

April 2015/\$10

AIR FORCE

MAGAZINE



AFA's Air Warfare Symposium

War and Budgets p.22 & 28

Bolstering Europe p.38

Mobility Creativity p.36

AFSOC Renaissance p.33

Also

Bud Wassom

George Kenney

SAC's Bombers



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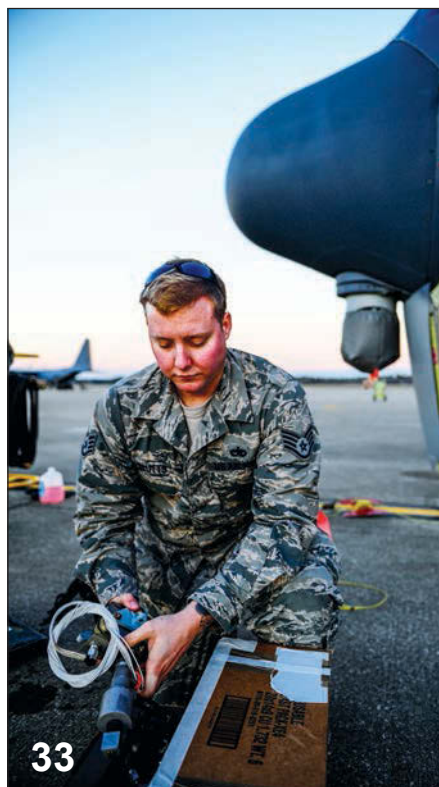
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April 2015, Vol. 98, No. 4



About the cover: An E-3 Sentry returns to Nellis AFB, Nev., after a training mission at the Nevada Test and Training Range. See "The \$10 Billion Gamble," p. 28. USAF photo by SrA. Brett Clashman.



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Forgotten, But Not Gone

Six years ago this month, Barack Obama, the then-new US President, journeyed to Prague to declare his desire for a nuclear weapons-free world. The strategic deterrent had already been an afterthought for 20 years, struggling to maintain funding or support from anyone not directly supporting the mission.

The deterrent may as well be invisible to many in the military, members of Congress, and the American public. In early 2015, the Iranian nuclear program has gotten more attention in the US than the nation's own strategic deterrent.

A deterrent only works if it is known to be effective and ready for use, but the American nuclear enterprise has long been underfunded and under-prioritized. A catch-up program is desperately needed. If enemies come to disregard the US deterrent, something critically important will be lost.

Nuclear weapons provide essential insurance for the US, its interests and troops overseas, and even to its allies. Until 1945, massive and deadly state-on-state conflicts were the norm. Sixteen million people died in World War I. Just two decades later, 60 million died in World War II.

Then, suddenly, this type of war ended. Nuclear weapons were the prime reason for this change in human behavior: Their enormous destructive power compels nations to tread very carefully. But the President's 2009 Prague speech reinforced an ambivalence seen since the Cold War ended.

"I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons. I'm not naïve," Obama said. "This goal will not be reached quickly—perhaps not in my lifetime. It will take patience and persistence. But now we, too, must ignore the voices who tell us that the world cannot change. We have to insist, 'Yes, we can.'"

The US "will take concrete steps towards a world without nuclear weapons," he continued. "To put an end to Cold War thinking, we will reduce the role of nuclear weapons in our national security strategy, and urge others to do the same. Make no mistake: As long as these weapons exist, the United States will maintain a safe, secure, and effective arsenal to deter any adversary and

guarantee that defense to our allies ... but we will begin the work of reducing our arsenal."

In reality, there was very little new there. Eliminating nuclear weapons has been US policy under every president since Reagan, and inventories have been steadily and dramatically declining since the 1980s.

Officials in nuclear leadership positions pointed to Obama's Prague pledge to maintain nuclear safety, security, and effectiveness—but this passage was clearly a digression from the President's

It is time to prioritize the nuclear deterrent.

main point, which could be summarized as: We need to get rid of these things.

This cast a tone of obsolescence and irrelevance over the US nuclear enterprise. Ingrained habits will now take time to overcome.

Case in point: At a March 17 House Armed Services Committee hearing with the seven military service Chiefs and Secretaries, the word "nuclear" was uttered exactly nine times in a 31,000-word posture hearing. It usually came up in conjunction with other capabilities, such as cyber.

This is somewhat expected with the nation still involved in shooting wars, but the nuclear mission can no longer be ignored—or even left on the back burner.

The Air Force is taking positive steps, by pushing for a next generation bomber, cruise missile, and ICBM. It is elevating the commander of Air Force Global Strike Command from a three-star to a four-star position and is pumping \$160 million into nuclear force equipment. Now it must follow through with these plans, for years.

Abolitionists bemoan nuclear weapons' very existence and claim that US modernization programs inspire other nations to pursue the weapons and expand their arsenals. This is nonsense. The security and influence that nukes offer is clear for all to see.

Other nuclear states and nuclear aspirants have zealously moved forward with developing and modernizing arsenals while America paused. The situation

is reminiscent of what Harold Brown, Defense Secretary under President Carter, once said of the Soviet Union's arsenal. To paraphrase: When we build, they build. When we stop, they build.

Many of these nations—such as Iran, North Korea, and Russia—are belligerent and threatening to their neighbors. Others (India, Pakistan, Israel) have long-standing border disputes. Fortunately, although other nations want these weapons for many of the same reasons the US does, there is a clear worldwide taboo against using them.

An effective US deterrent can bring a measure of stability even to unstable states. Nations such as North Korea and Iran must be made to understand that using nuclear weapons would mean an instant end to their leaders and regimes.

The United States should absolutely reduce its nuclear inventory to the minimum level necessary to meet national security requirements. The requirement itself can be reduced through verifiable and enforceable arms control treaties, so the US should pursue beneficial agreements with nations such as Russia, China, North Korea, and Iran. You don't have to like a nation to benefit from a treaty with it.

The US should also defend the Non-proliferation Treaty, making it harder for new nations to acquire nuclear weapons. Work should continue on reducing and securing materials, to keep them out of terrorist hands. The US must also reassure the nations under its nuclear umbrella, so that countries such as Japan, South Korea, Germany, and Estonia are not inspired to develop their own weapons.

At the same time, these weapons will serve a valuable purpose for the foreseeable future, and the Administration shouldn't be afraid to publicly support the mission. The US must modernize to keep the deterrent credible, and should press on with plans to develop next generation systems. Strategic deterrence must return to a place of prominence in military decision-making.

It will soon be 70 years since nuclear weapons were used in war. May this be just the beginning. An effective US deterrent will help keep the world safer for the next 70 years, too. ★

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It's Not All About the Cash Money

I read with interest your take on military pay and benefits [*"Editorial: Pay and Benefits and National Security," March, p. 4*].

The reason most people choose to stay in the service varies. Pay is just one. I think our military is paid well today. But I thought I was being paid well from 1976 to 1995 when I took early retirement at the rank of E-7 at 19 years, one month, and 25 days. I do not know where the concept of military pay having to be equal to civilian pay came from. We were always told that the reason for the lower pay was we had free medical, BAS, and BAQ not taxed, and we did not have to pay anything for retirement benefits.

I looked at the Military Compensation and Retirement Modernization Committee's report on retirement value for an E-7 under the current system: \$201,000 and blended \$248,649. I have been retired for 20 years and have collected \$306,925 as of December 2014. So I do not know what hat they pulled the numbers from. But it is not based on the real world, and I know an E-7 retiring today will be getting a much bigger monthly check than I do—about \$270 more per month. \$529,680 in 20 years, not even figuring COLA increases. Maybe now is the time to require retirement contributions and limited COLA increases for the first 20 years. Once you look at the numbers, I have always thought that there should be something for the people who serve at least 10 years.

MSgt. Jeff L. Surratt,
USAF (Ret.)
Great Falls, Mont.

Missing Mackay

In reading the article on the C-130 in the February 2015 magazine [*"Airpower Classics: C-130 Hercules," p. 92*], I noticed an omission under the Mackay

Trophy section: AC-130 crew awarded the trophy for 1992 was omitted. This crew was intercepted over international airspace by Peruvian aircraft, strafed three times, and managed to find an airfield to land. Unfortunately, one member perished, and six others were wounded in the incident.

As a member of that crew, please add us to the list, as we remember the C-130 as a wonderful workhorse, able to withstand great amounts of damage and still fly under austere conditions.

MSgt. Raymond A. Fisher,
USAF (Ret.)
Papillion, Neb.

The C-130 Hercules is indeed an "Airpower Classic" and has participated in numerous roles, as the article stated. The article listed the AC, EC, KC, and MC, but in my humble opinion, failed to mention its very valuable role as a DC-130. During the Vietnam War, the DC-130 flew hundreds of missions, launching and monitoring drones that would fly over North Vietnam, providing valuable photographic intelligence used to plan targets and to determine the results of the strike missions. They also provided locations of various types of defensive systems used by the North Vietnamese. Drones launched by DC-

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130s were also used to drop various items over North Vietnam to assist in the psychological warfare program. We in SAC intelligence considered the DC-130 and the drone program to be an extremely important contributor to our operations in SEA.

Col. Edward E. Mutch,
USAF (Ret.)
Bellevue, Neb.

Rocks Vs. Raptor

Let me get this straight: We launched air strikes against an enemy whose primary air defense was throwing rocks. This took place in a country whose government had announced that they would not interfere and had no incentive to interfere, as we were doing them a favor ["With the Raptors Over Syria," February, p. 26].

Though Syria has air defenses more sophisticated than ISIS, in the unlikely event that they would launch fighters, surely the Eagle and the Super Hornet are more than capable of dealing with such an eventuality.

Let us not forget that Syria is a Russian client and, presumably, has Russians on the ground and is more than willing to share any intelligence they may gather.

With all the foregoing in mind, we still decided to trot out the F-22. The upside here, in my opinion, was zero, and the downside was the possibility that our enemies and potential enemies gained some valuable information about our most frontline aircraft.

Well, at least you all got some nifty photos for the February cover.

Not, overall, our finest moment.

Richard A. Holt
San Antonio

USAF Is USAF Is USAF

I read in the February issue that 12 MC-12 Liberty aircraft were excess to the mission and being transferred to the Special Operations Command ["Aperture: Other Budget Fallout," p. 12].

This confuses me. Special Operations Command is not a military service. My Special Forces neighbor is a soldier of the US Army, assigned to Special Forces Command. Aren't all the components of that command part of one of the services? Will not the MC-12s being transferred have USAF markings and be flown and maintained by airmen like the AC-130s and V-22s?

Perhaps it would be more accurate to write that the budget of Special Operations Command will provide funding, but the aircraft will be USAF aircraft and the personnel will continue to be airmen of USAF. Or do I have this wrong?

MSgt. Bill Brockman,
ANG (Ret.)
Atlanta

■ *It is true the MC-12s would have been operated by AFSOC airmen. The fact that the aircraft would have been transferred, more accurately, via USSOCOM, is pertinent because the command planned to shuffle and redistribute two fleets. Of the 51 MC-12Ws in service—41 Project Liberty aircraft belong to Air Combat Command, and 10 Javaman aircraft are assigned to SOCOM. SOCOM planned to split ACC's aircraft between AFSOC and the Army and pass its Javamen—currently Army operated—to AFSOC. In the end, Congress froze and finally barred the transferring all but 13 of the aircraft, which will go to the Air National Guard to stand up a special operations mission in Oklahoma.—THE EDITORS*

Dogs For All

As an Air Force veteran and lifetime dog lover, I really appreciated your article (February 2015, p. 62) about dogs helping our troops in combat and at home ["Airman's Best Friend"].

There are thousands of wounded warriors awaiting service/therapy dogs across our country, so I challenge the military community to support organizations training these animals, including my favorite charity, freedom-servedogs.org.

David L. Fourman
Centennial, Colo.

As a dog handler at Altus AFB (11th CDS), 1966-67, at Binh Thuy, RVN (632nd SPS), 1967-68, I appreciated

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very much the excellent photo spread in the February *Air Force Magazine* issue. It brought a smile to my face and, truth be told, a tear to my eyes as well. My time with the K-9 branch is among the most cherished memories I have. I'm still in daily (or nearly so) contact with a dozen or so of the handlers I served with in Vietnam. We are lifelong friends, with poignant memories and unbreakable bonds.

I read somewhere that military working dogs in Vietnam were responsible for keeping as many as 10,000 names off the Vietnam Memorial Wall. There is no doubt in my mind that our loyal, beloved four-footed friends kept many of us alive—me especially. How incredibly sad that only a handful ever got to come home.

Del Schulze
Delaware, Ohio

Yours, Mine

Just a correction on a picture caption on p. 40, regarding Northrop Grumman's Gulfstream demonstrator [*"The JSTARS Recap," February, p. 36*]. The aircraft pictured is actually a Gulfstream G650, tail #N683GD, not the Northrop Grumman demonstrator, which is a former Gulfstream GV flight-test airplane, serial No. 501. 501 was the first GV classic built (not a G550 and lacks the modern PlaneView flight deck of the G550 among other improvements) and was an Experimental Flight Test airplane supporting NG in a highly modified configuration as their ISR technology demonstrator. NG recently purchased a/c 501 from Gulfstream and will continue using it as a technology demonstrator.

Wish I could send you a picture, but that's now company proprietary to NG.

Lt. Col. Dale Colter,
USAF (Ret.)
Savannah, Ga.

Closing Mildenhall Is a Mistake

The planned closure of RAF Mildenhall, Suffolk, UK, must be the result of unfounded/incorrect information fed to the Air Force leadership [*"Air Force World: European Base Consolidation," March, p. 15*].

The United States, and particularly the Air Force, has over the last many years found consistent full support of the UK government in every contingency. This cannot be said of Germany and its various administrations over the years. History since 1986 provides enough proof of this. Additionally, Germany is well-known for its very restrictive low-level areas and stringent noise-abatement rules and regulations. The 352nd SOG will not enjoy the freedom

of the low-level training areas found in Britain, and this may well affect the preparedness level of this very important unit. The 100th ARW regularly supports aircraft transiting the North Sea, and supporting such missions out of Germany instead of the UK will certainly increase the cost of each supporting flight. Furthermore, the close proximity of RAF Mildenhall to another USAF base, namely RAF Lakenheath presently flying F-15s and soon to be augmented/replaced by F-35s, has always made a lot of financial sense to have two very important bases situated just a few miles away from each other. Moreover, while the weather in Great Britain is not always desirable, the weather in Germany is much worse, which may also interfere with the number of missions generated, especially when mostly required during a conflict.

The above are just a few reasons why shutting down RAF Mildenhall is not a good idea. Previous BRACs have turned out to be a failure when it comes to cost-effectiveness, and the closure of RAF Mildenhall will prove to be, without doubt, not just a financial mistake but, equally important, a tactical mistake, both politically as well as geographically.

One hopes that the current Air Force leadership will look deeper into the consequences of abandoning RAF Mildenhall and spreading all three wings/squadrons to different locations in Germany.

Joe Ciliberti
Valletta, Malta

An A-10 Solution

As a former civilian Air Force historian, I believe Air Force history offers a solution to the A-10 debate: Transfer them from ACC (or ACC-gained) to AFSOC [*"Letters: Time for Reflection," February, p. 7*]. Commit US Special Operations Command budget—which is one of the few areas of the Defense Department to maintain or grow its funding—to their operation.

AFSOC's roots are in the air commandos who flew P-51s and B-25s in close air support of the British Chindits in Burma. In Southeast Asia, air commandos flew aircraft also deemed obsolete at the time: Skyraiders and A-26s. While I tend to agree with the assertion that the A-10 is less survivable in a modern A2/AD conflict, it is the perfect instrument for counterinsurgency (COIN) or low-intensity conflicts of the sort with which AFSOC is involved. The current air war against ISIS has many parallels to the secret air war in Laos in which the air commandos took part.

AFSOC is also the home of the AC-130 fleet. Since Grenada, AC-130s have flown many sorties that are not

classic "special operations" missions. The A-10 could similarly be called on to assist "Big Army" when needed.

In this way, AFSOC could maintain the "low and slow" A-10—just as the air commandos did their piston-engined fleet in the 1960s—and apply it to their unique mission set as well as having it on call for conventional forces.

Chris Husing
Santa Clara, Calif.

Falcon Vs. Viper

I see you frequently referring to F-16s as "Vipers." The actual name of the F-16 is and has been the "Fighting Falcon."

Just in the interest of journalistic accuracy.

Lt. Col. Addison Thompson,
USAF (Ret.)
Santa Barbara, Calif.

■ *The F-16's official name is the Fighting Falcon, but the aircraft is almost universally referred to by its nickname, the Viper.*—THE EDITORS

Keeping Secrets About Agent Orange

As a Life Member of AFA and an ardent reader of *Air Force Magazine*, I do not normally find any glaring omissions in articles written by John T. Correll, whom I very much admire. However, on p. 54 of the January 2015 edition of *Air Force Magazine*, Mr. Correll writes that: "In recent years, the Agent Orange issue has transcended Vietnam. The significant use of herbicides around US bases in Thailand was disclosed by a Freedom of Information Act case in 2010."

Mr. Correll's article totally omits any mention of the country of Laos. On June 8, 2010, my organization, the Airborne Battlefield Command Control Center (ABCCC) Association, wrote a letter to the VA, informing the VA of the use of Agent Orange in Laos during the Vietnam War.

As a direct result of our June 8, 2010, letter to the VA, the ABCCC Association received a Sept. 13, 2010, letter from the VA stating the following: "Regarding your reference to Laos, DOD has acknowledged aerial spraying of tactical herbicides along the Laotian-Vietnam border to reveal enemy activity on the Ho Chi Minh Trail. Any veteran providing evidence of service in this area of Laos would qualify for an acknowledgment of exposure on a direct-facts-found basis."

Of course, the war in Laos was always "top secret," and absolutely no mention of Laos will ever be found written on any USAF flight orders or PCS orders or TDY orders. So how can a veteran provide the evidence requested by the VA?

CMSgt. Ken Witkin,
USAF (Ret.)
Fort Washington, Md.

CAS confab; PACAF's new boss; The missions are the message

THE CAS CAMPAIGN

Since the Fiscal 2016 President's Budget was released, USAF officials have gone on a public relations offensive, attempting to answer critics who question the service's stewardship of the close air support mission. The push began at the Air Force Association's Air Warfare Symposium in Orlando, Fla., in February, with Welsh's loud defense of USAF's accomplishments and commitment to the mission.

It's an interesting conversation where everyone's talking about the F-35 not doing close air support when that's all the Marine Corps is buying it for, Welsh said. The "thread of conversation," which claims USAF doesn't care about the CAS mission, "is a little ridiculous."

The Air Force flew some 20,000 CAS sorties a year on average just in the last seven years, he noted, asking, "When is there a little bit of credit given for that?" Welsh said P-40s conducted CAS missions in World War II as did A-7s in Vietnam, "long before we had an A-10." The idea that USAF does not have a "mentality" for CAS is "a little beyond my comprehension," he added.

In a background briefing held later that month at the Pentagon, several Air Force pilots described their CAS experiences in F-15Es, F-16s, and other aircraft over the last 14 years. Improvements in joint terminal attack control, precision weapons, and training since September 2001 have rendered the close air support mission "platform agnostic," said one veteran F-16 pilot and weapons school instructor. Due to years of combat deployments to Afghanistan and Iraq, a wide swath of the combat air force is now steeped in CAS knowledge, from the F-16 to the B-1B. "You train for the mission you expect to fly. In the last 14 years, that's been close air support," said one pilot.

USAF's motivation for pushback is clear: The CAS conversation "is getting wrapped around the A-10," Air Combat Command boss Gen. Herbert J. "Hawk" Carlisle said in Orlando. Carlisle said he planned to convene a weeklong summit of the services in early March to discuss the CAS lessons from Southwest Asia operations and how the joint force should adapt to provide CAS in future combat scenarios, such as contested or anti-access, area-denial environments.

ACC officials dubbed the event "CAS Focus Week," calling it a deep dive into the mission to see what the services "have learned and what we think the gaps and seams are." Working groups from the Air Force, Navy, Marine Corps, Army, and US Special Operations Command met at the Pentagon in the first week in March to discuss subjects ranging from tactics to data and information sharing practices. They briefed Carlisle on the findings, then presented the findings to the service Chiefs. "We're hoping to solve a lot of this stuff," Carlisle noted.

An ACC official, speaking on background, said the timing for the event was part of a larger discussion about how USAF is reorganizing, training, and equipping its combat air forces. USAF leadership felt now was the time to uncover "existing and potential challenges, future requirements, and capability gaps" in CAS. Specific decisions "will be made over the coming months," he added, but ACC's goal is to engender

discussion on how to make sure CAS is a "sustainable" mission. "We have no preconceived notions or end state other than to generate ideas," he added.

At least publicly the ground service is backing USAF's talking points. CAS is a "platform agnostic" mission, said Army Secretary John M. McHugh on Feb. 26, echoing comments by USAF pilots. As technology and capabilities change, the expectations between services also will change, said McHugh, who noted that CAS's future is a strategic discussion that will be "addressed and readdressed over time."

McHugh swatted down the notion that the Army could inherit divested A-10s. Fixed wing CAS is an "Air Force mission, and it should be. And I'm sure the Air Force feels the same way," he told reporters. What is important is that when needed, ground troops can have timely and effective "explosive ordnance on enemy positions," McHugh said. He said he has received assurances from USAF that this will continue to be the case into the future.

THE VIEW FROM HICKAM

In her first interview with *Air Force Magazine* as Pacific Air Forces boss, Gen. Lori J. Robinson, an experienced air battle manager, said she wants to continue and expand theater security cooperation as dictated by the "places not bases" construct emphasized by her predecessor.

However, Robinson gave it her own twist: "places, some bases, but airmen ambassador faces."

This concept applies to the PACAF's core tasks, with regard to its theater security cooperation efforts—partnerships, presence, and power projection, she said. Airmen are serving as the Air Force's ambassadors at all levels. Shortly after she took command, she went to Japan for a conference of allied air Chiefs. Japan Air Self-Defense Force Chief of Staff Gen. Harukazu Saito dubbed her the "dean" for the delegation, and as such, Robinson represented all the Chiefs present in meetings with the Defense Minister and Prime Minister Shinzo Abe. "That put a big stamp on my understanding of my role in developing partnerships in the region," she said.

Robinson sees great value in joint initiatives with key allies from Japan to South Korea to PACAF headquarters at JB Pearl Harbor-Hickam, Hawaii, particularly with regard to command and control and data sharing initiatives.

"If we think of [theater security cooperation] as a method of building trust and confidence, this is another measure ... as far as I am concerned," she said.

Robinson said there must be a "constant conversation" between military leaders and policy-makers, so no one has to figure out where they stand on issues when a crisis emerges. USAF and its policy-makers "both need to understand what's going on so we can provide the best defensive capability and the best mutual understanding of what's happening in the battlespace."

She also touted joint US-Japan initiatives. These include the JASDF Air Defense Command at Yokota AB, Japan, where USAF personnel work alongside their Japanese counterparts

to produce a common operating picture of the Japanese home islands, and exercises such as the integrated air and missile defense drills held at the Pacific Integrated Air and Missile Defense Center at Hickam. USAF airmen and their allies in countries like Japan “are starting to think alike” on how integrated air and space operations are managed and controlled, and over time, this will have strategic implications in theater.

These efforts are reflected in the expansion of PACAF’s set piece exercises, such as February’s Cope North on Andersen AFB, Guam. There, USAF worked alongside the Royal New Zealand Air Force and others in a humanitarian disaster response event staged on the islands of Rota and Tinian, in addition to joint combat training. The exercise involved some 2,340 personnel from the US, Australia, Japan, New Zealand, the Philippines, and South Korea, making it the largest-yet iteration of Cope North. Vietnam, an emerging partner the US is courting in Southeast Asia, sent observers, as did Singapore.

The “consistent presence and drumbeat of that exercise” has helped create stability and trust between key regional allies and partners, Robinson said, particularly enhancing humanitarian and disaster cooperation practices and procedures.

The joint US-Republic of Korea Key Resolve/Foal Eagle exercises, which began March 2, are an annual event featuring a series of air, naval, land, and command post exercises intended to prepare forces to counter North Korean threats on the peninsula.

The event drew a typically belligerent response from the North, which fired two Scud-class ballistic missiles from the port of Nampo into the Sea of Japan the same day. The launch was followed by a propaganda blast from its military general staff denouncing the exercises as “dangerous nuclear war drills for invading” the North.

Asked for her assessment of the military balance on the peninsula, Robinson said she had only visited South Korea briefly to call on ROK and US officials and to attend the 7th Air Force change of command ceremony in December, when Lt. Gen. Terrence J. O’Shaughnessy assumed leadership from Lt. Gen. Jan-Marc Jouas. “You can see there is a lot of vigilance, I’ll put it that way,” she said, adding that she would be returning in April for a longer visit.

The vigilance is in part due to the large number of rocket and missile firings in the North over the last year, as both ROK and US officials note, 2014 was the busiest year on record for these events.

While the US is attempting to get the North to return to the Six Party Talks regarding its nuclear program, Kim Jong Un’s regime has demonstrated no interest and has alienated some of the North’s traditional allies with its ruler’s behavior. (Kim has yet to pay a visit to Beijing as head of state.)

The March 2 launch was the third reported missile launch of 2015. Between January 2014 and March 2015, the North launched 117 rocket artillery rounds and ballistic missiles during tests and demonstrations, according to Jeffrey Lewis, director of the East Asia Nonproliferation Program at the Middlebury Institute of International Studies at Monterey in California. These include five separate testing events of an extended-range KN-02 short-range ballistic missile variant and six testing events of Scud variant missiles.

NEEDS AND WANTS

Air Force leaders returned to Capitol Hill in late February to advocate for several unpopular proposals in the Fiscal 2016 budget plan, such as the phaseout of the U-2 and A-10 fleets. However, this time, USAF fine-tuned its pitch, emphasizing that its plans are a response to rising requirements from the

Pentagon’s combatant commanders and the need to maximize and modernize joint military power.

During a Feb. 27 hearing before the House Appropriations Committee’s defense panel, Air Force Chief of Staff Gen. Mark A. Welsh III pointed out that intelligence, surveillance, and reconnaissance demands, in particular, continue to mushroom despite the Afghanistan drawdown. US Central Command’s needs to support Operation Inherent Resolve—the campaign to degrade and defeat ISIS—are a leading driver of ISR demands. Air Force Secretary Deborah Lee James noted during the same hearing that the Air Force has provided some 18 million images during OIR alone, which has led to “22 high value individuals” being killed or captured.

