward again, diving again, and returning to base. In practice, shooting accurately from this flight profile was difficult, and the Komet, overall, proved to be operationally ineffective. Allied fighter pilots figured out the Komet's weakness and would simply wait until it ran out of power. Then they would attack.

—Walter J. Boyne



Me 163 being shot down, as seen from a USAAF P-47 gun camera.

### In Brief

Designed by Messerschmitt ★ built by Messerschmitt, Junkers, Klemm ★ first flight Sept. 1, 1941 ★ crew of one ★ number built approx. 370 ★ rocket powered. **Specific to Me 163B:** one Walter HWK 509A-2 rocket engine ★ armament two 20 mm or two 30 mm cannon ★ max speed (operational) 596 mph ★ cruise speed 500 mph ★ max powered operational endurance 7.5 minutes ★ max range ~ 50 mi (with glide) ★ weight (loaded) 9,500 lb ★ span 30 ft 7 in ★ length 19 ft 2 in ★ height 9 ft 1 in.

### Famous Fliers

**Notables:** Rolf Glogner, Fritz Kelb, Johannes Kiel, Herbert Langer, Robert Olejnik, Josef Pohs, Hanna Reitsch, Siegfried Schubert, Wolfgang Spate, Anton Thaler. **Test pilots:** Hans Boye, Heini Dittmar, Bernhard Hohmann, Rudy Opitz. **Foreign:** Eric Brown (Royal Navy), Gus Lundquist (USAAF).

### Interesting Facts

Flown only by pilots who first made 100 successful flights in gliders ★ climbed at an astounding 16,000 feet per minute (initial rate) ★ lay immobile after landing, picked up with special retrieval tractors ★ used electrical power generated by small wind-driven propeller on nose ★ filled with toxic and highly dangerous fuel ★ carried jettisonable fuel tank ★ had engine that could be shut off to extend flight by gliding ★ enjoyed an actual firing window in combat of only 2.5 seconds ★ scored nine confirmed kills ★ built in Japan by Mitsubishi as the J8M.



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