The value of ISR as the “coin of the realm” on the battlefield continues to shape USAF decisions, Welsh said. “That’s where the demand is coming from,” he declared. Seven years ago the Air Force shut down 10 fighter squadrons in order to steer manpower



James and Welsh testified about the “coin of the realm”—ISR.

and resources to more ISR capabilities, he noted, adding that that’s “part of the capacity problem now ... for fighter squadrons, but we did it because that was the only place ... to get resources.” Welsh said he asks combatant commanders whether they “prefer us ... to invest in more ISR or more [fighter] capacity,” and they always ask for more ISR.

USAF is pushing this argument to defend its move to convert 18 combat-coded A-10s to backup aircraft inventory (BAI), which it announced on Feb. 27. Instead of moving the 36 airframes authorized in the 2015 National Defense Authorization Act into BAI, James has taken a cautious approach, saying she will revisit the action later in the year to see if it adequately balances current combat needs with the need to modernize. Air Force leaders continue to push for the A-10 divestiture, not only to meet Budget Control Act funding caps, but also because USAF needs the experienced maintainers on the A-10 to begin integration into the F-35 program.

“That’s where we come to these very difficult decisions,” Welsh argued to the HAC-D.

In comments to Congress and the press in February, Welsh and James have repeatedly emphasized the need to talk about close air support as a mission critical to the Air Force and joint combat operations. “The F-35 will not be a great CAS platform at IOC [initial operational capability] in 2016,” Welsh bluntly told the HAC-D. “It was not intended to be.” By 2021, however, “it will be a different story” and USAF is in the process now of developing “new weapons capabilities” for this mission area for the F-35. ★

Action in Congress

By Megan Scully

Air Force leaders are making the rounds on Capitol Hill, imploring lawmakers to give them some relief from an ambitious—and congressionally mandated—deadline to end reliance on a Russian-built rocket engine in just four years.

The issue has been propelled into the limelight by steadily deteriorating relations between Washington and Moscow in the wake of Russia's incursion in Ukraine. It is shaping up to be one of the most closely watched during this year's round of negotiations on the annual defense spending and policy bills.

The Fiscal 2015 defense authorization law, approved by Congress in December, includes a provision that would require the Air Force to abandon use of the Russian-built RD-180 engine to launch the Atlas V, one of two rockets certified for the Evolved Expendable Launch Vehicle program, by 2019.

But Air Force Secretary Deborah Lee James has been explaining to lawmakers that the date is simply not feasible.

Technical experts, whom James has offered up for briefings on Capitol Hill, estimate it could take six

to seven years to develop the engine, and another year or two to integrate it on the rocket.

A rocket engine, she has urged, is far more complex than a jet engine and must withstand intense heat and pressure. And it's not just a matter of engineering—it also involves procuring materials for those extreme conditions.

The United States, James stressed, simply does not have enough know-how in this area to develop a new engine on an extremely tight timetable.

"This truly is rocket science," James told the Senate appropriations subcommittee on defense Feb. 25 while testifying on the Air Force's 2016 budget proposal. "These are hard technical problems."

To deliver the engine on time, everything would need to fall into place

exactly right, James said, leaving no wiggle room for even the most minor of developmental setbacks.

United Launch Alliance, a Boeing and Lockheed Martin joint venture, has a stranglehold on the EELV competition, producing both the Atlas V and the larger and more expensive Delta IV, which does not use the RD-180.

Upstart SpaceX should be certified to launch the satellites later this year. Because its rocket, the Falcon 9, also

Congress last year approved \$220 million for this fiscal year to kick-start the research and development effort for a domestic rocket engine. In its Fiscal 2016 request, the Air Force proposed \$85 million for the program, and a total of \$295 million over the next five years.

James acknowledged to House appropriators Feb. 27 that that is not enough money for the Air Force to pay for the program on its own. Service officials are planning to pursue a public-

private partnership, with industry self-funding some of the effort.

"We may have to adjust this as we learn more, but we thought that was a good starting point," James said.

The Air Force is researching how to create material strong enough to resist the enormous temperature and pressures involved with spaceflight.

Service officials will use that money to fund several launch service providers to start developing engine alternatives.

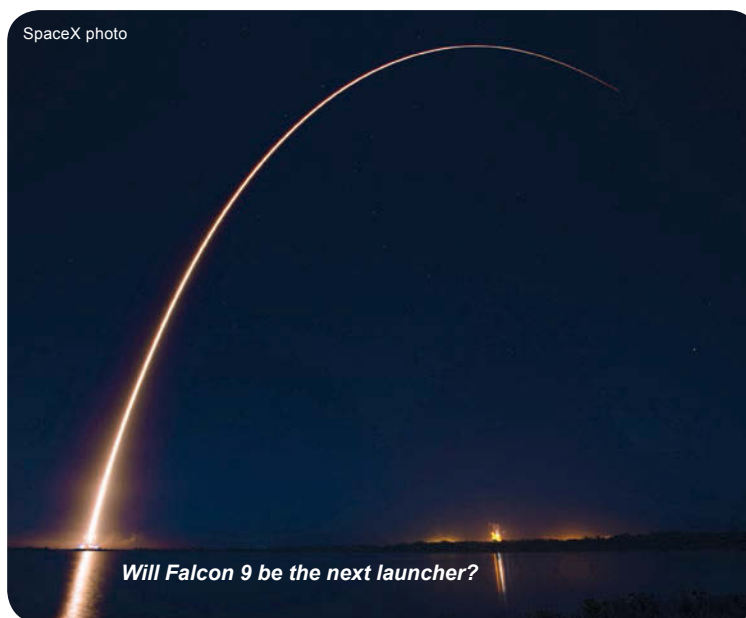
The next step, James said, is to put out to industry a formal request for information—and

ultimately, a request for proposal—a process that could take years.

The question, though, is whether lawmakers—particularly those on the House and Senate Armed Services Committee, who are tasked with drafting the annual authorization measure—will buy the Air Force some time by relaxing the 2019 deadline.

Perhaps the most important lawmaker to watch on this issue will be Senate Armed Services Chairman John McCain (R-Ariz.), who has been among the senators most vocally concerned about the use of the Russian engines. He may be the toughest to sell of the idea on an extension. ✪

Megan Scully is a reporter for CQ Roll Call.



does not use the Russian engine, it could be in a good position to benefit if the current restriction remains in place.

ULA's Delta IV could certainly take over some of the Atlas V's missions, but James suggested that it may not be cost-effective.

If Congress keeps the 2019 deadline in place, the Air Force would essentially be transferring the grip on the EELV from one company to the next, abandoning the long-running desire to have competition for the lucrative program.

"I worry that we run the risk of trading one monopoly, which is what ULA has been, for a new monopoly," James told reporters after the Senate hearing. "And I don't think anybody wants that to happen."

Air Force World

Carter Sworn In as 25th Defense Secretary

Ashton B. Carter became the 25th Defense Secretary—the fourth to serve under President Obama—replacing Chuck Hagel in a ceremony at the Pentagon on Feb. 17.

Carter previously served as the No. 2 and No. 3 official at the Pentagon.

“Starting today, I will be calling on each and every one of you to help carry out three top priorities,” Carter said following

his oath of office. First, to help the President make the best possible decisions to protect the nation and to implement those decisions, second, to ensure the “strength and health” of service members and protect readiness, and finally to build the “force of the future” by steering through budgetary uncertainty and “embracing change.”

“With his decades of experience, Ash will help keep our military strong as we continue the fight against terrorist networks, mod-

★ screenshot



ernize our alliances, and invest in new capabilities to keep our armed forces prepared for long-term threats,” President Obama said in a statement.

Sooner MC-12s, Then Later ...

The Air National Guard is standing up a new MC-12 Liberty special operations unit at Will Rogers ANGB, Okla., “later this year,” according to Air Force Special Operations Command.

“We’re authorized to put up to 13 of them at Oklahoma, so we’re doing that,” said AFSOC Commander Lt. Gen. Bradley A. Heithold in February. He was speaking at the Air Force Association’s Air Warfare Symposium in Orlando, Fla.

The ANG unit will conduct special operations intelligence, surveillance, and reconnaissance and Aviation Foreign Internal Defense training in support of US Special Operations Command, said Heithold.

03.01.2015

A1C Jacob Dudley, an F-16 crew chief, conducts a preflight inspection at Misawa AB, Japan, during operational readiness exercise Beverly Sunrise. OREs inject wartime turn-around procedures into the daily routine of crew chiefs, allowing them to practice quickly generating aircraft as they would need to in combat conditions.

USAF photo by A1C Jordyn Rucker



AFSOC planned to replace its U-28 fleet with MC-12s divested by Air Combat Command and acquired via SOCOM. Congress blocked the move pending a report on its rationale, which Heithold said will be briefed to legislators “in the near future.”

Strategy, by Every Other Name

President Obama unveiled a broad-based security vision spanning everything from strengthening regional defense alliances to reducing carbon emissions in his 2015 National Security Strategy, released Feb. 6.

“The strategy wisely calls for drawing on all the sources of our national power—including the unrivaled strength and resilience of America’s economy, diplomacy, and military, as well as our values,” said then-Defense Secretary Chuck Hagel in a statement.

The White House fact sheet laying out the principles of the strategy calls for “maintaining a national defense that is the best trained, equipped, and led force in the world” and ending the “draconian cuts imposed by sequestration.”

The document does not address recapitalizing aging US military equipment, but does call for “modernizing the NATO Alliance to meet emerging threats,” according to the fact sheet. Obama reiterated his call for “a world without nuclear weapons” and similarly called for “preventing Iran from producing a nuclear weapon.”

The Administration aims to shift to what it calls a “sustainable global security posture,” relying heavily on allies and partners, to “keep pressure” on groups such as ISIS and al Qaeda.

—Aaron M. U. Church

Bang, Zoom, Straight to the Moon: SSgt. John Mitchell (l) and SrA. Jeff Glover (r), both explosive ordnance disposal technicians with the 386th Expeditionary Civil Engineer Squadron, go over a recoil absorbing mechanism at a base in Southwest Asia. The mechanism is used to disrupt the circuitry of a bomb. In the picture at right, a plume of smoke and fire erupts from a controlled detonation—performed by the EOD techs—of unserviceable or unexploded munitions.

Legion, for Our Uses Are Many

Lockheed Martin unveiled the new Legion Pod, which would work in tandem with the F-15C’s planned infrared search and track capability to enable cooperative targeting in radar-denied situations, the company said.

Faced with “more of a near-peer adversary” such as China or Russia, the Air Force will need sensors that produce a “legion of capabilities” without encumbering aircraft, company officials said at Air Force Association’s Air Warfare Symposium in Orlando, Fla., Feb. 12.

The 16-inch-diameter pod was designed to accommodate current and future payloads with a common power distribution and self-sufficient cooling system.

It can offer the F-15 “high-fidelity tracking without alerting the enemy, increasing operator workload,” or blacking out when jammed. The pod integrates theIRST-21 with networking and advanced open architecture processing and supports emerging fifth-to-fourth generation communication gateways.

Can’t See You

Investigators determined that a student pilot’s failure to maintain visual contact and deconfliction caused the collision of two Oklahoma Air National Guard F-16Cs on Oct. 20, 2014.

The instructor pilot, who had more than 2,400 flight hours in an F-16, was playing the role of the “engaged pilot” dur-

ing a training mission, while the student pilot, who had 106 F-16 flight hours, was to play the supporting role.

A third F-16 was to act as the adversary, according to the accident investigation board report, released Feb. 20.

During the second scenario, the student pilot lost visual contact of the instructor pilot and collided 16 seconds later.

The instructor successfully ejected from his stricken aircraft sustaining minor injuries, but the student was able to return to base despite losing a large portion of his aircraft's right flaperon and horizontal stabilizer.

The crash was estimated at a \$22.5 million loss. Both aircraft and pilots were assigned to the Oklahoma ANG's 138th Fighter Wing.

Osprey Offload

A KC-10 tanker escorted and refueled a flight of five Marine Corps MV-22 Osprey tilt-rotor aircraft en route to exercise Cobra Gold in Thailand, early this year.

"Not only did we conduct two aerial refuels, but we effectively showcased the expanding envelope of the MV-22 and its ability to range the entirety of the Pacific Command area of operations, said Marine Capt. Victor Bockman, commander of Medium Tilt-Rotor Squadron 265.

"It is a very capable platform that can hold more fuel than the C-130s we are used to working with." The KC-10 transferred 40,000 pounds of fuel on a 2,000-mile trip from Clark AB, Philippines, to U Tapao RTAB, Thailand, additionally acting as a communications relay for the Ospreys.

A KC-10 from Travis AFB, Calif., previously tested aerial refueling operations with an Osprey off the coast of California last October, according to a news release.

Cobra Gold ran Feb. 7 to 21.

Spatter in Space

A military weather satellite broke up Feb. 3 after the power system overheated, causing it to spin out of control, Air Force Space Command officials told *Air Force Magazine* in a statement.

The Joint Space Operations Center "identified a debris field" indicating Defense Meteorological Satellite Program flight 13 disintegrated into 43 bits of debris.

T-X: Coming Quick

Air Education and Training Command nailed down its broad needs for the T-X trainer aircraft to replace the T-38, said Brig. Gen. Dawn M. Dunlop, head of AETC plans, programs, and requirements.

The Air Force needs 350 T-Xs, with initial operational capability in 2023, to replace 421 T-38s, Dunlop told *Air Force Magazine*.

The T-38 fleet has received a number of service life extension program modifications over its 54-year life and will be phased out between 2023 and 2029, but if there is a delay to T-X, "we would have to do additional [service life extension programs] on the T-38." The T-X is to finish delivery in 2031.

The Air Force needs a new jet trainer, Dunlop stated, because "12 of the 18 tasks" that pilots must learn for advanced fast-jet training "can't be [accomplished] by the T-38."

These have chiefly to do with cockpit management, especially at high rate of turn and G loading. While the program has passed the Air Force's own requirements review, it will go before the Pentagon's Joint Requirements Oversight Council in April for its blessing.

At that time, the Navy, an observer on T-X, will depart the program, as its needs "will be met by the T-45" through 2035, Dunlop said.

—John A. Tirpak

CMSAF James C. Binnicker, 1938-2015

Retired CMSAF James C. Binnicker, who served from July 1986 through July 1990 as the ninth Chief Master Sergeant of the Air Force, died on March 21 in Calhoun, Ga. He was 76.

Binnicker was "a man of honor and commitment to things greater than himself," said Air Force Secretary Deborah Lee James, in a service news release. "His passing is mourned by all airmen, past and present, around the globe," she said.

During his tenure as the service's top enlisted leader, Binnicker led the transformation from the Airman Performance Report to the Enlisted Performance Report, developed the performance feedback system, and worked to have master sergeants admitted to the Senior Noncommissioned Officer Academy and to increase opportunities for minority and female airmen.

Binnicker's Air Force career spanned 33 years. He officially retired in August 1990.

"We often speak of legends, those airmen who have gone before us," said CMSAF James A. Cody. "Chief Binnicker is a legend among those legends. His impact on our Air Force is everlasting and we will truly miss his leadership, counsel, and friendship."

In 2000 Binnicker, who was a native of Orangeburg, S.C., became president and CEO of the Air Force Enlisted Village in Shalimar, Fla., near Eglin Air Force Base. He held the job until his death.



"While the initial response is complete, JSpOC personnel will continue to assess this event to learn more about what happened and what it will mean for users within this orbit," Col. John Giles, JSpOC director, said in the statement.

DMSP-13 was the oldest operational satellite in the constellation and was relegated to backup status in 2006.

Operators took action to "render the vehicle safe" soon after the temperature spike, and the debris does not appear to pose a collision risk to other space assets, according to the statement. JSpOC is continuing to monitor and warn of any potential risks, said AFSPC officials.

The most recent DMSP satellite, DMSP-19, launched last April.

Israel Buys More F-35s

Israeli defense officials signed an agreement with the United States to acquire 14 additional F-35A strike fighters, bringing Israel's total order to date to 33, the *Jerusalem Post* reported.

Under a \$2.82 billion deal announced by the Israeli defense ministry on Feb. 22, Israel will receive the 14 Lockheed Martin-built stealth jets, along with logistical support, flight and ground crew training, replacement parts, and maintenance services, according to the newspaper's report.

The package also includes development and integration of Israeli combat systems and avionics on the airplanes.

The order builds on the 19 F-35As that Israel bought in 2010 under a foreign military sales arrangement with the United States.

Israel is scheduled to receive its first F-35As in 2016, according to the Associated Press.

BUFF Denuclearization

Air Force Global Strike Command will begin denuclearizing 30 B-52H bombers to conventional-only configuration this year to meet limits under the New START agreement.



Looks Real to Me: Pararescue jumpers and combat rescue officers make their way through collapsed buildings, mangled vehicles, flooded housing areas, and work with dozens of civilian role-players during training at a Guardian Centers site in Perry, Ga. The Reservists practiced responses to two natural disasters and an IED scenario at the realistic civilian center. Guardian Centers provides opportunities for first responders of all sorts, including military, to train for large-scale disasters.

"We'll be starting that process, and it's basically going to be a box. ... It will be outboard visible," AFGSC boss Lt. Gen. Stephen W. "Seve" Wilson said in a briefing. "We've already looked at it, tested it, and now [we] just need to get it in production," he stated at AFA's Air Warfare Symposium in February.

Under the New START agreement both the United States and Russia must cut nuclear arsenals to 1,550 deployed warheads, 700 deployed launchers, and 800 deployed and nondeployed launchers by February 2018.

Wilson said AFGSC will "easily make" the deadline with a year's wiggle room for unforeseen delays.

Back From the "Boneyard"

A B-52H bomber resurrected from the "Boneyard" was delivered to Barksdale AFB, La., Feb. 13, in preparation to

rejoin the operational fleet, according to Air Force Global Strike Command.

Serial No. 61-0007, nicknamed *Ghost Rider*, was held in type 1000 storage at Davis-Monthan AFB, Ariz., and will be the first B-52H regenerated back into the fleet, according to officials at Tinker AFB, Okla.

"We had an accident with one of our B-52s, ... so we pulled one out of the Boneyard," commander of AFGSC Lt. Gen. Stephen W. "Seve" Wilson said at AFA's Air Warfare Symposium in Orlando. A cockpit oxygen fire caused severe damage to the aircraft, but no serious injuries to personnel, he said.

Maintainers at Barksdale will upgrade 0007 to fleet standards before ferrying the aircraft to Tinker for full-up programmed depot maintenance later this year.

Ghost Rider last underwent PDM in 2004 and will return to operations at Barksdale in summer 2016, according to the news release.

Ebola Endgame

US military involvement in Operation United Assistance—the international Ebola relief effort—ended after four months of continuous airlift to Monrovia, Liberia, and to Dakar, Senegal, in February.

"No military in the world can do what we did in Africa," said Gen. Frank Gorenc, US Air Forces in Europe-Air Forces Africa commander, in a press release. "Our forward presence in Europe gives us the unique capability to act quickly when our partners in both Africa and Europe ask for help."

A total of 2,800 Defense Department personnel deployed to West Africa at the height of the epidemic, according to the Pentagon.

AEHF Wraps Up Operational Testing

Air Force Space Command completed Advanced Extremely High Frequency military satellite communication system operational test and evaluation, paving the way for AEHF's initial operational capability, officials announced.

Once data from the six-month intensive evaluation is analyzed, AFSPC "will decide whether the AEHF system

By the Numbers

492,000

The revised Total Force personnel end strength Air Force Secretary Deborah Lee James announced in February to amend cuts and add 6,600 airmen to understaffed career fields, including maintenance, nuclear, and cyber.

The War on Terrorism

Operation Resolute Support (Afghanistan)

Unleash the Tucanos

Afghan Air Force close air support is a key capability gap that must be filled to enable coalition forces to hand more security responsibility over to Afghan forces, said US Forces-Afghanistan Commander Army Gen. John F. Campbell.

The AAF's future CAS capability relies on the A-29 Super Tucano, the platform that Air Force instructors are training the Afghans on at Moody AFB, Ga.

"In hindsight, I wish we would have started that years ago and we'd have that capability now," Campbell testified before the House Armed Services Committee on March 4. "We won't have any for this fighting season '15. We'll get

some at the end of the year," and until then, the AAF will make do with a mix of machine gun-armed Mi-17 and MD-530 helicopters and a handful of Mi-35 attack choppers, he said.

"What I tell the Afghans is, don't plan your operation wholly dependent upon close air support. ... The Taliban doesn't have close air support," he said, stressing that reliance on CAS is often just a lack of battlefield confidence and leadership.

The United States will deliver 20 A-29s to the Afghans between now and 2018, but "quite frankly, we can't get [equipment] quickly enough for them," said Campbell.

Operation Inherent Resolve (Syria and Iraq)

Combat Workhorse

F-22 Raptors have flown in the majority of Operation Inherent Resolve strike missions in Syria, due to their force-multiplying effect on the capability of legacy aircraft, Air Combat Command boss Gen. Herbert J. "Hawk" Carlisle said.

"When you have F-22s in a package, every single airplane in that package is better because the F-22s are there," he said during a panel discussion at the Air Force Association's Air Warfare Symposium in Orlando, Fla., in February.

"We're putting Raptors into every package, whenever we can, and it is most of the time," Carlisle said.

In addition to the F-22's ability to go into airspace denied to other aircraft, its capacity to escort, manage, retask, and provide dynamic targeting information "has even exceeded our expectations—the airplane has performed fantastically" against ISIS, he said. The F-22 saw its combat debut last September, leading a strike sortie against ISIS targets in Syria.

Coalition Air Strikes Enable Gains Near Mosul

Iraqi and anti-ISIS coalition forces have steadily built up plans to take back Mosul from ISIS, and in February, coalition aircraft struck the group's positions near the city, enabling Kurdish forces to gain ground.

After "precise and effective" air strikes on ISIS positions, Kurdish fighters seized three bridgeheads—considered strategic chokepoints for ground forces to move on Mosul—on the west bank of the Tigris River north of the city between Feb. 6 and Feb. 8, reported a news release from the Combined Joint Task Force-Operation Inherent Resolve.

The strikes aided the maneuver of the Kurdish forces and "their successful attack" on these locations, the release stated. The Kurds held this territory and were postured to take more in the areas around Mosul.

Coalition advisors provided "operational and intelligence assistance," said the release. The operation shows how ISIS forces can be defeated by using a combination of ground forces "enabled by coalition aviation and advise-and-assist capabilities," said task force commander Army Lt. Gen. James L. Terry.

The strikes came just days after the in-theater meeting of military leaders from 20 nations taking part in OIR, the US-led effort to eliminate the ISIS threat in Iraq, Syria, and the entire Middle East.

Blistering Bones

More than 350 airmen recently returned to Dyess AFB, Texas, after a six-month deployment to the Persian Gulf region where they supported B-1B operations. The airmen participated in three separate missions—Operation Enduring Freedom, Operation Freedom's Sentinel, and Operation Inherent Resolve.

While deployed to the 379th Air Expeditionary Wing at Al Udeid AB, Qatar, the 9th Expeditionary Bomb Squadron carried out a blistering pace of strikes, dropping more than 2,000 bombs in the performance of close air support missions, a "significant increase" in weapons drops compared to the squadron's 2013 deployment, according to Lt. Col. Ed Sumangil, unit commander.

Flying in support of OIR sorties over Iraq and Syria, B-1s accounted for 23 percent of sorties involving weapons releases during CAS in the first two months of the operation, and were the lead package during the first night of strikes in Syria.

B-1Bs continue to prosecute strikes as part of OIR. The 9th Bomb Squadron airmen were recently replaced by a deployment from Ellsworth AFB, S.D., that arrived at Al Udeid in late January.

Active Badgers

The Wisconsin Air National Guard's 115th Fighter Wing stood up an active association with an injection of Active Duty airmen at Truax Field near Madison, Wis., on Feb. 7.

"We're going to get young aviators, young maintainers, young support personnel, and they are going to work right alongside those of you in the Guard who have been doing this for a lot longer than they have," said Lt. Col. J. Scott Gibson, commander of the new Active Duty 495th Fighter Group, Det. 176, at Truax.

The detachment will add four Active Duty F-16 pilots and 40 Active maintenance and support personnel who will work alongside their Air National Guard counterparts, according to the unit press release.

has reached initial operational capability," said Operations Director Lt. Col. Zachary Owen of the 4th Space Operations Squadron in a Feb. 10 news release.

Tests included proving the AEHF constellation could be controlled by a mobile control center separate from Schriever AFB, Colo., as well as integrating with the legacy Milstar satcom system, according to officials.

Cyber aggressors also probed AEHF's network security and Air Force Operational Test and Evaluation Center personnel visited representative joint service and allied users including Britain, Canada, and the Netherlands to assure end-user access worldwide.

Madison's association is part of the Air Force's overall Total Force Integration effort to stand up Active Duty detachments at each of its ANG and Air Force Reserve Command fighter units.

Space Launches To Be More Competitive in 2016

The Air Force will open three national security space launches for competition in Fiscal 2016 and three in Fiscal 2017. By Fiscal 2018 all 18 planned national security space launches will be open to competition, Maj. Gen. Roger W. Teague, acquisition director for space programs, said Feb. 6.

"We are satisfying the terms of the contract we have with [United Launch Alliance] while doing the best we can, maximizing competitive opportunities," Teague said during USAF's Fiscal 2016 space budget brief.

The Air Force is "very, very near" completion of the SpaceX certification program, commented Teague, who said he remains optimistic the process will be completed by midyear. Teague said the Space and Missile Systems Center commander meets with SpaceX CEO Elon Musk on "a regular, weekly

basis" and that the Air Force has invested 150 people and \$73 million toward the company's certification and increased competition in launch bids. ★

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Senior Staff Changes

RETIREMENTS: Gen. Janet C. **Wolfenbarger**, Lt. Gen. Salvatore A. **Angelella**, Lt. Gen. Brooks L. **Bash**, Lt. Gen. Judith A. **Fedder**, Lt. Gen. Thomas W. **Travis**, Maj. Gen. Terrence A. **Feehan**, Maj. Gen. H. D. **Polumbo Jr.**, Brig. Gen. Charles E. **Potter**, Brig. Gen. David R. **Stilwell**.

NOMINATIONS: To be General: Ellen M. **Pawlikowski**. **To be Lieutenant General:** John B. **Cooper**, John L. **Dolan**, Mark A. **Ediger**, Lee K. **Levy II**. **To be Major General:** Randall R. **Ball**, James B. **Hecker**, Scott A. **Howell**, Mark D. **Kelly**, Scott F. **Smith**. **To be Brigadier General:** James J. **Burks**, Richard A. **Coe**, Barry R. **Cornish**, Andrew A. **Croft**, James A. **Jacobson**, William M. **Knight**, Jeffrey A. **Kruse**, Daniel J. **Orcutt**, Paul A. **Welch**. **To be ANG Brigadier General:** Robert J. **Becklund**, Michael J. **Feeley**, Dennis **Hunsicker**.

CHANGES: Maj. Gen. Roosevelt **Allen Jr.**, from Cmdr., 79th Medical Wg., AF District of Washington, JB Andrews, Md., to Dir., Medical Ops. & Research, Office of the Surgeon General, USAF, Falls Church, Va. ... Brig. Gen. (sel.) James J. **Burks**, from Dir., AF Medical Spt. Ops., JBSA-Lackland-Kelly, Texas, to Dir., Manpower, Personnel, & Resources, Office of the Surgeon General, USAF, Falls Church, Va. ... Brig. Gen. (sel.) Richard A. **Coe**, from Cmdr., AF Inspection Agency, Kirtland AFB, N.M., to Dir., Jt. Air Component Coordination Element-Iraq, Combined Jt. Task Force Operation Inherent Resolve, ACC, Southwest Asia ... Lt. Gen. (sel.) John B. **Cooper**, from Dir., Log., ACC, JB Langley-Eustis, Va., to DCS, Log., Engineering, & Force Protection, USAF, Pentagon ... Brig. Gen. (sel.) Barry R. **Cornish**, from Exec. Officer to the Cmdr., PACAF, JB Pearl Harbor-Hickam, Hawaii, to Cmdr., 18th Wg., PACAF, Kadena AB, Japan ... Brig. Gen. (sel.) Andrew A. **Croft**, from Vice Dir., Ops., NORAD, Peterson AFB, Colo., to Dir., Plans, Prgms., & Rqmts., AETC, JBSA-Randolph, Texas ... Lt. Gen. (sel.) John L. **Dolan**, from C/S, PACOM, Camp H. M. Smith, Hawaii, to Cmdr., 5th AF, PACAF, Yokota AB, Japan ... Brig. Gen. Dawn M. **Dunlop**, from Dir., Plans, Prgms., & Rqmts., AETC, JBSA-Randolph, Texas, to Cmdr., NATO Airborne Early Warning & Control Force Command, SHAPE, Casteau, Belgium ... Lt. Gen. (sel.) Mark A. **Ediger**, from Dep. Surgeon General of the AF, Office of the Surgeon General, USAF, Falls Church, Va., to Surgeon General of the AF, USAF, Pentagon ... Maj. Gen. (sel.) James B. **Hecker**, from Cmdr., 18th Wg., PACAF, Kadena AB, Japan, to Dir., Plans, Prgms., & Rqmts., ACC, JB Langley-Eustis, Va. ... Maj. Gen. John M. **Hicks**, from Dir., Ops. & Studies, Analyses, Assessments, & Lessons Learned, AFSOC, Hurlburt Field, Fla., to Dir., Ops., SOCOM, MacDill AFB, Fla. ... Maj. Gen. Dorothy A. **Hogg**, from Dir., Medical Ops. & Research, Office of the Surgeon General, USAF, Falls Church, Va., to Dep. Surgeon General, Office of the Surgeon General, USAF, Pentagon ... Maj. Gen. (sel.) Scott A. **Howell**, from Dep. Dir., Spec. Ops., Jt. Staff, Pentagon, to Dir., Ops. & Studies, Analyses, Assessments, &

Lessons Learned, AFSOC, Hurlburt Field, Fla. ... Brig. Gen. (sel.) James A. **Jacobson**, from Chief, Prgm. Integration Div., USAF, Pentagon, to IG, AMC, Scott AFB, Ill. ... Brig. Gen. David J. **Julazadeh**, from Mil. Asst., Dep. SECDEF, OSD, Pentagon, to Cmdr., 455th AEW, ACC, Southwest Asia ... Maj. Gen. (sel.) Mark D. **Kelly**, from Cmdr., 455th AEW, ACC, Southwest Asia, to Cmdr., 9th AF, ACC, Shaw AFB, S.C. ... Brig. Gen. (sel.) Jeffrey A. **Kruse**, from Sr. Spec. Asst. to the Cmdr., EUCOM, and SACEUR, EUCOM, Casteau, Belgium, to Dir., Combined Jt. Task Force Operation Inherent Resolve, ACC, Southwest Asia ... Lt. Gen. (sel.) Lee K. **Levy II**, from Vice Dir., Log., Jt. Staff, Pentagon, to Cmdr., AF Sustainment Center, AFMC, Tinker AFB, Okla. ... Maj. Gen. Jerry P. **Martinez**, from DCS, Ops., Allied Jt. Forces Command, Brunssum, Netherlands, to Dir., Ops., AMC, Scott AFB, Ill. ... Brig. Gen. (sel.) Daniel J. **Orcutt**, from Cmdr., 505th Command & Control Wg., ACC, Hurlburt Field, Fla., to Cmdr., 380th AEW, ACC, Southwest Asia ... Gen. (sel.) Ellen M. **Pawlikowski**, from Mil. Dep., Office of Asst. SECDEF for Acq., OSAF, Pentagon, to Cmdr., AFMC, Wright-Patterson AFB, Ohio ... Brig. Gen. John T. **Quintas**, from Cmdr., 380th AEW, ACC, Southwest Asia, to Dep. Dir., Politico-Mil. Affairs (Asia), Jt. Staff, Pentagon ... Gen. Robin **Rand**, from Cmdr., AETC, JBSA-Randolph, Texas, to Cmdr., AFGSC, Barksdale AFB, La. ... Maj. Gen. Rowayne A. **Schatz Jr.**, from Dir., Ops. & Plans, TRANSCOM, Scott AFB, Ill., to Vice Cmdr., AMC, Scott AFB, Ill. ... Maj. Gen. (sel.) Scott F. **Smith**, from IG, AMC, Scott AFB, Ill., to DCS, Ops., Allied Jt. Forces Command, Brunssum, Netherlands ... Brig. Gen. Billy D. **Thompson**, from Chief, AF Senate Liaison Office, Office of the LL, Pentagon, to Dir., Svcs., DCS, Manpower, Personnel, & Svcs., USAF, Pentagon ... Brig. Gen. (sel.) Paul A. **Welch**, from Dep. Dir., Air, Space, & Cyberspace Ops., AFSPC, Peterson AFB, Colo., to Vice Cmdr., US Air Warfare Center, ACC, Nellis AFB, Nev. ... Maj. Gen. Scott J. **Zobrist**, from Dir., Plans, Prgms., & Rqmts., ACC, JB Langley-Eustis, Va., to Dep. Cmdr., Air Forces Central, and Dep., Combined Forces, Air Component Cmdr., CENTCOM, Southwest Asia.

COMMAND CHIEF CHANGES: CMSgt. Jose A. **Barraza**, from Command Chief, 386th AEW, ACC, Southwest Asia, to Command Chief, 12th AF, ACC, Davis-Monthan AFB, Ariz. ... CMSgt. William D. **Jones**, from Command Chief, 30th Space Wg., AFSPC, Vandenberg AFB, Calif., to Command Chief, AFPC, JBSA-Randolph, Texas.

SENIOR EXECUTIVE SERVICE CHANGES: Charles A. **Braswell**, to Dep. Dir., Contracting, AF Sustainment Center, AFMC, Hill AFB, Utah ... Heidi H. **Bullock**, to Executive Dir., AF Installation Contracting Agency, AFMC, Wright-Patterson AFB, Ohio ... Lynda T. **Rutledge**, to PEO, Agile Combat Spt., AF Life Cycle Mgmt. Center, AFMC, Wright-Patterson AFB, Ohio ... Randy J. **Tebbing**, to Sr. Intel. Specialist, Natl. Air & Space Intel. Center, DCS, ISR, Wright-Patterson AFB, Ohio ... Patricia M. **Young**, to Dir., Washington Headquarters Svcs., Office of the Dir., Administration & Mgmt., Pentagon. ★

Close-Up



USAF photos

In your face

Rarely has the art of the close-up action shot been demonstrated more vividly than in this remarkable image of a World War II B-26 Marauder medium bomber, Fightin' Cock. Of the seven air crew members, the photograph clearly shows four—including the nose gunner sneaking a smoke. The photo, snapped from a leading aircraft, is part of a personal album of AAF Capt. Joseph J. Merhar Jr., who commanded the 9th Air Division's Photo Laboratory in England. The collection also contains the inset photo, which takes a panoramic view of a Marauder squadron on a mission to Europe.



Off to war

By Robert S. Dudney

Gas About CAS

"What you read about the Air Force not caring about CAS is nonsense. ... The facts do not support the accusations. ... [USAF's critics] forget that the A-10 was not designed for CAS [but for] direct attack of armor and interdiction—and not CAS. ... We like to label things. We call B-52s strategic bombers but we have used B-52s for CAS. I had A-10s doing road reconnaissance, airfield attacks, Scud hunting, and interdiction. ... The Air Force has done a thorough analysis. What else does Congress want?"—**Retired USAF Lt. Gen. David A. Deptula, on political backlash against planned A-10 retirement, National Defense Magazine, March 9.**

The Enemy of Our Enemy

"Iran's regime is as radical as ever. ... The ideology of Iran's revolutionary regime is deeply rooted in militant Islam, and that's why this regime will always be an enemy of America. Don't be fooled. The battle between Iran and ISIS doesn't turn Iran into a friend of America. Iran and ISIS are competing for the crown of militant Islam. ... In this deadly game of thrones, there's no place for America or for Israel. ... So when it comes to Iran and ISIS, the enemy of your enemy is ... your enemy."—**Israeli Prime Minister Benjamin Netanyahu, speech to Congress on Iranian nuclear matters, March 3.**

Art of the Bad Deal

"My friends, for over a year, we've been told that no deal [with Iran] is better than a bad deal. Well, this is a bad deal. It's a very bad deal. We're better off without it."—**Israeli Prime Minister Benjamin Netanyahu, speech to Congress on emerging US-Iran nuclear agreement, March 3.**

Just Deserts

"Our hope is that diplomacy can work. And I believe, given our success on the interim agreement [with Iran], we deserve the benefit of the doubt to find out whether or not we can get a similarly good agreement with respect to the future."—**Secretary of State John F. Kerry, on talks to halt Iran's nuke program, interview broadcast on ABC's "This Week," March 1.**

Snowden's Conditions

"[Edward] Snowden is ready to return to the States, but on the condition that he is given a guarantee of a legal and impartial trial. He is thinking about it. He has a desire to return, and we are doing everything we can to make it happen."—**Anatoly Kucherenka, Russian lawyer representing NSA turncoat Edward Snowden, quoted in Politico.com, March 3.**

If Only

"The atmosphere was that we were going over there to provide the firepower necessary to bring the North Vietnamese to their knees. It was the only war in town, and it was going to be over with tomorrow. Boy, were we wrong."—**Retired USAF Brig. Gen. Keith B. Connolly, who was an F-100 fighter pilot at the start of Operation Rolling Thunder in Vietnam, Stars and Stripes, March 1.**

Professional Wet Work

"[The killers selected] a very complex technical means, demanding the participation of a large number of people with a high level of preparation. I want to emphasize this because it is very important. The ordinary basic training of the special forces of the GRU [Russian military intelligence] would not be enough for something like this. It must have been a really professional team."—**Andrei Soldatov, expert on Russia's special services, on the skill of the assassin team that murdered dissident Boris Nemtsov, Radio Free Europe, March 2.**

The Grieving-Mother Count

"When mothers start seeing sons come home dead, when that price goes up, then that domestic support [in Russia] begins to shrink. ... If you don't have something that gives muscle to the diplomacy, to the economic aspect, then it's not going to be as effective."—**Lt. Gen. Ben Hodges, commander of US Army Europe, Associated Press dispatch from Berlin, March 3.**

The 30 Percent Solution

"Our female officer applicants currently comprise only about 25 percent

of our applicant pool. I'm one who thinks we ought to be able to do better. Let's go for it. Let's try. So we are setting an applicant pool goal of 30 percent. We want our officer accession sources to go after a 30 percent female applicant pool in the future."—**Secretary of the Air Force Deborah Lee James, remarks to Center for a New American Security, March 4.**

Russia as Standard Bearer

"We're not seeing the same bipolar world we had between capitalism and communism. But we are seeing a new bipolar world, I think, where you have democracy versus authoritarianism, and Russia now is really carrying the mantle for authoritarian regimes."—**Rep. Adam Schiff (D-Calif.), remarks on MSNBC's "Morning Joe" program, March 2.**

Of Bombers and Dollars

"I'm afraid they're [USAF] heading down a path here where they have set themselves up politically to not succeed. They've come out with these cost estimates that are surprisingly low, and they seem to be doubling down on the idea that they can build this bomber cheaper than the last one."—**Todd Harrison, Center for Strategic and Budgetary Assessments, on the relatively low projected cost of the Long-Range Strike Bomber, Washington Post, March 2.**

Whose Boots?

"Somebody's boots have to be on the ground. We've got some 3,000 boots on the ground [in Iraq] today. Let's not suggest that we don't. ... We're going to have to have some people in there, providing advice, and those are boots on the ground."—**Speaker of the House John Boehner (R-Ohio), interview broadcast on CBS's "Face the Nation," March 1.**

Advice from The K

"Serious attention must be given to the lagging modernization of our strategic forces. ... The United States should have a strategy-driven budget, not a budget-driven strategy."—**Former Secretary of State Henry A. Kissinger, remarks to Senate Armed Services Committee, Jan. 29.**

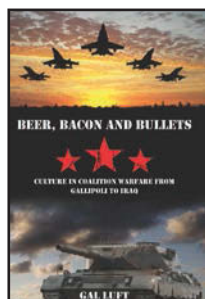
Books Special: CSAF Reading List 2015

Compiled by Chequita Wood, Media Research Editor

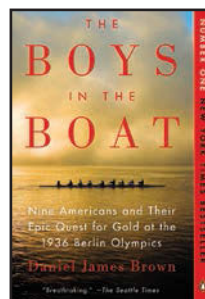
Air Force Chief of Staff Gen. Mark A. Welsh III released his 2015 reading list in February. Twelve books form the centerpiece of the list, but it also includes films, photographs, and art. In introducing the list, Welsh said, "Each selection for 2015 tells an important story about the profession of arms or our Air Force core values."



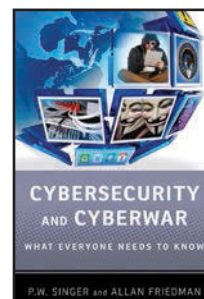
Air Commanders. John Andreas Olsen. Potomac Books, Dulles, VA, c/o Longleaf Services (800-848-6224). 542 pages. \$48.



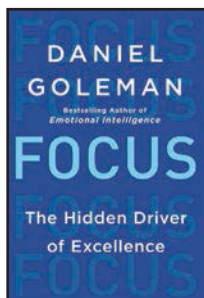
Beer, Bacon, and Bullets: Culture in Coalition Warfare From Gallipoli to Iraq. Gal Luft. BookSurge Publishing. Order from: Amazon.com. 326 pages. \$18.99.



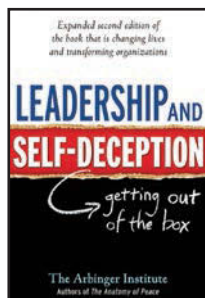
The Boys in the Boat: Nine Americans and Their Epic Quest for Gold at the 1936 Berlin Olympics. Daniel James Brown. Penguin Publishing, New York (212-366-2000) 416 pages. \$28.95.



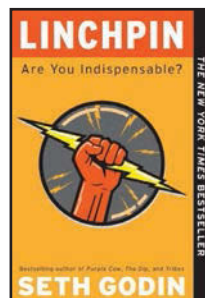
Cybersecurity and Cyberwar: What Everyone Needs to Know. P. W. Singer and Allan Friedman. Oxford University Press, New York (800-445-9714). 320 pages. \$74.95.



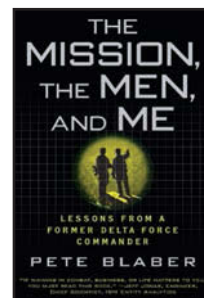
Focus: The Hidden Driver of Excellence. Daniel Goleman. HarperCollins, New York (212-207-7000). 320 pages. \$28.99.



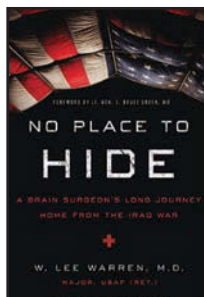
Leadership and Self-Deception: Getting Out of the Box. Arbinger Institute. Berrett-Koehler Publishers, Oakland, CA (800-929-2929). 240 pages. \$16.95.



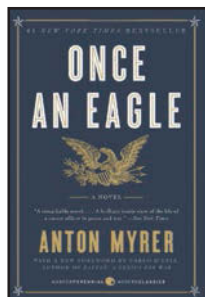
Linchpin: Are You Indispensable? Seth Godin. Penguin Publishing, New York (212-366-2000). 256 pages. \$25.95.



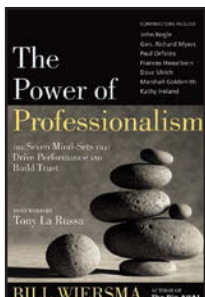
The Mission, the Men, and Me: Lessons from a Former Delta Force Commander. Pete Blaber. Penguin Publishing, New York (212-366-2000). 336 pages. \$16.



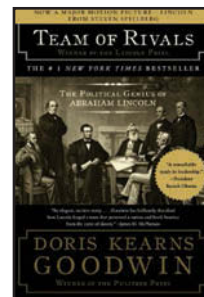
No Place to Hide: A Brain Surgeon's Long Journey Home From the Iraq War. W. Lee Warren. Zondervan, Nashville, TN (800-251-4000). 352 pages. \$22.99.



Once an Eagle. Anton Myrer. HarperCollins, New York (212-207-7000). 1,312 pages. \$21.99.



The Power of Professionalism: The Seven Mind-sets That Drive Performance and Build Trust. Bill Wiersma. Order from: Wiersma & Assoc., Pleasant Hill, CA (925-933-6174). 384 pages. \$32.95.



Team of Rivals: The Political Genius of Abraham Lincoln. Doris Kearns Goodwin. Simon & Schuster, New York (800-223-2336). 944 pages. \$37.50.

THE



THE Air Force's speed, reach, and versatile combat power are in growing demand around the world. But USAF now must solve a very serious problem: Adapt the smallest force in its history to fight in conflicts where its core strengths could be challenged or thwarted in so-called "contested and degraded environments," from Asia to Europe to the Middle East.

Though tools such as mobility and global intelligence, surveillance, and reconnaissance are in more demand than ever, the Air Force is 40 percent smaller than the one that won the Gulf War more than two decades ago, Chief of Staff Gen. Mark A. Welsh III said at February's Air Force Association Air Warfare Symposium in Orlando, Fla. "There is no excess capacity. ... Everything is committed," he said.

Meanwhile, other nations have invested heavily in military space capabilities, airpower, and air defenses.

For example, today the average age of the fleet of China's People's Liberation Army Air Force (PLAAF) is much lower than USAF's. The PLAAF's fleet of fourth generation J-10 fighters is five years old on average, while USAF's F-16s are an average of 24 years old.

Both Russia and China are now working on fifth generation fighter programs as well. At some point, Welsh said, "no

and rescue operations, to defeating modern mobile surface-to-air missiles, to command and control and battle management of air campaigns, the US dominance in air, space, and cyberspace power is narrowing today—and could have consequences in battle. "My challenge, today, first and foremost, is to take care of my people and win today's fight," Air Combat Command's Gen. Herbert J. "Hawk" Carlisle said in Orlando. "And then, still project dominance into the future."

USAF must prepare for high-end conflict while already engaged worldwide.

matter how fast the Air Force tries to accelerate, the momentum of others will put them in the lead."

This dynamic has the service concerned, as nearly every core mission USAF performs is affected by the changing global military balance. From close air support, to combat search

USAF taskings to support the nascent battle against ISIS terrorists has quickly overtaken diminishing demands from Afghanistan, and other scenarios are also no longer theoretical. The Air Force flew ISR missions near Ukraine in the aftermath of last year's Crimea crisis, using RC-135s and RQ-4A Global Hawks to gather intelligence on the disposition of Russian forces. In



AIR FORCE AT WAR

By Marc V. Schanz, Senior Editor

Two USAF F-15Cs, assigned to the 18th Wing, Kadena AB, Japan, fly off the wing of a KC-135 tanker during Cope North 15 in February off the coast of Guam.

September, F-22s flew into combat for the first time, navigating the potential danger of Syria's air defense networks during the first wave of strikes on ISIS targets. "A year ago here, we weren't talking about ISIS or Crimea," Air Force Global Strike Command's Lt. Gen. Stephen W. "Seve" Wilson said. Preserving a globally responsive Air Force capable of projecting power "at a moment's notice" despite these demands is vital to nearly every potential scenario USAF could find itself called into, he pointed out.

The Crimea crisis has served as an eyebrow-raising case for just the kinds of problem sets USAF could find itself dealing with. Russia's use of "hybrid warfare"—combining rapid movement of irregular and disguised regular forces, as well as combined arms formations in eastern Ukraine—has kick-started both NATO and US military "collective security" planning to respond to these types of threats, US Air Forces in Europe-Air Forces Africa's Gen. Frank Gorenc said in Orlando. "We are infusing air capabilities designed to defeat the 'hybrid warfare' that [Russian President Vladimir] Putin has very effectively done on the eastern side of ... Ukraine," he said, adding that the US and NATO

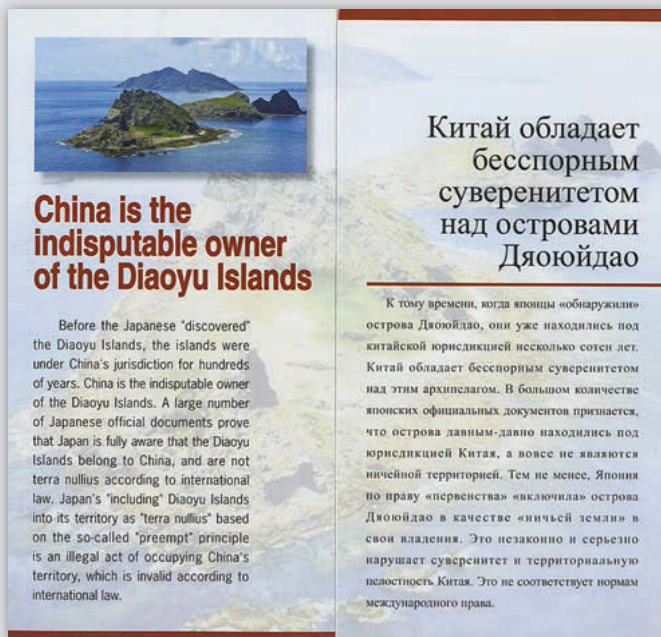
are working to fine-tune a variety of capabilities that clear the "ambiguity" of these military operations, such as tracking surface-to-air missiles moving back and forth across borders.

In the Asia-Pacific, China has steadily increased the military and political

contest sea lanes and restrict access to international airspace.

The spectrum of conflicts "floats," Carlisle said to reporters, from a permissive operation such as Afghanistan to a heavily contested anti-access, area-denial scenario (A2/AD). "When we talk about A2/AD," people always think about China, Carlisle said, but these capabilities are present in many other areas, such as Russia, Syria, and Iran. "The contested environment ... will be a factor anywhere in the future," Carlisle said. With the F-35 not entering the force in large numbers for several years, USAF is now figuring out how to link up both its most modern assets—like the F-22—with its fleet of F-15Cs, F-16s, and other "legacy" aircraft, to enable airmen to survive operations in contested and denied areas.

Some enhancements are in the works, from putting Sniper targeting pods and prototype long-wave infrared sensors on F-15Cs, to getting Active Electronically Scanned Array (AESA) radars back into the F-16 modernization program after the radars fell victim to sequester-induced cuts. "We need that," Carlisle said of the AESA radars for the F-16 fleet. But many of these efforts require investments in the near term, and ACC is "trying to figure out how to fit [them] in" to the service's long-range plans. Concerns about air



pressure on tiny reefs and islands in the South China Sea, fashioning some into airstrips and military garrisons capable of hosting aircraft. Pacific Air Forces commander Gen. Lori J. Robinson called this a "concerning" trend to both the US and its regional allies in Asia. Many see the potential for China to use these outposts to



Above: A Chinese-produced propaganda brochure—in both English and Russian—claiming ownership of the disputed Diaoyu Islands, displayed in the Chinese Embassy in Washington, D.C. Here: A Russian T-50 (PAK-FA) fifth generation fighter. Both Russia and China are making strides toward fielding an advanced fighter to rival the F-22.



Here: This black-painted J-31 fighter (presented under its export designation of FC-31) flew last November at Airshow China 2014. It demonstrated short takeoff roll, some simple maneuvers, and landing with its brake chute. Below: USAF Chief of Staff Gen. Mark Welsh delivers the Air Force update to attendees of the Air Force Association's annual Air Warfare Symposium in Orlando, Fla. Welsh warned that there is no excess capability in USAF force structure—everything is committed.

battle management and command and control are why the Joint STARS recap is a top modernization priority and recapping USAF's air battle management workhorse—the E-3 fleet—is also a concern.

Command and control animates discussions about USAF's potential vulnerabilities in all missions. "We have got to figure out how to do real-time [C2] interoperability across all our domains," Air Force Space Command's Gen. John E. Hyten said, to "protect and move the data" where it is needed as soon as possible.

USAF is good at understanding if its networks are up or down, PACAF's Robinson noted, but must do more to understand how to detect "degradation and detecting it and understanding" those threats. "With vast distances, and the need to command and control forces, what is our ability to continue operations? ... Do you do it forward or do you do it with reach back? That's what I think about when I think about theater airpower and the continuation of operations," she said.

The services are steadily inching closer on how to build resilient, survivable data links for the joint force to keep up with threats seeking to contest and deny US airpower. This includes the

ability to introduce new capabilities to cockpits via targeting pods. They could be used to provide information from "national technical means" in real time, Carlisle told reporters—measurement and signature intelligence, for example, to track and verify time-sensitive targets such as missiles.

Driving these needs in part is the proliferation of modern SAMs and

Tyson Wetzel, an ISR instructor with the 19th Weapons Squadron at Nellis AFB, Nev., said during a panel on USAF's annual Weapons & Tactics Conference (WEPTAC). The combat air force needs to improve its ability to find, fix, and track modern SAMs before it can destroy or disable them. Potential adversaries have focused on making their SAMs increasingly mobile, built up jamming and use denial and deception tactics to protect these defenses. At extended ranges "cross-domain [ISR] collection is critical and we need some form of a fusion center to collect these data, and develop timely, actionable intelligence," Wetzel said.

Command and control's importance to survival spurred a "C2 summit" at the WEPTAC gathering this past January. Representatives from all USAF's major commands and the services gathered to hash out ideas about what Carlisle called "Big C2"—and what it will look like a decade from now. USAF's combined air and space operations construct has driven success on the battlefield over the last two decades, he noted, but its operations need to be modernized to respond to changing threats. "What will the AOC look like in 2025?" he said. "How do you federate that



USAF photo by Scott M. Ash

integrated air defense systems that can target aircraft and weapons at longer distances than ever before, one weapons officer said. As USAF looks at a future where it must not only defeat long-range SAMs, but operate near and inside spaces defended by integrated air defense systems, data sharing and targeting are a rising concern, Maj.



system? How much is reach back [to the operations center], how much is forward? What kind of data integrity" does one need?

Concerns surrounding C2 and information sharing are not only a US military problem: They pervade coalition-style war in the 21st century. Nearly all contemporary US military operations involve support from allies and coalition partners, from Iraq and Syria to Eastern Europe, and increasingly intelligence and information sharing with these allies is a growing concern.

"There are two issues. One is policy," said Gorenc. "And then there [are] technical challenges." Every day in Europe, he noted, "we are trying to enforce standards to keep the capability of moving information from machine to machine." Without the right C2 tools, and investing in this area, "you will significantly decrease the effectiveness of the coalition." This is why USAFE-AFA wants to improve the hardware and software both US and NATO forces use to create mission systems. "I know there are policy issues, but the Holy Grail is hardware. We'll work policy," he said.

USAF's more capable allies agree, and say more needs to be done—as it will affect joint operations in future, contested conflicts, they argue.

"The [United Arab Emirates] is playing a major role in coalition operations and with this strong participation, it has allowed the UAE to be a more

integrated partner," said UAE Air Force Lt. Col. Mohamed Hassan Ali Alanazi, a veteran F-16E/F Block 60 pilot and wing commander.

The UAE has supported coalition military operations in Afghanistan, Yemen, Somalia, Libya, and now Syria, he said, but it seeks to expand its integration with USAF and allied forces and overcome persistent information and intelligence sharing restrictions—affecting everything from mission planning to access to more sophisticated weapons.

FOSTERING COOPERATION

"Working by ourselves we will have a small picture, and we want to change that," Alanazi said, adding that he hopes the UAE can reach the same level of integration some of USAF's NATO Allies enjoy. "There are areas which are affecting us, and we need to build up trust," he said.

Information and C2 sharing is an operational imperative for future operations involving complex scenarios such as integrated air and missile defense and defending air bases against modern threats. Robinson noted a visit to Japan's Air Defense Center at Yokota Air Base, where Japanese Air Self-Defense Force and USAF airmen work jointly and demonstrate how important these activities are to the joint defense of Japan. The center is a success story in information sharing. PACAF's Integrated Air and Missile Defense Center also attempts

Crew chiefs prepare an RC-135 Rivet Joint for launch Feb. 3 at Offutt AFB, Neb. USAF flew RC-135s on ISR missions to gather intelligence on Russian troop dispositions during last year's Crimea crisis.

to foster this level of cooperation between USAF and its Asia-Pacific partners, she said. "When you can do that with allies and coalition partners, [it] underpins everything you do."

At the operational level, airmen are working to adapt the force today to better deal with rising threats. USAF can't wait for an F-X, the successor to the F-22 Raptor, to show up in the force. Carlisle said the command is already studying "Air Superiority 2030"—how to leverage advanced weapons, sensors, and "fourth to fifth generation" links to use all domains to provide air superiority.

Whether threats to air superiority or the danger of modern SAMs, the tactical problems the force may face are increasing in lethality. It is why weapons officers at this year's WEP-TAC conference took a deep look at concepts such as using Miniature Air Launched Decoys in combat, prioritizing Integrated Air and Missile Defense missile and weapon shots, and performing "nontraditional" personnel recovery and combat search and rescue in contested environments, several weapons officers told AWS attendees during a panel presentation.

The problems are daunting, but can be answered using a combination of

existing assets and new tactics to operate in contested scenarios, the officers said. Maj. Michael Kingry, an HH-60 weapons school instructor and assistant director of operations for the 34th Weapons Squadron at Nellis who led a WEPTAC group focusing on rescue operations in contested environments, said potential adversaries could now wield modern IADS and jamming capable air assets to foil CSAR and personnel recovery efforts.

USAF must prepare for recovery operations in these areas by linking air, space, and cyber forces. Some technology gaps need to be closed, such as working on tools to resupply isolated individuals, incorporating MALDs into rescue planning, using better mapping tools on mobile devices, and improving false isolated-personnel beacons—to deceive enemy forces trying to capture friendlies, he said.

USAF needs to better tailor survival, evasion, resistance, and escape training for specific aircraft operating in specific regions, Kingry said, and work to better incorporate “nonconventional assisted recovery” practices: the use of specially trained local forces by special operations to assist in rescues.

Kingry encouraged the development of a “personnel recovery officer” in a squadron—be it a flying unit, space, or cyber unit—who would be an expert on leveraging its system in the event of a rescue situation. Better leadership

would help move the mission “from a second or third level contingency to a well-practiced skill set ... that we regularly train for,” he said.

Even close air support will look far different in these types of scenarios from the missions USAF flew over Afghanistan, leaders pointed out. In the near future, Carlisle told reporters, “I believe we are going to have to perform CAS in contested environments”—areas “where people are trying to not let us do CAS with increasing sophistication.” It is why USAF called together a week-long CAS summit across the services at Nellis in March to discuss the future of the mission, to talk about lessons from combat in Iraq and Afghanistan, and to adapt the mission for contested environments, addressing topics as diverse as data sharing to tactics. The meeting was to be an effort to identify “what we think are the gaps and seams” in the mission, Carlisle said. “And we’re hoping to solve a lot of this stuff.”

Welsh, speaking with reporters, said the services must get to a point where they all understand “what the future looks like in this arena.” This applies not only to tactics but also munitions, as future scenarios may see innovations like using a “large number of forward firing laser guided rockets, ... something that fragments a rocket into a thousand bullets, creating the effect of a thousand round burst,” Welsh postulated—rather than the limited burst from today’s guns.

If the conversation sounds too theoretical, leaders emphasized there are important lessons to take from operations occurring today. Carlisle expressed “frustration” with critiques of the anti-ISIS air campaign, saying that by all metrics thus far “airpower is doing fantastic”—limiting the ability for ISIS to mass forces, produce and sell oil, and command and control its own forces. “What do you do with [troops] when you can’t mass them or command and control them?” he asked rhetorically. Regional allies, such as the Gulf Cooperation Council states, have also come a long way in their ability to carry out joint coalition air operations, he noted.

The F-22’s recent combat performance also holds promise for the force’s ability to adapt to these threats quickly. Carlisle said, across the spectrum the F-22 “has exceeded our expectations.” The fighter, designed as an air superiority weapon, has displayed a remarkable ability to “rerole and mission manage the entire force,” he said—whether by escorting a strike package or by using its sensors to identify and track targets and share information with the CAOC. “When you have F-22s in a package, every single [other] airplane in that package is better,” he concluded. ★

At Airshow China 2014, China’s H-6M heavy bomber was displayed surrounded by numerous guided and glide bombs.

Photo by Piotr Butowski



The \$10 Billion Gamble

By John A. Tirpak, Editorial Director

The Air Force has asked for \$10 billion more in its Fiscal 2016 budget than it will get if sequestration—driven by the 2011 Budget Control Act—comes back in September. Service leaders said in February that at the requested dollar amount, USAF can still do most of what the national military strategy requires. At sequester levels, though, the strategy will have to be thrown out and replaced with something less demanding, because, as Chief of Staff Gen. Mark A. Welsh III said, “We simply can’t execute the defense strategic guidance as written.”

Speaking at AFA’s Air Warfare Symposium in Orlando, Fla., in

February, Air Force Secretary Deborah Lee James told reporters, “The national strategy is a good national strategy. We ought not to change it, so we are ... just going to make the case as strongly as we know how with ... Congress that we need this additional funding.” She also said the Air Force, industry, and AFA “must work together to ask Congress to get rid of sequestration permanently.”

The \$10 billion boost was approved by top Pentagon leaders and the White House. The Air Force is targeting it toward modernization, improving readiness, revitalizing the nuclear enterprise, and reversing personnel cuts that James said went “too far.”

Even the requested amount, though, isn’t enough to let the Air Force keep the A-10 attack jet or upgrade the F-16 fleet. A return to “full-spectrum readiness,” even at consistently higher funding levels, will still take a decade or more.

This budget is not perfect, James acknowledged in her symposium speech, but if sequester returns, the list of financial casualties will include KC-10 tankers, RQ-4 Global Hawks, F-35 fighters, readiness, Red Flag exercises, and further delay in getting the nuclear deterrent back up to par. The Air Force would likely have to kill a new engine program that holds “great promise for fuel savings.”

An E-3 AWACS returns from a mission over the Nevada Test and Training Range during a Red Flag exercise at Nellis AFB, Nev., in 2011. Combatant commanders are demanding more ISR capability. Air Force officials are trying to meet that need with more AWACS coverage, among other things.



Intelligence, surveillance, and reconnaissance—the No. 1 demand from regional commanders right now—would be hit hard. Many of the video screens providing real-time views of enemy activities will “just go dark ... and we go blind on the battlefield,” James said. Full mission readiness of the combat air forces—already down to about 40 percent—will slip further.

The big problem with the sequester-level budgets, Welsh told reporters, isn’t just that modernization will be postponed yet again or that neglected facilities will languish longer. It’s that USAF won’t be able to handle the “simultaneity” of what the defense strategic guidance demands.

“We simply will not be able to defeat one adversary, deny a second adversary, and defend the homeland simultaneously,” he said in a press conference. “We just don’t have the capacity to do that anymore at the BCA level.”

In his speech to the symposium, Welsh noted that in the 1990-91 Gulf War, the Air Force fielded 188 fighter squadrons. In the Fiscal 2016 budget, though, “we’ll go to 49.” Similarly, USAF had 511,000 airmen on Active Duty in 1990, but “we now have 313,000. That’s 40 percent smaller.”

What it all adds up to, Welsh said, is “there is no excess capacity anymore. There is no bench to go to in the Air

Force. Everything is committed to the fight.”

“The demand for what we do in the Air Force, ... for our capabilities” across air, space, and cyber, “is going up, up, up. ... Everybody wants more Air Force,” said James. At the same time, adversaries are catching up in technology, there’s no letup in combat operations given the new fight against ISIS in Iraq, and USAF’s aircraft are older than ever.

The Air Force has “12 fleets of airplanes ... that qualify for antique license plates,” Welsh noted, and “four fleets ... that qualify” for American Association of Retired Persons (AARP) membership—in other words, 12 aircraft types older than 25 years, and four older than 50.

USAF can’t execute the national military strategy with sequester-level budgets.



“We must modernize the Air Force. This isn’t optional. We must do it. And it will be painful,” he said, because to find the money to buy new gear, USAF must take older equipment out of service and use the savings to reinvest in the force, even though USAF is already maxed out in using all its remaining assets in real-world operations.

The services got a reprieve from sequester in the 2013 bipartisan budget deal brokered by Sen. Patty Murray (D-Wash.) and Rep. Paul Ryan (R-Wis.). It lifted spending caps for Fiscal 2014 and 2015, but extended the BCA through the middle of the 2020s. James told reporters she has some reason to be hopeful that

Or will you lift sequestration and give us more money? And ... that would certainly ... ease the strain,” James asserted.

In her speech, James said the Air Force must get \$10 billion in order to get the job done, “period.” If it comes, it would be recognition of “just how important the Air Force is in every joint operation around the world, as well as how important the Air Force is in protecting the homeland.”

While the Air Force is engaged in myriad operations, when James visits with airmen at their bases and deployed locations, she said their “No. 1 concern” is whether the Air Force will continue downsizing. She said she and Welsh, based on discussions with top service

classic associations on RQ-4 Global Hawk units, and increase the number of cyber operators in the reserves, she said. There would also be some innovations, such as seeking permission to allow reservists to train Active Duty pilots.

In addition, the extra funds would help stem the drain of people from remotely piloted aircraft units, which are badly overworked, by offering new retention pay. Incentive pay would also be increased for some nuclear specialties, to attract and retain people in that field.

Combatant commanders are demanding ever-more ISR capability, and “given the changed world circumstances,” such as the fight against

USAF photo by A1C Krystal Andrey



SSgt. Alek Albrecht practices hacking into a network during a Network War Bridge Course at Hurlburt Field, Fla. USAF Secretary Deborah Lee James said a budget boost could increase the number of cyber operators.

USAF photo by MSgt. Greg Steele



Congress will recognize the damage that continuing sequester will do to the Air Force.

About the Fiscal 2015 budget—when the Air Force recommended retiring the A-10 and U-2 and was rebuffed on both counts—“there was great disagreement on those proposals but there was quite a lot of agreement ... on other matters,” James said in a press conference.

“After all the dust settled,” she continued, “we got most of the money and most of the accounts as we would have wished” and for that, “we’re grateful to ... Congress.”

Nevertheless, USAF has to put together one- and five-year spending plans that match the strategy and the money available. It has to “make sense as a whole,” she said. Though some proposals have drawn objection, “it comes back to, ‘if not this, then what?’

leaders, have concluded that “enough is enough. No more. We need to stop this.”

A DECADE BEFORE BREAKING?

Under the Fiscal 2016 budget request, the service would buy back some people it has given up in previous rounds of budget-cutting. Total Force end strength—Active, Guard, and Reserve together—would actually increase by 6,600 people, to 492,000.

That figure “should give us the breathing room to alleviate some operational strain, to bolster our nuclear enterprise, to increase the number of cyber teams, and plug some holes” in the force, such as in maintenance. She said she and Welsh regard the manning issue to be a “red line. We want no more downsizing.”

For the reserve component particularly, the budget would buy back some F-15Cs for Air National Guard units, create

ISIS and Russia’s belligerence in Eastern Europe, coverage will ramp up with additional medium-altitude RPAs, more AWACS, and an extension of the U-2’s service life.

Near-term readiness would be boosted by restoring full funding for Red Flag and Green Flag exercises, James said. The flying hour program would also be funded “to the maximum execution level.”

Welsh said the readiness situation “is not a new problem,” having grown over the years when USAF was concentrating on the current fight in Iraq and Afghanistan and neither investing in future systems adequately nor training for a “high-end” fight.

“One of the things” the sequester reprieve gave the Air Force “was the ability to ... improve individual and unit short-term readiness,” he explained.

That meant more flying hours, “the ability to train, more exercises,” but it did not allow USAF to invest in what he calls long-term readiness.

“We haven’t upgraded our training ranges to reflect current and emerging threats. We haven’t upgraded the test facilities” for both secret and open “test infrastructure.” Investing in those things—steadily—will allow USAF to regain its full-spectrum readiness, he said. The ability to fight proficiently against everything from unsophisticated enemies to those with complex anti-access, area denial capabilities is essential.

“We have got to get back to a persistent, consistent investment in this kind of

replacement for the 1980s-vintage Air-Launched Cruise Missile—“by two years,” she added.

HARDWARE IMPERATIVES

It’s critically important that USAF’s top three modernization priorities—the F-35 fighter, KC-46 tanker, and Long-Range Strike Bomber—be kept on track, James said, as they provide the basic capability to win “in ... a high-end threat environment.” Joining those three are two new hardware imperatives: the T-X trainer to replace the 50-year-old T-38 and a new JSTARS ground-monitoring radar system to replace the existing fleet.

RD-180 engine for space launch,” she said, noting that there’s \$293 million in the five-year budget plan as a “down payment” on a new rocket motor. Technical maturation and risk reduction efforts will be undertaken “in cooperation with NASA, the national labs, universities, and industry.” The goal is “to ensure commercially viable domestic launch service providers that will give us assured access to space for our national security space mission.”

The Air Force, however, won’t skimp on the process of certifying new launch service providers, like SpaceX. USAF does not want “a repeat of the spectacular space launch failures that occurred in



A B-52 is towed from a maintenance area after being regenerated for active service. The aircraft had been sitting in storage at the “Boneyard” at Davis-Monthan AFB, Ariz., since 2008.



A KC-46A tanker refuels an F-15 in a Boeing artist’s illustration. James said it is imperative to keep the new tanker program—and USAF’s other top two priorities, the F-35 and the Long-Range Strike Bomber—on track.

infrastructure or our Air Force will break 10 years from now,” Welsh warned attendees.

“It will take us 10 to 12 years before we recover ‘big readiness,’” he said. If sequester resumes, “hanging onto” less than 50 percent full-mission capability “is going to be fingernails scratching down the side of the wall, trying to hold on.”

The nuclear enterprise is slated to get an additional \$5.6 billion over the next five years under USAF’s proposed budget. It’s “a very significant increase for a community that over time has not gotten this level of attention. So we’re committed to persistent focus” on the nuclear mission over time, James said. In terms of hardware, the new budget would support a Minuteman ICBM fleet follow-on program and accelerate the Long-Range Standoff Weapon—a

The T-X, James said, will be a “test case” for a new way of doing business with industry. The Air Force will share its requirements with industry early—they were set to be released in March—and there will be a “dialogue” with contractors about what can be provided, and at what cost, well before the request for proposals is posted in Fiscal 2016. “Industry will know, when the time comes,” what requirements the Air Force must meet and what capabilities it would like to have and how much more—if anything—the service would be willing to pay to get the extras.

Convinced that competition always leads to lower costs and better capabilities, James said she is working to infuse every procurement with as much competition as possible.

“We in the Air Force are committed to ending our reliance on the Russian

the 1990s,” when billion-dollar military satellites were lost, James cautioned. However, she said the service is doing all it can to find ways to “speed up the process.”

There’s a “resetting” going on in the broader discussion of space as a “warfighting domain,” Welsh said.

“We don’t want to fight a war, kinetically, in space,” he noted. But the Air Force must “acknowledge the fact that others are posturing to be able to do just that. And we either adjust to that or face the consequences.”

The Air Force’s vision of space superiority is evolving, he said. Not long ago, it was focused on space situational awareness, which remains “critically important” but is “not sufficient in and of itself,” Welsh asserted.

“Now you have to be able to survive in space. Resiliency is critical.” Air Force



Lockheed Martin photo



USAF photo by SrA Corey Hook

Top: U-2s may get a service life extension to aid an ever-increasing need for ISR coverage. Above: SrA. Steve Roeper runs a pylon inspection on an A-10 at Kandahar Airfield, Afghanistan, in 2011. So far, Congress has refused to allow USAF to retire the aircraft.

doing stuff that isn't connected" to where the service needs to be 10, 20, and 30 years from now.

Welsh said the Air Force will dive back into "developmental planning," a cycle of assessing the environment, threat, and strategies and plugging in the needed hardware, costs, and operational concepts that pull it together and expose the "gaps and shortfalls."

The Air Force has "pockets of it, but institutionally, we gave it away" when Air Force Systems Command was folded into Air Force Materiel Command. "We have to bring it back," Welsh insisted.

A big part of that process will be to have a plan ready to go when certain technological breakthroughs pay off—not wait until the breakthrough happens. Industry will be brought in early to help USAF figure out "what we plan to do" when technologies—such as hypersonics, lasers, directed energy, or nano-tech—become practical.

Developmental planning will "allow us to now plan for success" in the R&D world, he explained.

Welsh said the queries he hears from airmen in the field about sequestration, downsizing, furloughs, and whether the retirement system will change are all symptoms that "we're distracted." He said "for a military service, this can be a problem if it continues over time."

In 2015, "I think we need to refocus on the things that really matter," Welsh said, starting with "a refocus on our mission ... to fight and win our nation's wars."

Toward that refocus, Welsh announced that Air Education and Training Command is creating a "new Profession of Arms Center of Excellence" to ensure that every professional military education course reinforces the warrior ethic. The profession of arms is "an ugly business sometimes and somebody's got to be good at it," Welsh said.

"We can't afford to ever forget that airmen are still, right now ... engaged in very real and very dangerous operations in Afghanistan, in Iraq, in Syria, in Africa, even in Eastern Europe," he asserted. They "stand ready on the Korean Peninsula," serve on "February's frozen missile fields," and Air Guardsmen "here in this country still stand strip alert to conduct air defense missions." The reality of being in the fight "should be the focus of our efforts day to day," Welsh said. ★

Space Command is now defining what "locational or situational superiority in space" means, he said. Welsh also urged that the Air Force continue to be "the lead operational voice in discussions about the space domain ... because nobody knows [it] ... better." He said James has "helped us by energizing" USAF's executive agency for space and is deeply involved in its details.

The Pentagon is looking for offsetting technologies that can provide a leap beyond the weapons now being fielded by US adversaries, James said. "They've been studying us carefully ... and they haven't been standing still," she noted. The Air Force can't stand still either, she said, and is raising its research, development, test, and evaluation budget for Fiscal 2016 by \$2 billion over Fiscal 2015 levels. She's hoping that an increased emphasis on innovation and partnership with industry will "make the impossible possible."

Hypersonics is one such area, James noted, pointing out that the X-51 Waverider project in 2013 demonstrated "that we can go real fast and shoot from a safe distance and strike targets before they can shoot back or move—or even know that we're coming toward them."

THE "HOW" OF STRATEGIES

Technology is a big element—but not the only one—in the Air Force's strategic master plan, which Welsh said brings together all the roadmaps, concepts of operations, personnel plans, and acquisition programs into a single, coherent document, to be fully fleshed out this month. The roadmap merges the "what we do, ... who we are going to be," and the "how" of USAF's strategies.

To live within the money USAF hopes to have, "anything that's disconnected" from the rest of the plan "should be thrown away," he said. "We don't have money to keep

AFSOC Renaissance

By Aaron M. U. Church, Associate Editor

Air Force Special Operations Command is undergoing one of the largest modernization and recapitalization efforts in its history. Despite modernization programs in general falling fourth on the priority list behind readiness, airmen and family welfare, and virtualizing training—according to AFSOC boss Lt. Gen. Bradley A.

The command is working hard to modernize, recapitalize, and stay out front.

SSgt. James Klutts, a dedicated crew chief with the 9th Aircraft Maintenance Unit, works on an MC-130H at Hurlburt Field, Fla. Air Force Special Operations Command is in the middle of a significant recapitalization effort that includes the MC-130 fleet.

Heithold—the command is replacing the lion’s share of its aircraft.

This puts AFSOC ahead of much of the Air Force in the long run, but requires a deft balance given the command’s diverse and high-intensity operational requirements. Many of the Air Force’s smallest, most specialized, and highest-demand fleets and personnel pools reside within the command, giving AFSOC little wiggle room for transition.

With ongoing combat commitments in the Horn of Africa, Afghanistan, and now against ISIS at other locations in the Middle East, AFSOC faces a constant, high demand to provide critical support to combatant commanders.

“Right now, AFSOC is in the middle of a pretty significant recapitalization effort,” Heithold said at the Air Force Association’s Air Warfare Symposium in Orlando, Fla., Feb. 12. “We are recapitalizing our AC-130s, our MC-130s, our [intelligence, surveillance, and reconnaissance] platforms—just almost across my entire portfolio there’s change going on,” he added.

At the same time, “we’re in the middle of a conflict” against violent terrorists that shows no sign of abating, “so I can’t take a knee,” he said. “I have to maintain a level of capability and readiness today with my legacy force” while the same personnel pool simultaneously replaces the heavily tasked older platforms with new aircraft.

Replacing the command’s old MC-130 Combat Talon II fleet with the new-build MC-130J Commando II airframes is a case study in the challenges. The MC-130s are covert, penetrating tankers, the crews are in constant high demand, and even the old models offer critical capabilities their replacements have not yet fielded. Since a new terrain-following/terrain-avoidance radar for

the MC-130J is still being developed, the 23 airframes delivered to date lack low-level infiltration capability. To compensate, AFSOC has to hang on to its legacy MC-130s “a little bit longer” to cover high-end missions, Heithold said.

“I’m confident we’ll get a TF/TA radar, ... but it’s going to take time,” he said.

Cannon Air Force Base in New Mexico has begun receiving new MC-130s. The Europe-based fleet at RAF Mildenhall, UK, has completely changed over, and AFSOC just began replacing the Pacific-based fleet at Kadena AB, Japan, this year.

The MC-130 is part of AFSOC’s largest overall recapitalization effort—replacing legacy Hercules fleets with Super Hercules-based variants. Another big chunk of C-130J airframes is destined for gunship use, as AC-130J Ghostriders.

AFSOC requirements call for 57 new-build MC-130Js and 37 fresh AC-130J gunships. This is the requirement, at least, based on strategic guidance and combatant commander needs. “What can you afford to buy is a different question,” said Heithold.

He noted that only 79 of the 94 required airframes are in the budget’s program of record. Getting the full number of aircraft needed to replace the current fleets, though, “depends on whether the budget gets better looking than it does today,” he acknowledged.

DIAL-A-BOMB CAPABILITY

On the gunship recap, AFSOC’s first converted AC-130J Ghostrider entered combined developmental and operational testing just last year. “We’ve got the operational test guys flying on the developmental test at the same time,” Heithold said. He is “pretty pleased” with development thus far.

“I call it the ‘ultimate battle plane,’ because I’m going to have a dial-a-bomb capability” in addition to the legacy AC-130’s battery of guns, he said. The Precision Strike Package (PSP) developed on the legacy AC-130W Stinger II combines a 30 mm cannon with precision weapons such as the Griffin missile or Small Diameter Bomb. Then Heithold decided to up the new gunship’s firepower by adding an aft, side-mounted 105 mm gun.

“It will be an ultimate night-[close air support] airplane for special operations,” he said. Ghostrider will bundle a “deep” artillery magazine with an arsenal of guided weapons. Essentially, “you’ve got a bomb truck with guns on it.”

Despite a long C-130 gunship tradition, converting a J variant posed some unique challenges, detailed in the 2014 Director of Test and Evaluation’s annual report. Though PSP is already operational on the AC-130W, putting it on the AC-130J proved a bit more complex and has resulted in testing delays. The J model’s engines and propellers generate more vibration than the W model’s, blurring the sensor target view. Electromagnetic interference hampered the crew’s ability to control the sensor suite. On top of this, the prototype departed controlled flight during a handling test, requiring additional test flights following a brief grounding.

“All of this is manageable ... as long as we don’t get in too big of a hurry to try to get it done,” Heithold said. “I’m

Two MC-130P Combat Shadows fly by the control tower at Hurlburt Field, while others wait on the ramp. There are 14 AC-130Us left in the fleet. The others have been retired.





AFSOC requirements call for 37 fresh AC-130J Ghostriders.

confident that if we slow down, we'll get it right." Until then, AFSOC plans to hang on to as many legacy gunships as it can, he said.

The last of eight AC-130H Spectre and three additional AC-130U Spooky IIs recently retired, leaving 26 gunships—14 AC-130Us and 12 AC-130W Stinger IIs—still in service.

Heithold said he is quite confident AFSOC can hold onto all of them "for a good time until we get some J models." AFSOC will begin retiring airframes based on remaining service life as Ghostriders start to be delivered. "We look at the life on the wing and the various components on the airplanes and we end up retiring the most expensive aircraft" whether that's an AC-130U or an AC-130W, he said.

As the new gunship matures, Heithold envisions eventually equipping Ghost-rider with microwave and even laser weapons in the future. "You're going to find this very hard to believe, but we don't want to kill everybody that we have in our sights," joked Heithold. "There're times actually that we would like to have nonlethal means to force them to stop what they're doing—things like microwave energy guns," he said. A high energy laser could eventually replace the 105 mm gun, enabling Ghost-rider to silently take out targets in the middle of the night. "No one hears anything, no one sees anything, it just quits working because we burned a hole in it," he said.

ISR is AFSOC's second largest effort, in terms of total airframes. Combatant

commanders are continually calling for more eyes in the sky—particularly manned ISR, in AFSOC's case. The command plans to boost capacity by replacing the U-28 fleet with more capable MC-12Ws.

The plan called for AFSOC to receive a total of 43 MC-12s—33 shed by Air Combat Command and 10 US Special Operations Command-owned airframes. The aircraft would be split between Cannon, Hurlburt Field, Fla., and a new Air National Guard unit at Will Rogers ANGB, Okla.

However, Congress barred transfer of all but the ANG aircraft, pending a report detailing the plan's fiscal justification and military rationale. "We're authorized to put up to 13" in Oklahoma, and Heithold said the command will start doing that this year. The ANG unit will provide both Aviation Foreign Internal Defense (AvFID) training to partner nation air forces and manned special operations ISR support. Special operations officials will brief their case to Congress "in the near future," while continuing to fly U-28s, he said.

AFSOC is also shuffling its specialized light mobility fleets, replacing its smaller C-145 Skytrucks with the purchase of more Dornier C-146 Wolfhounds. Heithold said the command is very impressed with them. "We found that, frankly, to be a great airplane for doing nonstandard aviation, so we're going to up the numbers by a few and retire the C-145s" from that role, Heithold said. AFSOC plans to buy up to 23 Wolfhounds

and retire all but five of the Skytrucks, relegating the remainder to AvFID duties.

Future budgets permitting, Heithold said he would also like to cushion the CV-22 tilt-rotor fleet with up to four attrition reserve airframes.

For the time being, AFSOC is pursuing a forward-facing gun to give the aircraft better protection in "hot" landing zones. "It doesn't need to be exotic" Heithold said, but the Osprey's "got to have some protection."

In line with the command's No. 3 priority—increasing the amount and quality of virtual, networked training—AFSOC is also focused on investing in new, high-quality simulators and infrastructure. In some cases, Heithold said, he has even elected to buy simulators ahead of aircraft. "We actually moved ... one AC-130 to the right, in order to buy three simulators on the front end, because we can do so much more now in the simulators," he said. "We are transforming the way we train to optimize human performance—more virtual training, more time in simulators," he explained. In the future, "we are going to shoot more, we are going to fly more, and we are going to train harder," both in and out of sims.

With all the current programs underway, Heithold is "confident we have the right tools coming" and that AFSOC equally has a solid program with "the right numbers and right capabilities" for the future fight. "We are working hard to modernize, recapitalize, and stay out front," he said. ★



By Michael C. Sirak, Special Content Director

MOBILITY CREATIVITY

Officials must think outside the box when they design a next generation tanker and even the VC-25 (Air Force One) presidential aircraft replacement, said Gen. Darren W. McDew, head of Air Mobility Command, at the Air Force Association's Air Warfare Symposium in Orlando, Fla.

KC-Z, the Air Force's designation for the third and last portion of USAF's tanker recapitalization decades from now, "must be a revolution" and not just an evolution in aerial refueling technology, McDew told reporters during the symposium.

This platform will feature "things that don't exist today that we have got to start dreaming," he said. It "needs to be autonomous or semi-autonomous. It must be dual-role, but maybe those roles aren't cargo and tanker. Maybe it's tanker and [intelligence, surveillance, and reconnaissance]. It could be smaller, lighter, more agile, but it has to be persistent with a great [fuel] offload capability."

The Air Force is still in the early stages of the KC-X program, the first part of the tanker recap, to replace its oldest KC-135 tankers with 179 Boeing-built KC-46As by 2028.

Gen. Darren McDew, head of AMC, says USAF must think boldly in planning capabilities in tankers and Air Force One.

The second portion, KC-Y, will follow to continue replacing KC-135s. The KC-Y aircraft "could be an evolution of the KC-46," perhaps a "KC-46B" model, or it may end up being another aircraft type, said McDew.

"It probably won't be autonomous or semi-autonomous," and it will likely incorporate technology that exists today but just hasn't been part of a tanker before, he said.

AMC's commander emphasizes innovation in future tankers and the next Air Force One.

Thereafter will come KC-Z. When all is said and done, the Air Force expects that it will field up to 479 new tankers, said McDew.

AMC must take a similarly bold approach with the next presidential aircraft, said McDew. It must be more than a conveyance, he said. This airplane, a modified version of Boeing's 747-8 configuration, is scheduled to enter the inventory in 2023.

"We have got to think of it differently," said McDew. "Think about the leaders who will inherit this airplane. If I were to make myself a standard leader today, I am OK with being disconnected and being connected when I need to be connected. My aide over there is of a generation [that] can't envision not being connected. He is the leader who will inherit this airplane."

Accordingly, McDew said the platform must also be a communications node and part of the command and control structure for national security wherever the President is. "That is the way that I think about that airplane," he said.



USAF photo by Scott M. Ash



A 777-based tanker refuels a KC-46 in this illustration. All together, the KC-46 and the follow-on KC-Y and KC-Z will number just under 500 aircraft.

Beyond recapitalization, McDew said “deliberately developing” mobility airmen is a command priority in 2015. This theme is not limited to AMC, as CMSAF James A. Cody also discussed it at the symposium as being an Air Force priority. Career development must be a priority for all airmen.

“I am going to dive deeper this particular year into airmen,” said McDew. The goal is to help them be better airmen and leaders, partly by making sure they have the right kind of assignment and educational opportunities, he said.

For example, AMC is joining forces with Air Force Space Command for an officer exchange program, said McDew. “I am going to bring in a cyber-smart, space-smart [colonel] into the Tanker Airlift Control Center [at Scott AFB, Ill.] in a senior position to bring that kind of knowledge in,” he said.

In return, AMC will send one of its officers to share mobility know-how with the space cadre and gain exposure to other Air Force core competencies.

MORE BALANCE NEEDED

Another aspect of the deep dive is bringing more diversity to AMC, said McDew. For example, he said he wants to look into why the command does not have more female wing commanders.

“I have got more women in Air Mobility Command who fly airplanes than anybody else in the United States Air Force. Therefore, I should have more female wing commanders. ... I do not have that today,” he said.

McDew said he also wants airmen across the airlift and tanker fleets to be represented across the command. Today, he said, the culture is “a bit unbalanced,” weighing more heavily on the C-17 side.

McDew wants the command to “engage with the American public” more. “I don’t remember any time in our history with the American public being as supportive ... and I am

At the symposium, McDew and CMSAF James A. Cody (right) stressed career development for mobility airmen.

USAF photo by Scott M. Ash

eternally grateful,” he said. “But what I think we may have missed along the way is a level of understanding of who our airmen are,” he said.

Re-establishing airmen as “a fabric of the community” will strengthen that understanding, said McDew. “The Guard and Reserve have kept that going, but the Active Duty hasn’t been as much a part of that.”

Air mobility operations are still at a high tempo, said McDew. While there has been some drop in airlift activity since the conclusion of the combat mission in Afghanistan, he said, there really hasn’t been any letup in the high operations tempo for tankers in US Central Command’s area of responsibility, given the US-led anti-ISIS air campaign in Iraq and Syria.

Plus, those mobility assets that left Southwest Asia have been needed elsewhere, such as supporting the recently completed mission to thwart the spread of the Ebola virus in West Africa.

“So we came out of Afghanistan, [but] that airlift went to Ebola and other places,” said McDew. “So I would say the airlift [fleet] has had a bit of a turndown, a bit. The tanker fleet—not.”





USAF photo by SSgt. Zachary Wolf



USAF photo by SSgt. Joe W. McFadden

NATO is in the early stages of developing a “full slate Chinese menu” of airpower capabilities, said US Air Forces in Europe-Air Forces Africa Commander Gen. Frank Gorenc in February. This arsenal will be available to support NATO’s newly formed Very High Readiness Joint Task Force (VJTF) commander.

The task force was formed in part to provide assurance to Eastern European NATO states worried about Russia’s continued aggression in Ukraine. It is intended to serve as a “responsive, ready, and fit” force that can quickly respond to crises when they arise, said Gorenc. Seven NATO members—Estonia, Hungary, Latvia, Lithuania, Poland, Romania, and Slovakia—were under Soviet domination during the Cold War and today share land borders with either Russia or Ukraine.

The spearhead force, which NATO ministers first agreed to during the 2014 Wales Summit and officially approved in early February, will primarily be made up of troops based in Germany, the Netherlands, and Norway, although

USAF photo by SrA. Jonathan Stefanko



Bolstering Europe

By Amy McCullough, News Editor

all 28 Alliance countries will contribute to the effort. Gorenc said NATO officials are still trying to determine exactly how the force will operate and what it will look like.

VIVID REMINDER

Regardless of its makeup, the force must be able to address the concept of “hybrid warfare” that Russian President Vladimir Putin has evoked in Crimea and eastern Ukraine, “to introduce ambiguity into the situation,” said Gorenc. “That ambiguity, I think, was designed to take away the asymmetric advantage that airpower brings.”

The continued buildup of Russian forces in and around Ukraine serves as a “vivid reminder” that the Air Force needs to maintain a “very high level of readiness” in Europe, said Gorenc. The Fiscal 2016 budget provides just under \$1 billion for the European Reassurance Initiative, which funds an increase in NATO deployments meant to counter Russia. Of that, the Air Force will get “roughly” \$300 million, to be used to improve airfields in the Baltics, Bulgaria, Poland, and Romania, said Gorenc.

“In my NATO air command hat, what we’re trying to do is really agnostic to airframes,” he told *Air Force Magazine* in a February interview at the Air Force Association’s Air Warfare Symposium in Orlando, Fla. “We’re trying to figure out the exact air effects that the VJTF would expect, ... but one thing that’s pretty clear is, air will be a big part of it.”

“Those projects are modest, but [they are] directly designed to be able to allow that airfield to support an increased sortie generation capability, so we’re very, very excited about that,” he said.

The funding also will be used to cover the operation and maintenance cost “that will accommodate training” as well as participation in NATO exercises. “That money was timely. That money was ... focused, and that money will allow us to contribute air into the reassurance effort,” said Gorenc.

A big part of that reassurance effort is the introduction of theater security packages in Europe. Some 300 airmen and 12 A-10 Warthogs from Davis-

Spangdahlem in far-western Germany for their six-month rotation, they will deploy several times to Eastern Europe in support of “a whole string of exercises” that are part of Atlantic Resolve.

For example, the A-10s will support a detachment of Army soldiers training in Poland, as well as exercises in Bulgaria and Romania. The combination of A-10s with ground forces requirements “is advantageous to everybody,” said Gorenc.

USAF is moving to counter Russian aggression and uncertainty.

Monthan AFB, Ariz., deployed to the 52nd Fighter Wing at Spangdahlem AB, Germany, in mid-February, marking the Air Force’s first European TSP.

The theater security package will support Operation Atlantic Resolve—a demonstration of the US’ commitment to NATO and to maintaining security in the region—conducting training alongside NATO allies across Europe.

Although USAFE-AFAFRICA requested fighter support, not specifically A-10s, for the first TSP, Gorenc said the deployment is “a match made in heaven.”

Now that combat operations have ended in Afghanistan, many European allies and partners are back home and have joint terminal attack controllers who require training. Although the Warthogs will be based out of

“The Air Force has been rotating forces as a part of [Operation Atlantic Resolve] for the past year,” said USAFE-AFAFRICA Vice Commander Lt. Gen. Noel T. “Tom” Jones in a release. “The TSP is another way the Air Force is increasing [its] rotational presence in Europe to reassure our allies and partner nations that our commitment to European security is a priority.”

Gorenc said the command will continue to request fighter support through TSPs to support Atlantic Resolve missions. Whether those rotations will be back-to-back and what assets will be made available is yet to be seen.

“I would imagine the emergence of Russia and the way they are acting out in the Ukraine will give it reasonable priority, and I think we’ll be reasonably successful,” he added. ★

Top: Two A-10s taxi on the flight line at Lajes Field, Azores, Portugal, in February. The A-10s are deployed as part of the security package supporting Operation Atlantic Resolve.

Center: SSgt. Christopher Pridgen, a crew chief, salutes an F-16 pilot on the ramp at Souda AB, Greece. Greece is a NATO partner nation in Operation Atlantic Resolve.

Bottom: USAF and Estonian airmen board a US C-130J for parachute training during Saber Strike, a multinational exercise in the Baltics aimed at training for contingencies in NATO nations.

Nuclear Force Improvements

The Force Improvement Program promises grassroots fixes for USAF's nuclear forces.

By Amy McCullough, News Editor

Missileers are cautiously optimistic the latest plan to reinvigorate the nuclear force will have lasting effects—but after being dubbed the “problem child of the Air Force” by numerous reviews and panels over the years, many say they are waiting to see what the future will really hold.

The Air Force launched the Force Improvement Program in February 2014 after an internal investigation uncovered widespread cheating on a nuclear proficiency exam at Malmstrom AFB, Mont. The “unignorable moment,” as it’s sometimes referred to today, coincided with another scandal, involving allegations of drug abuse among a few missileers.

As part of FIP last year, the Air Force created five functional cultural working groups made up of lower-ranking airmen, junior and senior noncommissioned officers, as well as company grade officers from the following career fields: missile operations, security forces, maintenance, mission support, and helicopter operations.

The working groups were augmented by experts outside the ICBM field, such as Navy submariners, bomber combat systems officers, or members of the 576th Flight Test Squadron and 381st Training Group at Vandenberg AFB, Calif.

The teams visited all three missile wings at Malmstrom, F. E. Warren AFB, Wyo., and Minot AFB, N.D., where they conducted hundreds of interviews to determine what challenges exist for airmen in their respective mission areas. The group came up with more than 300 recommendations, which were pitched to senior Air Force leaders. Of those, 98 percent were approved. The recommendations fall into three main categories: inspections, leadership development, and the personnel reliability program. The changes have been steadily rolling out to the field ever since.

Last year, Air Force Secretary Deborah Lee James authorized \$160 million of FIP funding to improve things across the enterprise, including much-needed new vehicles for missileers, new uniforms and rifle scopes for security forces members, additional manning, new equipment necessary to maintain ICBMs, and quality of life improvements, such as new couches and desks.

Lt. Gen. Stephen W. “Seve” Wilson, commander of Air Force Global Strike Command, said the nuclear enterprise remains a top priority for Air Force and Defense Department leaders.

Wilson said he is confident FIP will live on even after the existing leadership rotates out because it is unlike anything the Air Force has ever tried before. The bottom-up, grassroots approach gives a

voice to airmen who likely didn’t have one before. It’s meant to turn the ICBM culture of severe micromanagement and fear into one of empowerment for all airmen.

“This is a program owned by airmen,” said Wilson. “We have really good people. If we give them the right education, training, and experience, if we make sure they are confident and proud, [and] if we make sure they are personally and professionally fulfilled, we [get] mission success.”

BREAKING THE SYSTEM

The Air Force nuclear enterprise has a long history, and under Strategic Air Command it flourished. But the fall of the Soviet Union and SAC’s inactivation in 1992 ushered in a lengthy period when—despite assertions to the contrary—the nuclear enterprise was not a high priority.

Still, missileers at all levels felt compelled to be perfect 100 percent of the time. The unrealistic pressures created by that environment plunged morale to an all-time low.

Lt. Col. Patrick Baum, commander of the 490th Missile Squadron at Malmstrom, told a story of growing up in the late 1990s as a young lieutenant under a system of severe micromanagement.

“I hated it. It drove me insane. It was like, why am I being treated like I’m seven years old? I’m a grown man.



A convoy response force with the 91st Missile Security Forces Squadron carries out operations in March 2014. USAF Force Improvement Program teams visited missile wings to determine what challenges airmen face in the nuclear force.



First Lt. Irvin George (foreground) and 2nd Lt. Michelle Campbell pull alert at a missile facility in Montana.

I'm an officer in the Air Force. Give me the responsibility and authority to do my job and I'll do it—and I'll do it well, and if I don't, then hold me accountable," said Baum.

It's the same tale young lieutenants and captains across AFGSC told members of the FIP teams over and over again.

Col. Glenn E. Hillis, commander of the 341st Operations Group at Malmstrom, said the culture of perfection really intensified after a B-52 flew from Minot to Barksdale AFB, La., in August 2007 with six live AGM-129 nuclear missiles aboard, unbeknownst to anyone in the force.

Report after report that followed urged commanders to come up with a policy that would ensure it would never happen again.

In the years that followed, young officers were caught cheating and senior officers who led them were later relieved of command. Hillis said they "felt tremendous pressure" for perfection from their superiors, and they "did what [they] had to do to survive."

"What FIP did, I think, is break the status quo," said Baum. "It gave us the ability and authority to break the system, which it's needed for years."

A STRONGER VOICE

The officers who were brought in to pick up the pieces don't believe in micromanagement. They strive every day to give airmen the authority they need to take back their jobs. And they are enjoying watching the airmen thrive as they embrace their new responsibilities.

In November 2014, then-Defense Secretary Chuck Hagel announced that AFGSC would soon be led by a four-star general, and a three-star general would oversee the Air Staff's nuclear directorate. The announcement was part of sweeping changes to DOD's overall nuclear enterprise.

In March, DOD announced that Gen. Robin Rand was nominated to become the first four-star leader of AFGSC. The promotion will give the commander of the world's most powerful weapon system a stronger voice at the table and help make sure the nuclear enterprise stays on the Pentagon's priority list.

However, there are still things that will always require perfection. For example, "we cannot lose a nuke. We have to be perfect with how we target these things. We have to be perfect, God forbid, if we ever have to launch them," said Hillis.

But perfection is not necessary in a learning environment.

"There were cases here where people were getting letters of counseling or letters of admonishment because they weren't making certain test scores or they weren't doing things exactly right in a trainer, which is absolutely ridiculous," he added.

Before FIP, the ICBM community trained to the test. "Testing used to be the foundation of everything," said Col. John T. Wilcox II, 341st Missile Wing commander, at Malmstrom. Missileers technically needed a 90 percent to pass the monthly proficiency exam, but anything less than 100 percent affected their promotion chances.

Now the test is recorded as pass or fail, although the standards haven't changed. Instead of a person's performance report showing an average test score of 98.9 percent, it will evaluate that person based on his or her work in the field and how they do during simulator rides.

"If you train to a test, you lose peoples' attention," said Wilcox. "They want to know how the weapon system works" and the "deep complexity of the weapon system."



SSgt. Robert Kohlenberg, 40th Helicopter Squadron, prepares for landing at a Malmstrom alert facility.

The new ICBM training paradigm mimics the one used for aircrews. Instead of taking monthly recertification tests that focused on mundane parts of the job, missile crews now test quarterly. Instead of one large four-hour block, crews go through separate training before they get in the simulator, then take a two-hour simulator ride covering things they won't typically see while pulling alert, such as what to do in the case of a fire, or actually launching a missile. Then after the simulator session is complete, there is a debrief where they can talk about what they did right and areas that need improvement.

An unarmed Minuteman ICBM from Vandenberg AFB, Calif., streaks across the southern California sky in 2013.

WIDESPREAD CHEATING AND PUNISHMENT

A total of 100 officers assigned to the 341st Missile Wing were implicated in 2014's nuclear proficiency exam cheating scandal. Of those, 16 received an Article 15, nonjudicial punishment; 70 received a letter of reprimand, a letter of admonishment, or a letter of counseling; nine were exonerated; and one separated before the investigation began and was no longer under the Air Force's jurisdiction, Wing Commander Col. John T. Wilcox II said in January in an *Air Force Magazine* interview at Malmstrom.

Former 341st Missile Wing Commander Col. Robert W. Stanley II resigned after the allegations surfaced, and nine commanders below him were fired, including the commanders of all three of the wing's missile squadrons. Those squadrons oversee 50 Minuteman III nuclear missiles each. Also disciplined were the commander and deputy commander of the 341st Operations Group, which at the time oversaw the missile squadrons, an operational support squadron responsible for administering the exams, and a helicopter unit.

Coinciding with the investigation into the cheating scandal, allegations surfaced of illegal drug use among missileers. Second Lt. Nicole Dalmazzi was found guilty of illegal use of ecstasy pills in violation of Article 112A of the Uniform Code of Military Justice during a Jan. 21 general court-martial, said spokesman John A. Turner Jr. She was sentenced to one-month confinement and dismissed from the Air Force.

The remaining three cases of cheating or drug use were still under investigation as of late January, said Wilcox, who estimated it would take another six months before the investigation completely wraps up.

Sixty-six missileers have regained their security clearances and are back pulling alert as of late January. Some are still undergoing review, waiting to be put back to work or discharged.

"It's still going to take a little while to run this to the end, but we're getting a little closer and making a lot of progress," said Wilcox.



Courtesy photo by Lt. Col. Andy Wulfestieg

The Air Force also implemented a "3+3" operational tour concept for missile combat crew officers. It is intended to provide missileers time and direction to focus on developing their weapon system proficiency during the first three-year tour. In their second three-year assignment, probably at a different ICBM base, they will serve as instructors, evaluators, and/or flight commanders. They also will provide guidance and mentoring to other officers while performing alert.

The 3+3 concept is a significant departure from the previous training model.

For example, before FIP a missileer could come in as an operator and pull crew for six months, then go be an instructor for eight months, and then be upgraded to crew commander and pull alert for another six months before becoming an evaluator for another six months or a year, said Wilcox.

"We were taking our CGOs who are motivated to do the job and leaving them in positions for only six months," said Wilcox. In a staff job at a major command or the Pentagon, he said, "at the six-month mark you're just learning where the rings are. You have to go through

several annual cycles of pulling alert, ... but we were bouncing them around so much they couldn't get deep into the position. ... Now they can."

The new concept gets rid of what Wilson referred to as the "one-room schoolhouse," where everyone, whether they pulled alert three times or for the last three years, received the exact same training.

But not everyone has bought in to the new training paradigm. Before FIP rolled out, missileers generally dreaded pulling alert. That type of culture is not something that can be changed overnight.

10th Missile Squadron missileer 1st Lt. Benjamin Hunt loads a floppy disc at an alert facility in January.

Staff photo by Amy McCullough

First Lt. Grace Butler, who writes simulator scripts in the 10th Missile Squadron mission planning room at Malmstrom, acknowledged that the “paranoia” she and her colleagues felt before FIP has gone away. She said there is “a world of difference” from just one year ago, and she and her fellow crew members now feel “trusted day-to-day to do their jobs.”

But she’s still not sure about the new 3+3 model. She’s not alone.

“I think 3+3 is a great idea for those that want to stay 13N [in nuclear and missile operations]. It provides structured progression that makes sense. You don’t become an instructor until you understand the job better,” said Butler. But “it depends on if you’re individually motivated to do your job. If you need to be happy in your job and you did not want to be a 13N career member, it’s going to be difficult for you to find incentive to do your job well. On the flip side, you volunteered to be in the Air Force and should be willing to do whatever job they give you.”

The problems were different for security forces. Defenders regularly spend long hours traveling on winding, rocky roads in deep snow in the middle of nowhere as temperatures often dip well below zero. In addition, the career field has suffered from a manning shortage, forcing security forces airmen to work even longer hours in such conditions.

“We currently do not have enough manning for every flight to post out to 100 percent,” said MSgt. Robert Wilson, 90th Missile Security Forces Squadron flight chief at F. E. Warren, in a December 2014 press release. “In order to make up for that, we pull what we call a standby; essentially, our airmen are made to work an extra one or two days with other flights to meet mandatory posting requirements.”

FIP has authorized hundreds of new billets to help ease the manning shortfall, and though it will take time to fill all the positions, new defenders are starting to roll in to the squadrons at all three missile bases.

Morale also suffered within the missile security forces community because the airmen were working with inadequate gear. Now they will be issued generation III cold weather gear—seven

levels of protection against extreme conditions at northern tier bases—and more comfortable helmets.

Perhaps most motivating, though, is the additional incentive and special assignment pay—between \$75 and \$300 a month—for enlisted and selected officers serving in 11 nuclear career fields, including SF and missileers.

The additional pay is meant to “incentivize airmen to volunteer for and perform duties in a particular career field, location, and/or special assignment where the scope of responsibility and required skills exceed those of other airmen in the same career field and rank,” said Brig. Gen. Brian T. Kelly, director of force management policy, in an October 2014 news release.

JUNIOR VARSITY NO MORE

FIP also brought big changes for the helicopter crews that provide an additional layer of security at each of the three missile bases. Although, the crews are still flying Vietnam-era UH-1N Hueys, the Air Force’s Fiscal 2016 budget proposal at long last fields a replacement by purchasing Army UH-60A Black Hawks for conversion to the UH-60L configuration.

AFGSC also formed a provisional helicopter operations group that will provide a more focused command chain for the three helicopter squadrons under 20th Air Force. The group, based at F. E. Warren, is expected to assume control of the 37th, 40th, and 54th Helicopter Squadrons and a newly formed operations support squadron tailored for the three units later this year.

SSgt. Robert Kohlenberg, a special mission aviator with the 40th HS at Malmstrom, lauded the creation of the new Huey ops group. “I was on the FIP team and one of the bigger examples in the Huey community is that leadership did not understand the risk involved in going out to do the mission and in the training we did day in and day out,” said Kohlenberg. “Now we have top cover at the O-6 level. As Huey guys we never really had that before. ... We’ve typically been the junior varsity airframe compared to the HH-60.”

Almost anyone you talk to in the missile community tells you they have complete faith in the current leader-

ship, from Wilson—the commander of AFGSC—down to their squadron commanders. They love the additional pay and really appreciate the money for new gear. And though they'd all like to believe FIP means permanent changes, most also say, "We've been burned before."

For them FIP can't really be a success story until they see the long-term modernization and sustainment plan for the aging ICBMs and support equipment start to come to fruition.

The last Minuteman IIIs came online in 1973 and they've been on nonstop alert ever since. The infrastructure was designed in the 1950s and built in the 1960s—yet the first deep clean of the facilities didn't happen until late last year. Air Force leaders understand this, and are taking action. The Future Years Defense Plan allocates \$5.6 billion for upgrades to the nuclear enterprise over the next five years.

SSgt. Nicholas Miller (l) and SrA. Melvin Hill secure the area during an ICBM missile convoy mission at Malmstrom.

INSTITUTIONALIZING FORCE IMPROVEMENT

What started as the Force Improvement Program has become a philosophy infiltrating every aspect of Air Force Global Strike Command.

After the FIP in the missile community wrapped up, AFGSC initiated a second FIP in the bomber community. The result of the two deep dives were surprisingly similar, said AFGSC boss Lt. Gen. Stephen W. "Seve" Wilson.

"It was much of the same thing. Our bomber guys identified some infrastructure things, improvements that they need, whether it be in buildings or facilities. We're getting after that," said Wilson.

The bomber FIP also identified some shortfalls in both maintenance and operations training.

"We pretty much revamped how we're training our B-52 crews. We had a big Tiger Team that looked at how we trained, ways to improve our training, and everything from how we do it at the schoolhouse to how we do it at the squadrons will be changing here in the next several months," said Wilson in January.

As part of that training overhaul, Wilson said the command is going to maximize the limited flight hours it has available.

AFGSC also is working closely with Pacific Air Forces and US Pacific Command to see how it can improve its continuous bomber presence, now in its 11th year at Andersen AFB, Guam. Though he couldn't yet talk specifics, Wilson said the command also is close to rolling out "some things that will make that mission better."

Force improvement teams were scheduled to visit the 625th Strategic Operations Squadron at Offutt AFB, Neb., in late January to begin in-person interviews with members of the unit. The command also is looking at sending FIP teams to the 620th Ground Combat Training Squadron at Camp Guernsey, Wyo.; the 576th Flight Test Squadron at Vandenberg AFB, Calif.; or the 381st Training Group also at Vandy, said Wilson.

This isn't just an ICBM or a bomber thing. "It impacts every part of our command," he added.

USAF photo by SSgt. Jonathan Snyder

The Fiscal 2016 budget proposal continues incentive pay for certain nuclear career fields and funds various security upgrades, such as the replacement of the nuclear warhead payload transporter van and the addition of cameras at the missile fields, according to documents.

It also helps fill the manpower gap in the nuclear enterprise by funding 1,120 additional military and civilian billets plus 158 technical and engineering staff positions at Hill AFB, Utah, to support the next generation Ground-Based Strategic Deterrent initiative

and the Minuteman III infrastructure recapitalization effort.

"I think we have tremendous momentum right now. The challenge will be on the follow-through, the sustainment and the commitment in the long term," said AFGSC commander Wilson. ★

An Airman in a Storm

By Autumn A. Arnett



Photos courtesy of the Wassom family



Left: Wassom, as a Guard loadmaster instructor, could have avoided deployment. He chose not to. Center: Wassom and his daughters, Sydney (l) and Lorelai (r). Right: Wassom in Iraq. This is his mother's favorite picture of him.

MSgt. Bud Wassom gave his life protecting his daughters from a deadly tornado.



One year ago, MSgt. Daniel R. “Bud” Wassom II died in the line of duty.

His was not a combat-related death but a tragedy related to his duty as a father and a family man.

On April 27, 2014, at approximately 8 p.m., tornado warning sirens sounded in Vilonia, Ark., a sound not totally foreign for that part of the country. Dan Wassom’s mother, Pamela Wassom, said, “You don’t really expect to get hit” when the sirens go off. In fact, she sometimes liked to go outside and look at the clouds and see what was coming her way.

But on this particular day, Dan Wassom’s house was, in fact, about to be hit by a deadly tornado. With the twister bearing down on their home, he and his wife, Suzanne, grabbed their young daughters, seven-year-old Sydney and five-year-old Lorelai, and went to the safest part of the house, before throwing themselves over the girls to shield them from the storm. What happened next was a blur, and the family can only speculate on the exact series of events.

“The girls told me that they could hear [the tornado] in the kitchen, they could hear mommy’s dishes breaking,” said Pam Wassom. “And then they said the house exploded. We’re figuring that, of course, it ripped the roof off

the house and it sent stuff everywhere, flying debris, and whatnot. We’re assuming that when the roof got ripped off the house, it may have picked [Dan] and Lorelai up a little bit, because they were moved.”

Suzanne Wassom later told Dan’s mother that, despite the chaos, Dan was calm and reassured the family as the tornado first began tearing apart their home. He did what he could to shield Lorelai with his own body.

Nine minutes after the tornado hit, it was over. “With winds reaching nearly 200 miles per hour, the devastating EF-4 tornado smashed into Vilonia, Ark., April 27, 2014, killing 16 people,” the Air Force summarized in its “Profiles in Courage” tribute to Wassom, published Feb. 4, 2015. “The twister demolished 50 of 56 homes in



National Weather Service photo



the Wassom's subdivision, as well as nearly half the businesses in the town of 3,800."

Wassom was found slumped over, face down with a piece of wood through his chest. His mother said it was likely a structural beam that had come crashing down on top of him, "and that probably killed him instantly." His wife returned to his side after taking the girls to safety, but her husband was already dead. Lorelai suffered a serious right shoulder injury and lost a toe on her left foot—but she survived.

The family and the entire community at Little Rock AFB, Ark., was hit hard by the loss of a man who, by all accounts, was an exemplary father and airman. His mother recounted that more than 1,500 people attended his funeral, with little room for folks even to stand.

A loadmaster instructor with the 189th Airlift Wing, Wassom had left a mark on everyone he'd encountered. "He was your picture-perfect airman," said Col. Robert A. Ator II, commander of the 189th Airlift Wing and previously Wassom's squadron commander.

"Every airman from the beginning of time has, when approaching a stressful situation, rolling into combat for the first time, ... always [said] a silent little prayer, like, 'Please, God, don't let me screw this up,'" Ator said. "As parents, we would do anything for our kids. ... But what Dan did, very selflessly, when the chips were down, [was] exactly what we'd all hope to do. So when asking the question of 'Please, God, don't let me screw this up,' Dan

was the guy who answered that question and said, 'I won't.' Dan was that guy. He answered the question and he passed the test."

WILLING TO GO

Wassom joined the Air National Guard right after 9/11, following in the footsteps of his father, who is a retired C-130 crew chief and who still works at Little Rock Air Force Base as a contractor and had enjoyed an office a few minutes away from his son's. "We're a big Air Force family," said Pam Wassom. Already armed with a bachelor's degree, Dan "could have been an officer; ... however, he just chose to stay being an enlisted guy, and that's what he wanted to do, and that's what he loved," his mother said. She added that her children were raised in the "God, family, country" tradition.

Wassom's younger cousin (raised as a sibling) has already joined the Air Force, and another plans to do the same after school. His sister's husband is also an airman.

Dan dove right in as an airman. "What to me was striking was that he joined the unit knowing full well what the upcoming fight, with 9/11 and all that" would entail, said Ator. As a Guard loadmaster instructor, Wassom was technically exempt from deploying, but he said he could not in good conscience teach things he was not willing to live himself.

"He said he couldn't... teach his students to go and do if he wasn't willing to go over himself," his mother recalled. And so Wassom deployed twice for Operation

Iraqi Freedom and Operation Enduring Freedom. "That was something that was very, very important to him, not only from a service standpoint, but more than that, in teaching the school, he wanted to have credibility with his [students]. If [they] were out there fighting and getting shot at, he wanted to go get shot at and understand what they were going through," Ator said.

Back in Arkansas, Wassom helped stand up a "traveling road show" training program for other loadmasters, said Ator. "There's a requirement for every loadmaster to be able to, every year, ... go to loadmaster refresher training. And usually that's done where we have the simulator stationed, and ... every loadmaster would have to travel for that school. What we did is, we put together a training team of two loadmasters and we would go to a wing and get a whole wing banded out with just only traveling two guys," the wing commander said. "Dan was right in the middle of standing that whole thing up, so he progressed very quickly in his qualifications as a loadmaster and he was just generally a leader within the section."

Wassom was "highly respected" by others in the unit, Ator said. "If you met Dan once, it was like he's an old friend. He's one of those guys who always walked around with a smile on his face, always upbeat. Nothing seemed to get him too riled up. One of those guys who's just one of those solid dudes that you would want to spend your time with. He made everyone around him better just because of his attitude and his outlook on life."

Wassom's wife of some 10 years, Suzanne, doesn't like to talk to the media



and has since moved her family to the West Coast, away from “tornado alley,” to try to move on from the tragedy, according to Ator.

“The girls had little issues. Every time there’s a storm, ... they’d get a little upset,” he said of Lorelai and Sydney. He said the squadron shared their grief.

“One of the challenges after Dan’s passing was to make sure that we’re taking care of each other and being good, resilient airmen for each other and being good wingmen—on top of that trying to take care of Suzanne and the girls, making sure that we’re still connected,” he said.

The person who has gone “all-in on supporting Suzanne and the girls” is TSgt. Brian Swanson, one of Wassom’s best friends in the unit. “Brian and he, honestly—they were like brothers. They did everything together. Their families did everything together,” said Ator. “Brian was one of the guys ... I was most worried about right afterwards.”

Pam Wassom chuckled as she described the relationship between her son—affectionately known to his family as Bud—and Swanson. “He was pranking Brian for four years, and Brian would confide in him, and ... he didn’t figure out it was Bud who was pranking him until [after] he died,” she said.

“Brian got the job of cleaning Bud’s filing cabinet out at work, after Bud died, and that’s when he found out Bud was pranking him all that time. There was a file folder of bumper stickers. ... He would put these on Brian’s car to see how long it took Brian to figure out it was there.”

Playing pranks was just one example of Wassom’s sense of humor and jovial, upbeat nature.

When he was alive and in how he died, Wassom exemplified what service means and Air Force core values, his coworkers say.

Wassom earned posthumous awards that are still piling up. First, there was the naming of a road that runs through Little Rock Air Force Base, an idea conceived by Ator and the section loadmasters.

“They wanted to do something, and they started talking about wanting to name our auditorium where we brief our students every morning” after him, Ator said. “I thought, ‘That’s just a little too small,’ in the sense that it’s not just an operations guy. He’s a wing member, and everyone in this wing felt his presence when he was here and lamented his passing.” The airmen wanted to find a way to do something bigger.

REMINDER OF HIS LEGACY

Ator said he approached the base commander, who said they could “absolutely” move forward with the renaming. “Every day, we turn onto this street and it’s a constant reminder to us of what his legacy is and a constant reminder to us of the call to service and sacrifice. ... It’s a constant reminder to us of who he was and what he stood for,” Ator commented.

Wassom has been posthumously awarded the Airman’s Medal, bestowed for a heroic act, usually at the voluntary risk of life but not involving actual combat. He has also received the Meritorious Service Medal and the Arkansas Distinguished Service Medal.

Left: A subdivision in Vilonia, Ark., after a tornado leveled it on April 27, 2014. Wassom, 31 years old, died in the storm. Center: Pam and Dan Wassom and the street sign commemorating their son’s heroism. Right: ANG Director Lt. Gen. Stanley Clarke presents the Airman’s Medal to Wassom’s wife, Suzanne, on Dec. 6, 2014.

Ator said Army Gen. Frank J. Grass, chief of the National Guard Bureau, was the one who started the conversation about the Airman’s Medal for Wassom. “I will tell you, everyone in the entire leadership chain, General Grass, [ANG Director Lt. Gen. Stanley E. Clarke III], they all called us. I talked to them pretty much the day after it occurred, and it was General Grass who brought it up first,” Ator said.

In February, Wassom was also honored at the Air Force’s annual Portraits in Courage ceremony in Arlington, Va.

CMSAF James A. Cody told the audience of his admiration for Wassom “who, while not in combat, still faced insurmountable odds” in the face of “an unprecedented tornado in Arkansas,” where “the whole world was coming unhinged around him.”

Cody said Wassom’s actions that day displayed “a different kind of courage than going in the face of an enemy.” This was, in its unexpected way, representative of what the United States Air Force is all about.

“He had such a beautiful house and he had a beautiful life. A beautiful family. Everything was going so great for him, and then it gets wiped out in like two seconds,” Wassom’s mother said. “We’re just grateful that he was our son; he was such a good person, he influenced so many people.”

SAC's



Strategic Air Command's airborne arsenal is showcased in these rare color photos.

A defining characteristic of the US Air Force has always been its ability to deliver fire and steel at very long range—a mission embodied in the bomber. For the first time since the late 1970s, the Air Force is about to award a contract for another such airplane: the Long-Range Strike Bomber. There was a time, though, when new bombers came fast and furious—during the Strategic Air Command era before the B-1, when each aircraft design was an urgent and hard push at the edges of the envelope for payload, speed, and range. Here, in color, are some snapshots of that era.

When the Soviet Union developed its own nuclear bombers and missiles, it was imperative that SAC bombers get airborne as fast as possible. Here, a swept-wing Boeing B-47 Stratojet, equipped with Jet-Assisted Takeoff (JATO) rockets, leaps into the sky.

Heyday

Photos from the collection of Warren Thompson



Photo by David Menard



1 Photo by Warren Bodie



2 Photo by Vincent Beebe



3 Photo by Ken Smith



4 Photo by David Menard

[1] 98th Bomb Group Boeing B-29 Superfortresses return from a mission over North Korea in 1951. The World War II-era B-29 would soon be superseded by the up-engined B-50, and new bombers would follow every few years into the 1960s. [2] A B-47 and KC-135 tankers at Hickam AFB, Hawaii, deployed in 1962 for Operation Dominic, a series of live nuclear weapon tests in the South Pacific. [3] In August 1966, a Convair B-58 Hustler warms up engines after maintenance work. [4] B-58 Greased Lightning set a 1963 record—still standing—of eight hours and 35 minutes for the Tokyo-London run. The 305th Bomb Wing airplane averaged 938 mph for the 8,028-mile record flight. This shot shows off the B-58's three hatches.



1 Photo by Steve Richards



2 USAF photo

[1] A B-47 approaching Alaska is intercepted by a Lockheed F-94B Starfire. The B-47 was SAC's first all-jet, swept-wing bomber with a fighter-like tandem cockpit—a pioneer of many advances in one graceful planform. [2] A B-58 of the 305th Bomb Wing pulls up for a tanker top off. A total of 116 Hustlers were produced. Despite its cutting-edge speed, the B-58 only had a 10-year operational lifetime. [3] Note the German V-1 missile (or a Republic/Ford JB-2 copy) on this B-29's wing at Ladd AFB, Alaska. A squadron was testing "buzz bombs" in 1949.



3 Photo by Vincent Beebe



1 USAF photo



2 Photo by Ken Smith



3 Convair Aviation photo



4 Photo by Bob Amos

[1] A B-36 over Guadalupe in April 1949 during a routine training flight out of Carswell AFB, Texas. [2] The Peacemaker, shown here at Carswell, was a formidable and deadly aircraft. [3] The Convair XB-36, right, unofficially the "Aluminum Overcast," dwarfs a B-29 in a posed shot at Carswell in 1948. [4] Air Force Association founding member Jimmy Stewart, then a Reserve brigadier general, signs autographs for airmen after a long mission from Andersen AFB, Guam, to Vietnam in February 1966. Stewart was a highly decorated World War II bomber pilot who later made the movie "Strategic Air Command," featuring the B-36 and B-47, both of which he also flew.



1 Photo by John Hoffman



2 Photo by Warren Thompson



3 Photo by Warren Thompson



4 Photo by Ben Whitaker



5 Photo by Ray Shewfelt

[1] A flight of B-36 Peacemakers of the 11th Bomb Wing on a flight from Carswell to North Africa. [2] At Eaker AFB, Ark., Big Stick awaits takeoff. It's wearing an odd mix of B-52 paint schemes. [3] At Eglin AFB, Fla., a crew readies a B-58 for tests in carrying conventional bombs. The B-58 was meant to fly high and fast. The advent of surface-to-air missiles, however, forced it to lower altitudes, where it lost its speed advantage. SAC retired the Hustler in 1970. [4] An 11th Bomb Wing B-36 over Arizona. The B-36D got four jet engines in outboard pods to help the huge bomber gain altitude more quickly. [5] A B-47 over Algeria in 1955. On extended missions overseas, the Stratojet could carry jettisonable 1,760-gallon fuel tanks on each wing.



1 Photo by Ed Siert



2 Photo by George Gradel

[1] The B-58 had an enormous under-fuselage weapon pod, given the limited space available under its delta wings. This one is preparing to launch from a UK base in 1967. The B-58 appeared in the 1964 Cold War thriller "Fail Safe."
[2] Bristling with guns, a flight of B-29s flies over Britain circa 1948.
[3] The B-47's swept wings are evident in this image taken over Canada in the late 1950s. Though superseded by the B-52—which had a similar planform—the B-47 was adapted to recce and electronic warfare roles.
[4] A B-52E in the strategic paint scheme awaits a mission over North Vietnam in June 1968.



3 Photo by Chuck Balsden

4 Photo by Rod Breland





1 Photo by Ken Smith



2 Photo by Hank Marois



3 Photo by Bryan Aleksich



4 Photo by Bruce Chavis

|1| Using its drag chute to slow down, a B-58 touches down at Little Rock AFB, Ark., in 1967. |2| A B-52D at U Tapao RTAB, Thailand, readies for a 1970 mission, fully loaded with bombs. |3| In late 1964, a B-52 flies out of Andersen on its way back to Vietnam. The last B-52H was built in 1962, and yet the venerable bomber remains the backbone of USAF's bomber fleet today. |4| Leaving spectacular contrails, a B-52 starts the journey back to Andersen after a 1972 mission. SAC was inactivated after the Cold War, in 1992, but was brought back and renamed Air Force Global Strike Command in 2009. ✪

Airplanes played no role in combat until the 20th century. By the middle of the century, they demonstrated that wars could not be fought successfully without them. By the end of the century, airplanes could win wars without ground forces.

In this regard, the air war over Serbia, in 1999, was revolutionary. The last war of the 20th century was also the last war in which there was aerial combat, with manned aircraft shooting down other manned aircraft, and victory was achieved without ground operations.

During the decade of the 1990s, Yugoslavia broke up into several independent countries. Some of them seceded peacefully from the federation, which had been dominated by Serbia, but war resulted when Bosnia-Herzegovina, which retained a large Serbian population, attempted to break away. In 1995, NATO air strikes, most flown by USAF aircraft, enforced United Nations resolutions that restored peace and secured Bosnian independence. The operation was called Deliberate Force.

By the end of the decade, all that was left of Yugoslavia was Serbia and Montenegro. Yugoslavia's Serb President,

Slobodan Milosevic, was determined to prevent a new secession threat in the Serbian province of Kosovo, where there was an Albanian ethnic majority.

In September 1998, Serbian forces launched offensives in Kosovo, and tens of thousands of ethnic Albanians fled their homes. Observers feared the Serbs were launching an "ethnic cleansing" campaign to remove non-Serbs from areas they wished to dominate. A UN resolution called for Yugoslavia to stop offensives against civilians, withdraw security units, admit international monitors, and facilitate the return of ethnic Albanian refugees. In October, NATO backed up the UN resolution and prepared for the same kind of air strikes that had been so successful in the Bosnian crisis a few years earlier.

BAIT AND SWITCH

That month, Milosevic agreed to remove thousands of his troops from Kosovo and allow NATO aircraft to fly reconnaissance missions to verify their withdrawal, but his compliance was illusory: At the end of the year, he forbade UN war crimes investigators from entering Kosovo.

The crisis in Kosovo continued to intensify in early 1999, as Serb tanks fired into houses near Malopoljce and Petrova. At least 45 ethnic Albanians were reported as killed in Racak, where houses were set on fire. Milosevic refused to allow a UN war crimes prosecutor to investigate the Racak killings, and he demanded the head of the Kosovo Verification Mission leave the country.

On Jan. 19, NATO Supreme Allied Commander, Europe, Army Gen. Wesley K. Clark met with Milosevic in Belgrade and demanded that Yugoslav forces pull out of Kosovo.

Milosevic agreed to peace talks at Rambouillet and later at Paris in February and March, but they produced no agreement and he continued to reject the entry of foreign troops into Kosovo. Meanwhile, a Finnish forensic investigation revealed that Serbs had killed more than 40 unarmed civilians in Racak.

On March 20, the Serbs launched a new offensive, forcing thousands of ethnic Albanians from their homes northwest of Pristina, Kosovo's capital. Yugoslav forces began killing ethnic Albanians and shelling their villages.

And so, on March 24, NATO launched Operation Allied Force, the first time



Watershed Air War

By Daniel L. Haulman

Enemy air forces haven't challenged the US since Operation Allied Force in 1999.

NATO had gone to war against a sovereign country in the Alliance's 50-year history.

Exclusively an air campaign, Allied Force involved the forces of many NATO countries, but the United States provided the leadership and the bulk of the resources. USAF Lt. Gen. Michael C. Short, commander of 16th Air Force, was air component commander and directed the air campaign from a combined air operations center at Vicenza, Italy.

NATO faced a Yugoslav air force that included 16 MiG-29 and 80 MiG-21 fighters plus 28 J-22 and 70 G-4M attack airplanes. Serbian air defenses included more than 800 man-portable SA-7, SA-14, and SA-16 surface-to-air missiles and 130 other low-altitude anti-aircraft missiles. Other larger and longer range missiles included four SA-2s, 16 SA-3s, and more than 80 SA-6s.

NATO intelligence estimated the Serbs had more than 400 pieces of anti-aircraft artillery, and other enemy forces included 200,000 ground troops—some 120,000 in the Yugoslav army and the rest in paramilitary forces. These troops possessed about 540 tanks, 630 other armored vehicles, and almost 200 pieces of field artillery. Eventually Milosevic

deployed some 40,000 troops and heavy equipment to the disputed province.

Short favored an immediate application of overwhelming airpower against Belgrade, the Yugoslavian capital, and Serbia's command and control structures, but NATO had already prepared a five-phase campaign by which the Alliance would gradually increase the pressure on Milosevic to change his course. Under the rules agreed to by the Alliance—barely unified in supporting the operation—NATO member countries could veto certain targets or refuse to allow aircraft to take off from their soil if headed to certain targets.

In the first phases of the air campaign, Belgrade was largely a sanctuary, except for certain air defense targets. Clark favored targeting Serbian ground forces within Kosovo, despite the difficulty of hitting tanks, armored vehicles, and artillery pieces from high altitude, and there was no ground campaign to force the Serb troops to concentrate and thus become more vulnerable to air strikes.

On the opening night of the campaign, March 24, the NATO CAOC managed 214 strike aircraft, with more than half from the United States. They struck from

Italy, Germany, the United Kingdom, and the US.

Venerable B-52 bombers based at RAF Fairford in the UK launched precision cruise missiles against Yugoslavia at the opening of the campaign.

B-2 bombers entered combat for the first time, flying round-trip from Whiteman Air Force Base in Missouri to Yugoslavia and back—a 29-hour round-trip requiring numerous aerial refuelings.

The Air Force employed all three of its strategic bomber types during the course of the campaign, including its supersonic B-1s.

The Navy also took part in the initial air strikes, using Tomahawk Land Attack Missiles (TLAMs) to hit elements of Yugoslavia's integrated air defense system and key command and control sites.

NATO relied heavily on the United States for night operations, precision guided munitions, identifying aircraft beyond visual range, providing airborne command and control, and furnishing intelligence, surveillance, and reconnaissance.

USAF fighters also assumed prominent roles in the conflict. On the first

USAF photo by SrA. Mitch Fuqua



An F-15E takes off from Aviano AB, Italy, for a strike mission over Yugoslavia in Operation Allied Force in March 1999.

Heavy Duty

Operation Allied Force involved some 38,000 NATO sorties—most flown by USAF aircraft. By the end of the war, 13,850 USAF airmen were deployed to or worked from 24 stations.

What started out as a contingency operation became a major theater war, with more than a third of the Air Force's front-line fighters involved. USAF furnished some 30,000 of the 38,004 NATO sorties: 8,889 by fighters, 322 by bombers, 6,959 by tankers, 1,038 by ISR aircraft, 834 by special operations aircraft, 11,480 by transports, and 496 by RPAs.

Of 829 NATO aircraft involved, some 530 belonged to USAF, including 214 fighters, 18 bombers, 175 tankers, and 43 transports.

Air Mobility Command aircraft flew 2,130 airlift missions that transported 32,111 passengers and 52,645 short tons of cargo. By the end of Operation Allied Force, NATO had 175 tankers based at 12 operating locations. USAF KC-135 and KC-10 tankers flew some 9,000 missions and transferred more than 348 million pounds of fuel while airborne.

Other USAF aircraft included E-3 AWACS, E-8 JSTARS, RC-135s, RQ-1 Predators, and U-2s.

Among the special operations and rescue aircraft and crews taking part were AC-130, EC-130, HC-130, and MC-130 aircraft, as well as HH-60, MH-53, and MH-60 helicopters.

Of the 28,018 munitions expended by NATO, USAF delivered 21,120. The Air Force dropped more than 650 of the new satellite guided JDAMs. In foggy or cloudy weather, of which Yugoslavia had plenty, the JDAMs were even more accurate than laser guided or television guided bombs. The Air Force expended 8,618 tons of munitions.

NATO depended almost entirely on the United States for intelligence during the campaign. Ninety-nine percent of target nominations came from US intelligence sources. NATO's inability to link intelligence sources with operations, except through the United States, is one reason the US dominated planning for the air operation.

day, Serbia launched at least a dozen MiG-29s to intercept the first NATO air strikes. Two USAF F-15C pilots, Lt. Col. Cesar A. Rodriguez Jr. and Capt. Michael K. Shower, each shot down a MiG-29 using AIM-120 missiles.

A Dutch F-16 pilot also shot down a MiG-29 that day.

Two days later, USAF F-15C pilot Capt. Jeffery G. J. Hwang shot down two more MiG-29s.

NATO had shot down five of the best Yugoslavian fighters in the first three

days of the conflict, with no friendly aircraft losses.

Despite heavy air attacks the first three nights, Milosevic did not give in. Despite the temptation to use radar to guide their extensive air defense network's formidable arsenal of surface-to-air missiles, the Serbs largely left the radar off, knowing that NATO fighters with High-speed Anti-radiation Missiles (HARMs) could zero in on them. As a result, throughout the conflict, the SAMs remained a threat, forcing NATO aircraft

to fly at altitudes of 15,000 feet or more. The high-altitude missions degraded the accuracy of strikes on fielded forces hiding in the forests of Kosovo.

Short assigned much of the ground attack job to F-16 pilots out of Aviano. EC-130s served as Airborne Battlefield Command and Control Center (ABCCC) aircraft. Unmanned and unarmed RQ-1 Predator reconnaissance and surveillance aircraft, based at Tazsar, Hungary, provided guidance on where the enemy was hiding.

A weapons specialist and a crew chief run a final check on an F-16 at Aviano before it takes off on a mission for Allied Force in May 1999.

USAF photo by SSgt. Randy Mallard



USAF photo by SrA. Della A. Castillo



A USAF B-52H taxis on the flight line at RAF Fairford, UK, while another Stratofortress (at left) awaits a mission. B-52s based at Fairford launched cruise missiles during the opening phase of Allied Force.

Then, on March 27, something nearly unthinkable happened: A Serbian surface-to-air missile shot down a stealthy F-117 Nighthawk, piloted by Maj. Darrell P. Zelko. He went down near Budanovici, some 28 miles northwest of Belgrade. Analysts later speculated that the Serbs were able to down the airplane partly because it was flying a predictable path, and the F-117 may have been detected when it became more visible on radar as it opened its weapons bay doors. It also might have been observed on radar when it banked, increasing its radar cross section momentarily.

The news that day was not all bad, however. Capt. John A. Cherrey, an A-10 pilot, located the downed pilot and vectored a helicopter rescue team to save him. The effort involved the cooperative efforts of A-10, F-16, C-130, KC-135, and MH-53 pilots and crews. Cherrey earned a Silver Star for his role in the rescue, and the incident demonstrated the progress made since the 1995 downing of Capt. Scott F. O'Grady—who had to evade enemy forces for six days before he was rescued.

By the end of March, Milosevic intensified his ground campaign in Kosovo, forcing ever increasing numbers of refugees to flee to neighboring states. Between March 24 and 31, more than 100,000 people fled Kosovo to Albania, Macedonia, and Montenegro. As

a result, NATO members expanded the target list to include sites in downtown Belgrade, and on March 31, NATO aircraft struck the headquarters of the Yugoslavian army's Special Unit Corps in downtown Belgrade.

SUSTAIN HOPE

On March 30, the combined air interdiction of fielded forces began. It was initially limited to a 10-mile penetration of Kosovo. NATO continued to press the air campaign in a gradual escalation. Clouds and bad weather delayed successful early attacks against the Serbian Army in Kosovo. A-10s conducted their first successful attack on April 6, destroying a Serbian truck park.

Short's son flew one of the A-10s in combat over Kosovo, and on one occasion, his aircraft was hit by a SAM that failed to explode. He returned safely.

Since March 1998, more than a half-million people had been displaced from their homes in Kosovo, a fifth of them in the last week of March 1999. Without reducing the Allied Force air campaign, NATO and the United States inaugurated an additional operation called Sustain Hope, to airlift humanitarian supplies to the refugees in Albania. The United States utilized new C-17 transports.

NATO air strikes on Belgrade were not limited to aircraft. On April 3, NATO missiles struck central Belgrade for the

first time, destroying the Yugoslavian and Serbian interior ministries. Some of these missiles were TLAMs, launched from Navy ships in the Adriatic. B-1s deployed from the United States to RAF Fairford, where they were equipped with conventional air-launched cruise missiles for additional attacks on Belgrade. In Pristina, a NATO cruise missile on April 8 destroyed the main telecommunications building. It had been used to help coordinate Serbian ground operations in the province.

Clark and Short did not agree on the operation's most important target set. Clark insisted that the air strikes concentrate on Yugoslavia's 3rd Army in Kosovo, but Short would have preferred to hit enemy headquarters in Belgrade. It would have been much easier to hit large fixed visible targets that were hubs in the enemy network than small tanks and armored vehicles hidden in the forests of Kosovo—especially since NATO aircraft flew at high altitudes to avoid ground fire.

Clark was not able to fight the war entirely his way, however. He would have preferred to include a NATO ground offensive that would force the Kosovo army to mass and become more vulnerable to air strikes, but NATO leaders refused to allow such a ground offensive.

Three weeks into the Allied Force air campaign, Serbian troops were still well



Amn. McKinte Young (right) positions a bomb load truck as two weapons load crew members ready an AGM-65 missile for placement on an A-10.



Army Gen. Wesley Clark (l), Supreme Allied Commander, Europe, meets with Secretary of Defense William Cohen in Mons, Belgium, during Allied Force.

entrenched within Kosovo. Clark marshalled increasing numbers of aircraft for the operation. The number went up from 430 on March 24 to almost 1,000 a month later. During April, air raids intensified. By April 15, there were eight USAF air expeditionary wings involved in the operation. By May 22, there were 10.

While largely ineffective air raids on fielded Serbian forces in Kosovo continued, Clark eventually directed more

air strikes against the enemy capital. On April 21, cruise missiles struck radio and television stations in Belgrade and the political offices of Milosevic. NATO later used 4,700-pound "bunker busting" bombs against Milosevic's national command center, buried 100 feet below the ground.

Pressure increased on Milosevic's capital. Turkey and Hungary approved strike operations from their territories, so NATO raids could proceed around

the clock. Eventually NATO aircraft flew combat missions from bases in 15 different countries. Clark and Short could generate some 1,000 strike sorties a day by early May and could destroy targets in rapid order. What delayed them was NATO political approval of certain targets. It sometimes took as long as two weeks.

On May 2, 1999, Serbian forces shot down an F-16CJ, the second NATO aircraft destroyed by an SA-3 over Yugoslavia. The pilot, Lt. Col. David L. Goldfein, was quickly rescued by an MH-60 helicopter crew escorted by four A-10s.

The Serbs had little time to celebrate. The next day, F-117s dropped CBU-94 munitions on five transformer yards of the electrical power grid of Belgrade, cutting off electricity to 70 percent of Yugoslavia and degrading communications with the Yugoslav 3rd Army in Kosovo. Air strikes also destroyed a huge vehicle and munitions factory in the enemy capital, vastly reducing Serbia's industrial production and depriving thousands of workers of their jobs.

Serbian aircraft failed to down a single NATO aircraft during the campaign, but on May 4, F-16CJ pilot Lt. Col. Michael H. Geczy shot down another MiG-29 over Kosovo, the fifth and final



A US Army documentation team examines the wreckage of a Yugoslavian MiG-29 in March 1999. NATO forces shot the jet aircraft down inside Bosnia and Herzegovina.

USAF aerial victory of Allied Force and the sixth such victory by NATO pilots. The previous four American victories had been achieved by F-15C pilots. All used AIM-120 air-to-air missiles. All the enemy aircraft kills were of MiG-29s.

On May 7, a B-2 dropped a Joint Direct Attack Munition on a building in Belgrade that turned out to be the Chinese Embassy, killing three and wounding 20. President Clinton called the attack a “tragic mistake,” and air campaign planners blamed faulty maps that identified the building as the Federal Directorate for Supply and Procurement.

The resultant political furor forced Clark to draw a five-mile-radius circle around central Belgrade. NATO airplanes did not strike within it for almost two weeks.

On May 24, NATO air strikes hit the Yugoslavian electricity grid again, depriving much of the country of power, crippling communications with armies in the field in Kosovo, depriving Milosevic of much of his broadcasting ability, and threatening the country’s banking operations. At around the same time, the UN International Criminal Tribunal for the former Yugoslavia indicted the Yugoslavian leader for crimes against humanity.

Milosevic finally agreed to talks on June 5, but even as they commenced, NATO air strikes continued to apply pressure, targeting airfields and oil refineries. On June 7, two B-52s and a B-1 dropped 86 Mk 82 munitions and cluster bombs on Serbian troops in Kosovo, effectively ending a Serbian offensive against the Kosovo Liberation Army.

On June 9, Milosevic agreed to all NATO terms: immediate withdrawal of Serbian forces from Kosovo, the entry of multinational peacekeeping forces into the province, and the return of refugees to their homes. His only consolation was that Kosovo would remain part of Serbia, at least for the near future, and that some of the entering peacekeepers would be from Russia, an old-time Serbian ally. On June 10, 1999, after 78 days of bombing, NATO suspended air strikes.

AIR WAR AFTERMATH

The air war over Serbia was historic for many reasons. In addition to the many firsts already mentioned, it was

the first major USAF air campaign with no friendly air crews killed or taken prisoner. In fact, there were no NATO fatalities. Only two of the many USAF A-10s involved received any battle damage.

C-17s, the Air Force’s latest transport aircraft type, flew for the first time in a combat theater. For the first time, USAF Predator unmanned aerial vehicles helped locate enemy targets for destruction. For the first time, USAF used JDAMs, more than 80 percent of them hitting their targets.

Immediately after the war, a short-lived controversy erupted when airpower critics attempted to paint the campaign as ineffective for destroying a small number of enemy tanks and armored vehicles.

John Keegan, the famous military historian, noted that the campaign “proved that a war can be won by airpower alone.”

Clark addressed the claim in his book *Waging Modern War*, admitting that his own efforts to organize a NATO ground campaign came to nothing. Clark himself was amazed that there was not a single Allied combat casualty in what proved to be a victorious war.

The repercussions of the successful air campaign continued into the beginning of the 21st century. Hundreds of thousands of ethnic Albanian Kosovars were able to return to their homes within Serbia, guarded by international peacekeepers from the threat of Serbian military and paramilitary forces.

On Oct. 6, 2000, Milosevic lost reelection in Serbia, and on June 29, 2001, he was sent to The Hague in the Netherlands for trial by the United Nations War Crimes Tribunal on charges that included genocide. On Feb. 12, 2002, Milosevic’s trial began. Never before had a head of state faced trial for war crimes in an international court. He died in captivity on March 11, 2006, with his trial still in progress.

Allied Force proved that nations determined to use airpower effectively in the name of humanity could stop genocide. The operation allowed the people of Kosovo to regain peace and security at home and contributed to Kosovo’s later independence from Serbia. ✦

Daniel L. Haulman is a historian at the Air Force Historical Research Agency. He is the author of three books, including One Hundred Years of Flight: USAF Chronology of Significant Air and Space Events, 1903-2002. He also has contributed to numerous Air Force publications. His most recent article for Air Force Magazine, “The Tuskegee Airfields,” appeared in June 2014.

GEORGE KENNEY'S FIG



When the US Army needed a new commander for air forces in the Southwest Pacific in July 1942, Maj. Gen. George C. Kenney was not the first choice.

The Army's first selection was Lt. Gen. Frank Andrews, but Andrews had previous knowledge of Gen. Douglas MacArthur, commander of Allied forces in that part of the world, and detested him. He managed to evade the assignment.

The Army's second choice was Brig. Gen. Jimmy Doolittle, hero of the air raid on Tokyo, but MacArthur said he was

too flamboyant. That was rich coming from MacArthur, who was famous far and wide for his egocentric style.

Thus it came down to Kenney to replace competent, easygoing Lt. Gen. George H. Brett, who had clashed with MacArthur and his heavy-handed chief of staff, Maj. Gen. Richard K. Sutherland.

Lt. Gen. Henry H. "Hap" Arnold, commander of the Army Air Forces, said, "My God, if MacArthur can't get along with Brett, how do you think he can get along with Kenney?"—an airman

who had a reputation in the Air Corps for being outspoken and pugnacious.

When Kenney got to MacArthur's headquarters in Australia, he confronted Sutherland first. Drawing a dot on

Kenney had numerous strengths but the critical one was that he got along with Douglas MacArthur.

a piece of paper, he said, "This dot represents what you know about air operations, the entire rest of the paper

HTING SPIRIT

George Kenney (r) delivered results in the South Pacific, and the acerbic Kenney and the temperamental Douglas MacArthur (l) formed a mutual admiration society.

National Archives photo

By John T. Correll

said he was. The two soon formed a mutual admiration society.

After the war, MacArthur said, "Of all the commanders of our major air forces engaged in World War II, none surpassed General Kenney in those three great essentials of successful combat leadership: aggressive vision, mastery over air strategy and tactics, and the ability to extract the maximum in fighting qualities from both men and equipment."

Of MacArthur, Kenney said, "This was an able general, the most able general we ever had, and one of the most able generals the world has ever seen."

THE LITTLE BULLDOG

Journalist Clare Boothe Luce fondly called Kenney a "scar-faced little bulldog

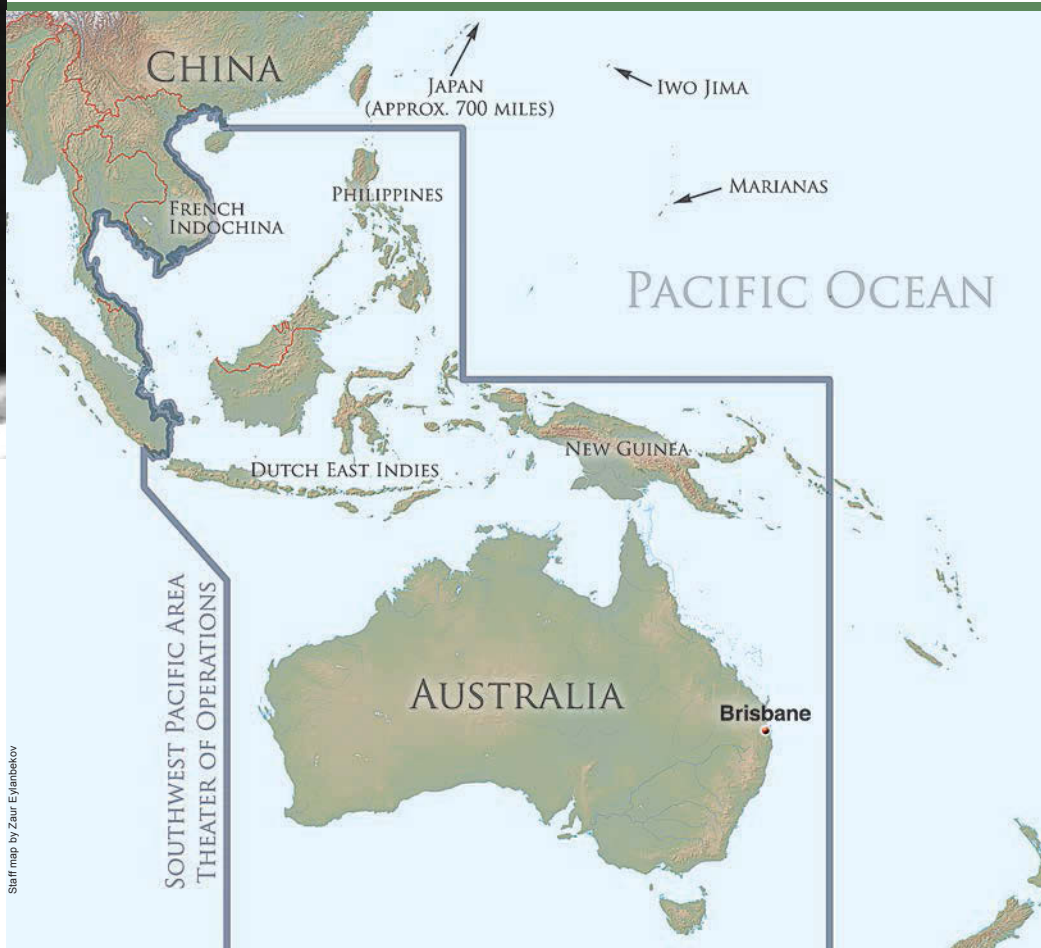
of a man." He stood five feet five-and-a-half inches tall and had a scar on his chin from an old aircraft accident.

Kenney left MIT, "bored," before graduation in 1911 and worked in construction and civil engineering jobs until joining the aviation cadets when the US entered World War I. He completed flight training, flew 75 missions in France, and was shot down twice himself. He ended the war as a captain and remained in service, concentrating on aeronautical development and its application to warfare.

Kenney became known as an innovator. In 1924, he demonstrated that the firepower of an airplane could be increased by installing machine guns on the wings. Up to then, guns had been located only near the nose.

He was not part of the fraternity close to Arnold—which notably included Carl A. "Tooey" Spaatz and Ira C. Eaker—in the 1920s and 1930s, nor did he subscribe to their deep emphasis on high-altitude strategic bombing. He

SOUTHWEST PACIFIC AREA, WORLD WAR II



what I know." When Kenney suggested they take the question to MacArthur, Sutherland uncharacteristically backed down.

A meeting with MacArthur was next. According to Kenney, he said that he knew how to run an air force, that he could produce results, and that he would be loyal to MacArthur. In return, "You be loyal to me and my gang and make this thing 50-50, or I'll be calling you from San Francisco and telling you that I have quit."

Whatever was said exactly, MacArthur took a liking to Kenney, who fortunately turned out to be every bit as good as he

Staff map by Zaur Eyanbekov

was the developer and champion of low-altitude attack.

"I was the papa of attack aviation," said Kenney, who was seldom modest. "I wrote the textbooks on it, taught it, developed the tactics. When World War II broke out, by that time, I was the only one who believed in attack aviation."

As historian Phillip S. Meilinger has said, Kenney's name "infrequently appears in accounts of the great air events of the interwar years. He did not participate in the air refueling demonstrations, long-range flights to Alaska and South America, or air races, or write inflammatory articles from a desk at Maxwell Field. Nevertheless, he was an excellent officer with a solid combat record."

Kenney managed to stay in the doghouse of Maj. Gen. Oscar M. Westover, chief of the Air Corps, until Westover died in a 1938 aircraft accident and Arnold became chief. Arnold rescued Kenney from organizational purgatory and made him his troubleshooter. For the rest of his life, Kenney professed his friendship and harmony with Arnold but he rarely passed up a chance to express his differences. The two grated on each other regularly as the years went by.

"Hap and I understood each other, we respected each other's judgment and were strong personal friends of over 20 years' standing," Kenney said. "He called me almost daily about a multitude of matters, some big, some little, and sometimes, I suspected, just to blow off a little excess steam. Hap lived with the throttle well open most of the time." Much the same could be said of Kenney.

MACARTHUR'S PACIFIC DOMAIN

Before the war, MacArthur had been commander of US Army forces in the Far East with headquarters in the Philippines. In February 1942, just ahead of the Japanese takeover, President Roosevelt ordered MacArthur to evacuate to Australia to be commander of the newly organized Southwest Pacific Area.

Under the Allied division of responsibility in World War II, the Americans had command of the Pacific and the British had command of the Far East. The United States then split the Pacific into the Pacific Ocean Area, commanded by Adm. Chester W. Nimitz, and MacArthur's SWPA, which included the Philippines, the Dutch East Indies, New Guinea, and Australia.

MacArthur set up his new headquarters in an insurance building in Brisbane. The Allied ground forces under his command were headed by an Australian

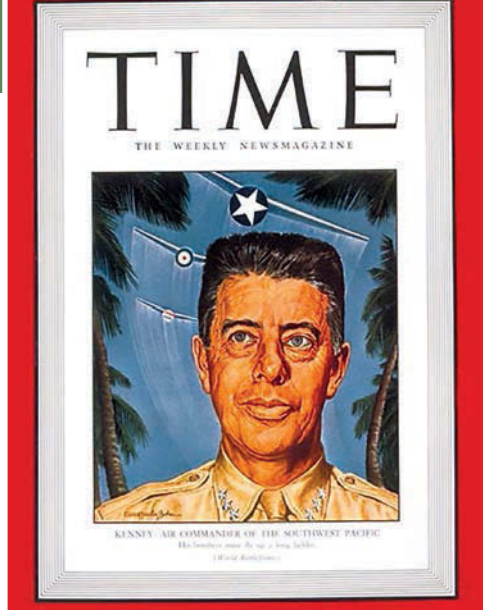
army general and the naval forces by a US admiral. His most effective forces, however, were the Allied air forces led by George Kenney—especially the American component, Fifth Air Force, which Kenney also commanded.

By early 1942, the Japanese line of conquest had reached the northern part of New Guinea. Their stronghold was Rabaul on the island of New Britain, northeast of New Guinea. Rabaul had a deep harbor with five airfields around it. The Japanese threatened to overrun the rest of the island and position themselves at Port Moresby on New Guinea's southern coast, 300 miles across the Coral Sea from Australia.

The most advanced Allied base was at Port Moresby, where Kenney established the Advanced Echelon of Fifth Air Force, commanded by his able subordinate, Brig. Gen. Ennis C. Whitehead.

At the Arcadia conference in December 1941, the United States and Britain had agreed to a "Germany First" policy by which they would seek victory in Europe before making an all-out push in the Pacific. To the disgruntlement of MacArthur and Kenney, the Pacific was the second theater in more ways than one, including a lower priority for forces and resources.

BISMARCK SEA, MARCH 1943



Kenney made the cover of both Time magazine and LIFE magazine in 1943.

That brought the exceptional abilities of Kenney the innovator to the fore. Nobody was better at adapting what he had to fill his needs or at winning battles with limited means.

Kenney began by getting rid of the dead wood, although his claim that "within the first week, I got rid of a couple of major generals and a couple of brigadiers and about 40 colonels and lieutenant

colonels and one captain” overstates it somewhat.

He relied on Fifth Air Force as his main striking arm, with the Australian Royal Army Air Force concentrating on air defense of Australia and antisubmarine duties. In August 1942, Kenney’s total air strength was 517 combat aircraft, but of those only 150 were combat ready and most of the Australian aircraft were obsolete.

The Japanese offensive plan depended on sea transport of troops, equipment, and supplies from Rabaul, so Kenney applied his attack aviation tactics and improvisation skills to sinking merchant shipping and destroying Japanese airfields. His mechanics souped up the B-24 and B-25 and bombers with forward-firing .50 caliber guns.

They also rigged the A-20 attack aircraft with extra fuel tanks and racks to carry the “parafrag” bombs that Kenney had developed years before. Each of these munitions, dropped by parachute, contained hundreds of explosive fragments. “We took on this Jap airfield at Buna and destroyed 18 or 20 airplanes on the ground,” Kenney said. “We came in and made one pass over the place and dropped these parachute bombs. We must have used a couple hundred thousand parachute bombs during the war.”

His most famous innovation, though, was skip bombing, in which medium bombers and attack aircraft swept down on ships, releasing their bombs as low as 50 feet above the surface and skipping them across the water like flat stones until they struck their targets with devastating impact.

In the summer and fall of 1942, the Japanese landed at Buna and Milne Bay on the north shore of New Guinea, hoping to advance over the Owen Stanley mountains and capture Port Moresby. MacArthur needed airpower to stop them, and Kenney did not disappoint. Low-altitude attacks, mainly by Mitchell B-25 bombers, sank ships, hammered reinforcements and supplies, and threw back the Japanese assault. MacArthur praised what airpower had done and recommended Kenney for his third star.

BATTLE OF THE BISMARCK SEA

Prior to his triumphal return to the Philippines, MacArthur’s greatest victory in World War II was the Battle of the Bismarck Sea, March 1-3, 1943. It was a stunning feat by airpower and it sent MacArthur’s regard for Kenney soaring to new levels.

After their setback at Buna in 1942, the Japanese sought to resupply and re-

inforce their remaining garrisons on New Guinea. In February 1943, radio intercepts revealed the Japanese would send a large convoy in early March from Rabaul across the Bismarck Sea to Lae on the eastern coast of New Guinea.

Patrolling B-24s sighted a huge convoy off New Britain March 1. US and Australian air forces struck the convoy promptly, before it could reach the Vitiaz Strait leading into the Solomon Sea and Lae. The most dramatic results were achieved by Fifth Air Force B-25s and A-20s using skip bombing techniques.

Kenney claimed his airmen had sunk about a dozen transport vehicles and six destroyers, shot down 60 airplanes, and killed about 15,000 Japanese soldiers. MacArthur’s communiqué increased the numbers to 22 ships and more than 100 aircraft. The *New York Times* called it “one of the greatest triumphs of the war.”

As subsequently determined by US Intelligence, the actual toll was eight merchant vessels, four escort destroyers, 50 to 60 aircraft, and about 3,000 Japanese troops. It was still an astounding achievement, but MacArthur threatened to take action against those questioning his report and refused to make any changes.

“I do not appreciate the implication of exaggeration or falsification by myself and members of my command,” Kenney said in a cable to Arnold. “I can only speculate about the motives involved.”

Kenney made the cover of *LIFE* magazine March 22, which proclaimed him “Victor of the Bismarck Sea.” Two months previously, he had appeared on the cover of *Time*. Both magazines were published by Clare Boothe Luce’s husband, Henry Luce, who also thought well of Kenney.

Sutherland, for many years MacArthur’s chief of staff and closest aide, warned other Army officers not to quarrel with the air forces because MacArthur would always rule in favor of Kenney.

Kenney usually got along with the ground forces but he disliked the Navy and that relationship was never smooth.

As the war rolled on, Kenney chose increasingly to emphasize his standing as MacArthur’s airman and his independence from Hap Arnold. “Every once in a while, Arnold would get sore at me about something or another,” Kenney said in an oral history interview in 1974. “He



One innovation Kenney engineered was skip bombing, where low flying aircraft skipped bombs across a body of water until they hit the intended target and exploded. Here, a B-25 skips bombs off the water during a run at Wewak, New Guinea.

thought I was still working for him, but I wasn’t. I was working for MacArthur.”

Nevertheless, Kenney had to depend on the AAF for aircraft, supplies, and personnel. He complained loud and often about what he got and didn’t get. He was not inclined to cut Arnold any slack although the European theater was the first priority and there was a shortage of equipment everywhere.

In his memoirs, Kenney recalled a visit by Arnold to SWPA in 1942 and himself “chuckling at General MacArthur practically ordering Hap to give me anything I wanted.” Elsewhere Kenney recounted his telling MacArthur that he had sent Arnold a message saying, “You are 8,000 miles from this war,” whereupon “the old man laughed and said, ‘Goddamn it, that will fix him.’”

Another time, Kenney said, MacArthur told Arnold, “Don’t tell me what to do, and don’t tell him [Kenney] what to do.”

Kenney’s most serious rift with Arnold was over the new B-29 bomber, which Arnold was determined to use directly against the Japanese home islands. Kenney said, “If you want the B-29 used efficiently and effectively where it will



Hap Arnold (l) tours facilities at Manila, Philippines, with Kenney. Kenney often boasted of a close friendship with Arnold, but Arnold spoke of Kenney far less often.

do the most good in the shortest time, the Southwest Pacific is the place and Fifth Air Force can do the job.”

Kenney wanted to use the B-29s on oil refineries in the East Indies and speed up MacArthur’s drive northward. He predicted, erroneously, that B-29 operations against Japan from bases in the Marianas would amount to nothing more than “nuisance raids” and that “the Japs would shoot them out of the air.” To Arnold’s exasperation, Kenney kept up his demand for B-29s long after the issue was decided.

In June 1944, SWPA gained the Thirteenth Air Force from the neighboring South Pacific Area. Kenney became commander of Far East Air Forces, which included both Fifth and Thirteenth Air Forces. He remained commander of Allied Air Forces as well.

MacArthur recommended Kenney for promotion to four-star general, declaring that “nothing [AAF commander in Europe Lt. Gen. Carl] Spaatz or any other air officer has accomplished in the war compares to what Kenney has contributed and none in my opinion is his equal in ability.” By then, MacArthur, like Marshall, Eisenhower, and Arnold, was already a five-star general.

Kenney was promoted March 9, 1945, with a date of rank two days earlier than Spaatz, who was also promoted. When Arnold retired in 1946, his chosen successor was Spaatz, not Kenney.

POSTWAR SLIPPAGE

In January 1946, Kenney was appointed senior US representative to the United Nations military staff. The idea of a UN force to keep peace in the world had been floated and the prospect

was that Kenney would command the UN air force.

Three months later, Kenney was named commander of the new US Strategic Air Command, concurrent with his duties at the UN, and Kenney’s focus remained on the UN. He was often absent and left the running of SAC to his deputy, Maj. Gen. St. Clair Streett, who had commanded Thirteenth Air Force in the South Pacific.

There was no sense of urgency as Streett declared, “No major strategic threat or requirement now exists, in the opinion of our country’s best strategists nor will such a requirement exist for the next three to five years.”

In October, Kenney made big news when the Associated Press reported him as saying the answer to world peace was “the eventual abolition of all national armies, navies, and air corps in favor of an international force.” Kenney said, “This may take years and years to accomplish, but the real answer lies with the countries of the world turning over their forces to the United Nations.”

The *Chicago Tribune* called on him to resign, saying, “General Kenney confuses his loyalty” and that he had disqualified himself for taking command of SAC or other positions of responsibility for national defense.

Mercifully, the UN notion soon disappeared from sight and history but not before *Air Force Magazine*, in transition from an official AAF publication to the journal of the newly formed Air Force Association, published a supportive cover story, “Building the United Nations Air Force,” in the December 1947 issue.

Meanwhile, Maj. Gen. Clements McMullen—who had run Kenney’s depots during the war—replaced Streett as vice commander of SAC and instituted policies designed to cut costs and reduce the required number of officers per aircrew from five to three. McMullen also put large numbers of good nonrated officers out of the service. Readiness plummeted, and so did morale.

Cross-grained as ever, Kenney refused to support the B-36 bomber, a top priority program for the Air Force, saying, “There is no future for this airplane” and continued to oppose it openly after the production decision was made.

In April 1948, Kenney was again passed over for Chief of Staff as Hoyt

S. Vandenberg was selected instead. Vandenberg assigned Kenney to Air University—up to then a two-star command—and called in Lt. Gen. Curtis E. LeMay to rebuild SAC. McMullen was sent to the San Antonio Air Materiel Area, which was a better match for his talents.

HAP SUMS IT UP

During his tour at Maxwell, Kenney wrote two books. His memoir, *General Kenney Reports*, came out in 1949. In June 1951, he published *The MacArthur I Know*, in which he said, “I am a MacArthur man. I consider him one of our greatest statesmen and leaders, and the best general that this country has ever produced.”

When Kenney retired from the Air Force Aug. 31, 1951, the *Washington Post* said in an editorial, “Opinions vary greatly on some of the theories of Air Force Gen. George C. Kenney, who retired on Friday, but there can be no doubt whatever of his competence as a general and as one of the real heroes of the war against Japan. Things were never dull around him, for General Kenney was no parlor soldier.”

From 1951 to 1964, Kenney was president of the National Arthritis and Rheumatism Foundation. He was national president of the Air Force Association 1953-1954 and chairman of the board 1954-1955.

He made headlines again in 1957 when he said in a speech that the Soviet Union and other Communist nations should be kicked out of the United Nations. “They have declared war against the free world,” he said. “They haven’t lived up to the charter from the very start, and it’s about time they were expelled.”

The official Soviet newspaper *Izvestia* called Kenney a “high-ranking lunatic” and said he “should be placed in a strait jacket.” Kenney loved it.

Kenney later moved to Florida, where he died in 1977.

The definitive appreciation of Kenney was from his longtime friend and foil, Hap Arnold. “It may be truthfully said that no air commander ever did so much with so little,” Arnold said in a letter to Kenney at the end of the war. “All that you have ever done since has made air history. The Army Air Forces honor your fighting spirit, to which we so largely owe today’s splendid triumph.” ☆

John T. Correll was editor in chief of Air Force Magazine for 18 years and is now a contributor. His most recent article, “How Rolling Thunder Began,” appeared in the March issue.



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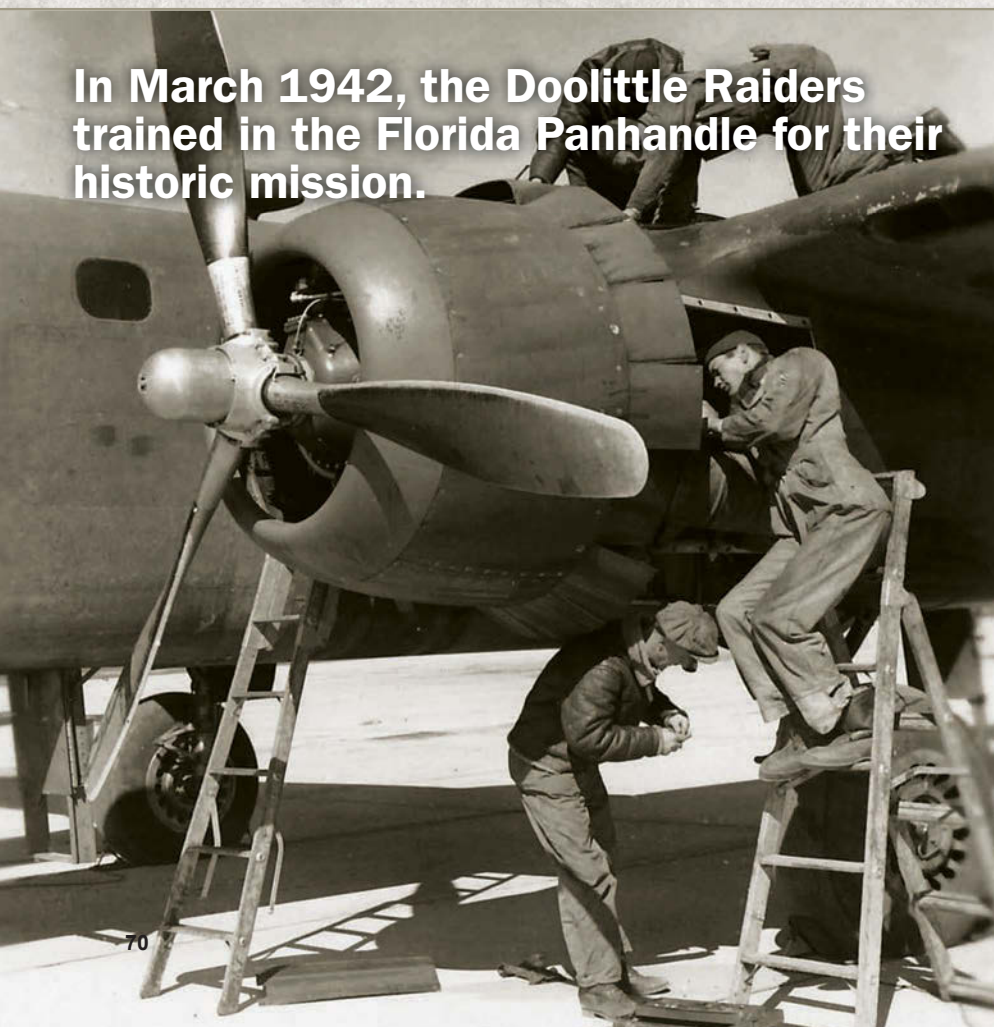


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In March 1942, the Doolittle Raiders trained in the Florida Panhandle for their historic mission.

By early March 1942, 140 men from the 17th Bombardment Group, recently reassigned from Pendleton AAF, Ore., to Columbia AAB, S.C., had arrived at Eglin Field, Fla. They were there to prepare for one of the most daring and famous air missions of World War II, an air attack on Japan. The mission was to raise American morale after months of doom-and-gloom news from the war fronts.

Later known as the Doolittle Raiders, the men would spend three weeks at Eglin Field in preparation for their famous mission against Japan.

After the Japanese attack on Hawaii on Dec. 7, 1941, President Franklin D.

The

Roosevelt wanted to retaliate. On Dec. 21, he asked for a plan to—in the words of Lt. Gen. Henry H. “Hap” Arnold, Chief of the Army Air Forces—bring “home to Japan proper, in the form of a bombing raid, the real meaning of war.” By the end of January, Lt. Col. James H. “Jimmy” Doolittle, special assistant to Arnold, and Navy Capt. Francis S. Low, a submariner on the staff of Adm. Ernest J. King—commander in chief of the US Fleet and later Chief of Naval Operations—had independently concluded that an AAF B-25 Mitchell medium bomber could take off from a Navy carrier with a 3,000-pound bomb load and hit Japan. The crews could fly the 2,000 miles from a launch point 400 miles east of Japan, attack military targets, and safely reach bases in Chinese-held territory.

After reviewing the AAF’s B-25 bomb groups, Doolittle selected the 17th Bombardment Group (Medium), consisting of the 34th, 37th, 95th Bombardment Squadrons and the 89th Reconnaissance

Top: Doolittle Raiders B-25s on the ramp at Eglin Field, Fla., in March 1942. Center: Raiders, including Lt. Richard Joyce (far left)—who had an accident during training when the nose gear of his aircraft collapsed after landing—spend some leisure time in the quarters at Eglin. Bottom: Mechanics work on the engine of a raider B-25.

Squadron. Stationed at Pendleton in northeast Oregon, the group had been conducting anti-submarine patrols off the northwest US coast. On Feb. 3, the group received orders, transferring them to Columbia Army Air Base.

Meanwhile, Doolittle informed Lt. Col. William C. Mills, the 17th BG commander, that he had selected the unit for a hazardous mission that would require a high degree of skill and be of great value to the US defense effort. Without providing any other details, Doolittle diverted their aircraft to Minneapolis on the way to South Carolina, for various modifications.

The 17th BG arrived at Columbia by Feb. 16, and Doolittle showed up a day or two later, asking for volunteers for

but had no accurate idea of where they would be going.

Their most important task at Eglin was to learn how to launch a fully loaded B-25 (31,000 pounds—aircraft, crew, fuel, and bombs) from a standing start in less than 500 feet. Normally, a fully loaded B-25 needed about 3,300 feet at sea level with zero wind to take off safely. However, the B-25s that would launch from the carrier USS *Hornet* would have about 450 feet, the front half of the carrier's flight deck, for their takeoff since the B-25s would take up the rear half.

From NAS Pensacola, Fla., Navy Lt. Henry L. Miller, who had never seen a B-25, much less flown one, arrived

crews at Field 3 to provide a ranking order, based on their performance. By March 24, all of the crews could lift a fully loaded B-25 off the ground with a speed of 55 to 60 mph with full flaps in less than 500 feet without stalling. At the start of this training, the average takeoff distance was 800 feet, but by the end the shortest takeoff roll was 287 feet.

In 1980s interviews, several raiders made comments such as, the fields were "away from prying eyes," "close to Eglin," and "out in the boondocks." The remoteness of the auxiliary fields and the early morning risings made it difficult, if not impossible, for the raiders to remember the specific fields where they trained.

Raiders at Eglin

By Robert B. Kane

a hazardous top secret mission. Since the entire group volunteered, the bomb squadron commanders, Capt. Edward J. York, Capt. Al Rutherford, and Capt. Karl Baumeister, selected 24 crews (80 men) and 60 enlisted personnel (maintainers, armorers, and other specialists) from the group for the "Special Project."

By Feb. 28, the selected crews and enlisted men had arrived at Eglin Field near Fort Walton. In 1942, the Eglin military reservation consisted of Eglin main, seven auxiliary fields, and several ranges for bombing and gunnery training and weapons testing in the Choctawhatchee National Forest. The airfields in the forest, the absence of large cities (in early 1942, Okaloosa County only had about 12,900 inhabitants, and the largest town, Crestview, north of Fort Walton, had only 2,900 inhabitants), and the proximity of the Gulf of Mexico for overwater navigation training made Eglin Field perfect for the required training.

During the first two days of March, the crews flew around the Eglin reservation to locate the auxiliary fields. Doolittle arrived on March 3 and provided them with a few additional details about the mission and the training, specifically emphasizing their top secret nature. By the end of the training at Eglin, the raiders had figured out that they would be taking off from an aircraft carrier

to train Doolittle's crews on the short takeoffs.

By the end of the first week, the crews began the short takeoff landing training, with their day normally beginning at 7 a.m. and often ending at 10 p.m. Early each morning, they checked their aircraft at Eglin main, and the pilots and navigators received a separate briefing. The pilots then told their navigators what was on the day's schedule: short takeoff, bombing, or gunnery training at one of the auxiliary fields or navigation training over the Gulf of Mexico.

For the short takeoff training, white lines, simulating a carrier flight deck, were painted onto the runways of several auxiliary fields. Flags were placed at the 250-foot markers and at 50-foot intervals from 400 to 700 feet to help the crews judge their takeoff distances. The pilots started out with a light aircraft, weighing 27,000 pounds, and tested combinations of takeoff speed, application of brakes, flap positions, and throttle positions to find the right combination to achieve a takeoff in less than 350 feet without stalling.

As this training progressed, the pilots worked up to a full load and recorded the exact distance from start to takeoff, wind velocity, and load condition. During the training, Doolittle and Miller evaluated the short takeoff performance of the 24

NOT HURLBURT

Little definitive evidence exists, but it appears the raiders trained at Auxiliary Field 1 (later Wagner Field) and at Auxiliary Field 3 (later Duke Field). The 1944 Master Plan for Eglin Field specifically mentions Field 1 as a training field. *History of the Army Air Forces Proving Ground Command*, Part 3, Gunnery Training 1935-1944, mentioned that the raiders trained at Field 3. Several raiders remembered training on a field north of Eglin toward Crestview—Field 3 is about 15 miles north of Eglin main, approximately halfway between Valparaiso and Crestview. On March 23, an aircraft flown by Lt. James Bates stalled, causing the aircraft to crash just after taking off from Field 3. The raiders probably used other auxiliary fields to practice the short takeoffs.

Using photographs of the short takeoffs as evidence, some believe that the raiders trained at Field 4, Peel Field. However, those pictures are not originals from March 1942 but stills from the 1944 Metro-Goldwyn-Mayer movie "Thirty Seconds Over Tokyo" about the Doolittle Raid. The history of the AAF Proving Ground Command identifies Peel as Field 4 where the filming of the movie occurred.

Finally, some believe the raiders trained at Field 9, now Hurlburt Field. A



Photos courtesy of doodlitteraider.com



former Hurlburt Field base commander in the 1950s may have started this story, and several official histories and raider interviews have perpetuated this belief. After Miller retired, he mentioned that the training occurred at “an airfield near the water,” possibly Santa Rosa Sound, just south of Field 9.

However, the story is a total myth, as Field 9, much less a hard-surfaced runway there, did not exist in March 1942.

The Doolittle raiders also practiced long-distance, low-level overwater navigation to enable them to fly long distances without visual or radio references or landmarks and to provide data for determining fuel consumption under actual flying conditions that the raiders expected during the actual mission. They flew from Eglin Field to Fort Myers, Fla.; then to Ellington Field, Texas; and after resting and refueling, back to Eglin Field. The first accident during the training occurred on March 10 at Ellington Field when the nose gear of Lt. Richard O. Joyce’s aircraft collapsed after landing.

In addition, the raiders conducted low-altitude bombing by dropping 100-pound practice bombs on Eglin’s bombing ranges and over the Gulf of Mexico from 1,500, 5,000, and 10,500 feet. They also buzzed some of the towns along the Florida Gulf Coast, producing complaints by local citizens to the Eglin base commander, Maj. George W. Mundy.

The low-altitude bombing training at Eglin demonstrated the relative inaccuracy of the Norden bombsight, the standard B-25 bombsight. Because of this inaccuracy and the possibility of the bombsight falling into Japanese hands, Doolittle had them removed from the B-25s. Capt. Charles R. Greening, the armaments officer and pilot of aircraft 11, and SSgt. Edwin V. Bain, the gunner on aircraft 14, developed a “20 cent”

bombsight, dubbed the “Mark Twain,” from two pieces of aluminum in the Eglin Field workshops. It proved to be highly accurate during the bombing training at Eglin Field and on the raid.

Since most of the gunners had never fired the guns on the aircraft, Doolittle allotted time for gunnery practice. They fired both the .50-caliber turret guns and the .30-caliber nose gun on the ground and in the air. The raiders set up targets at one of Eglin’s auxiliary fields for ground firing and used sea slicks in the Gulf to practice strafing runs. The shortage of .50-caliber machine gun ammunition and the malfunctioning turrets limited the quantity of training the gunners received. When the raiders left Eglin on March 25, all of the guns were operating satisfactorily, but there were still problems with the turrets.

MODIFYING THE AIRCRAFT

To save weight, Doolittle, at the suggestion of two Mid-Continent Airlines mechanics earlier in February, had two lathe-turned dowels, painted black to resemble machine guns, installed in the rear of each aircraft while they were at Eglin. From Greening’s postraid report, it appears these managed to deceive a few Japanese fighters that challenged the raiders during the attack.

Doolittle knew that fuel would be a critical element for a successful mission. He had additional fuel tanks installed in the aircraft. He replaced the belly turret with a fuel tank and had another tank placed in the crawlway above the bomb bay. By the time the Navy loaded the B-25s onto *Hornet* at NAS Alameda, Calif., each one could carry a total of 1,141 gallons of gasoline.

In between the short takeoff training periods, Eglin aircraft mechanics and Bendix Corp. experts replaced the original carburetors with special ones to obtain the maximum performance

at the best rate of fuel consumption for low-altitude flying to maximize the B-25’s range.

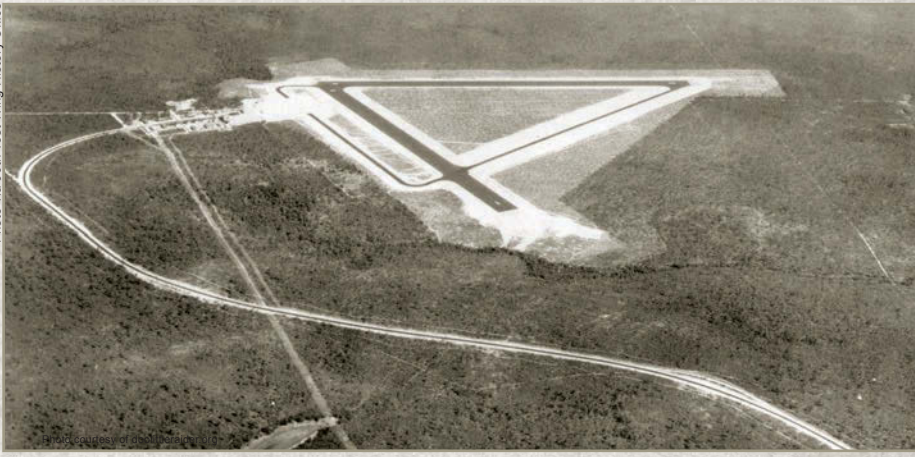
During the raiders’ stopover at the Sacramento Air Depot (McClellan Field), Calif., a mechanic replaced the Bendix carburetors on York’s aircraft with regular ones. After taking off from the Hornet on the morning of April 18, York realized that his aircraft was burning fuel at a high rate, and, after bombing Tokyo, diverted to Vladivostok in the Soviet Union.

Since the Soviet Union was not at war with Japan, the Soviet government jailed the crew and confiscated the aircraft. After 13 months of internment that involved several moves to a small town 20 miles from the Iranian border, York’s crew managed to escape into northern Iran.

Eglin workmen made other modifications to the aircraft. They added deicing boots to the leading edges of the wings and installed cameras in all aircraft to take pictures of the actual bombing, but none of the cameras survived the raid.

Many of the pilots had nose art painted on their aircraft after 1st Lt. Ted W. Lawson, the pilot for aircraft 7, had a caricature of Donald Duck with a headset and crossed crutches painted on his bomber. Finally, since the Army crews would be on a Navy ship for several weeks, Miller taught them Navy terms, courtesy, and etiquette, such as saluting the national ensign on a ship’s stern when boarding and leaving a ship.

As the project leader, Doolittle believed he should get checked out on the B-25 and complete the short takeoff training—and he also wanted to lead the mission himself. When Capt. Vernon L. Stinzi fell ill with an ulcer, Doolittle trained with Stinzi’s crew to complete the short takeoff training. As the training and aircraft modification progressed at Eglin, Doolittle managed to get Arnold to allow him to command the actual mission.



The crews and enlisted support personnel first stayed in barracks on Eglin. Doolittle allowed the married officers to have their wives with them, and they initially lived in a hotel in Fort Walton, 12 miles away. After a few days, though, Doolittle arranged for them to stay at the Valparaiso Inn, a hotel built in 1924 that overlooked the Choctawhatchee Bay, near Eglin's main gate. During their training, the pilots often buzzed the Valparaiso Inn on their way back to the airfield.

Doolittle, the single officers, and the enlisted men stayed in base quarters, but they had little leisure time at the end of their long days. Still, Miller was appalled by his Eglin quarters and later called them "lousy" and not "appealing as far as living quarters are concerned."

Mundy, the Eglin Field commander, became concerned over numerous flight safety violations. He received many phone calls from the local inhabitants about the B-25s' low-level bombing practices, flying under bridges, and buzzing the beaches and other areas around the county. After the raiders took him for a low-altitude flight over the Gulf of Mexico and up and down the Florida Gulf Coast, he forgot about the complaints and the safety violations and wanted more flights.

Doolittle had restricted the unaccompanied members to Eglin Field. Still, some managed to get off base and visited several local establishments, such as the Magnolia Club in Fort Walton, Bacon's by the Sea in Mary Esther, a small town several miles west of Fort Walton along Highway 98, and the Silver Bar and Cafe just outside of Eglin's main gate alongside what was then Florida Highway 20.

While the Doolittle Raiders trained at Eglin Field, Navy Capt. Donald B. Duncan worked with Adm. Chester W. Nimitz, commander in chief of the Pa-

cific Fleet, in Honolulu to create a task force around USS *Enterprise* to protect the *Hornet's* task force. At the end of the third week of March, Duncan wired King, who had become the Chief of Naval Operations in Washington, D.C., that the *Enterprise* task group would soon be completed and provided the code phrase, "Tell Jimmy to get on his horse," the signal for Doolittle to depart Eglin Field for NAS Alameda in California, for loading onto *Hornet*.

King then called Arnold with this news. In turn, Arnold notified Doolittle. The crews at Eglin were awakened at 3 a.m. to move out.

RAISING MORALE

Doolittle told them one more time what he'd been harping on all along. "Don't tell anyone what we were doing here at Eglin," he reminded his team. Even if you think you've guessed what our mission is, he said, keep in mind that "the lives of your buddies and a lot of other people depend on you keeping everything you saw and did here a secret."

Doolittle dismissed everyone but the 22 crews chosen to fly out to McClellan Field for a final inspection and modifications. The crews stopped at McClellan and arrived at NAS Alameda by March 30.

Hornet with 16 B-25s left Alameda on April 1, 1942, for its rendezvous with the *Enterprise* task group and history.

Fog, bad weather, and the considerable time for the aircraft modifications at Eglin had significantly reduced the training time, but in "three weeks, ships and crews were safely operational, although additional training of the crews and work on the ships would have improved their efficiency," wrote Doolittle in his after-action report to Arnold in June 1942.

Far left: Lt. Col. Jimmy Doolittle (center) confers with his crew near Hangar 68 at Eglin. They are (l-r) SSgt. Paul Leonard, Lt. Henry Potter, Lt. Richard Cole, and SSgt. Fred Braemer. Center: Some of the raider B-25s on the ramp at Eglin. Left: An aerial view of Wagner Field.

As it turned out, the training and aircraft modifications at Eglin Field in those brief three weeks in March 1942 were sufficient. The raid "lifted the gloom that had descended upon America and her Pacific allies," retired Col. Carroll V. Glines wrote in *The Doolittle Raid: America's Daring First Strike Against Japan*. "The bomb damage that resulted was not great, compared with that inflicted late in the war, but the raid had some far-reaching effects."

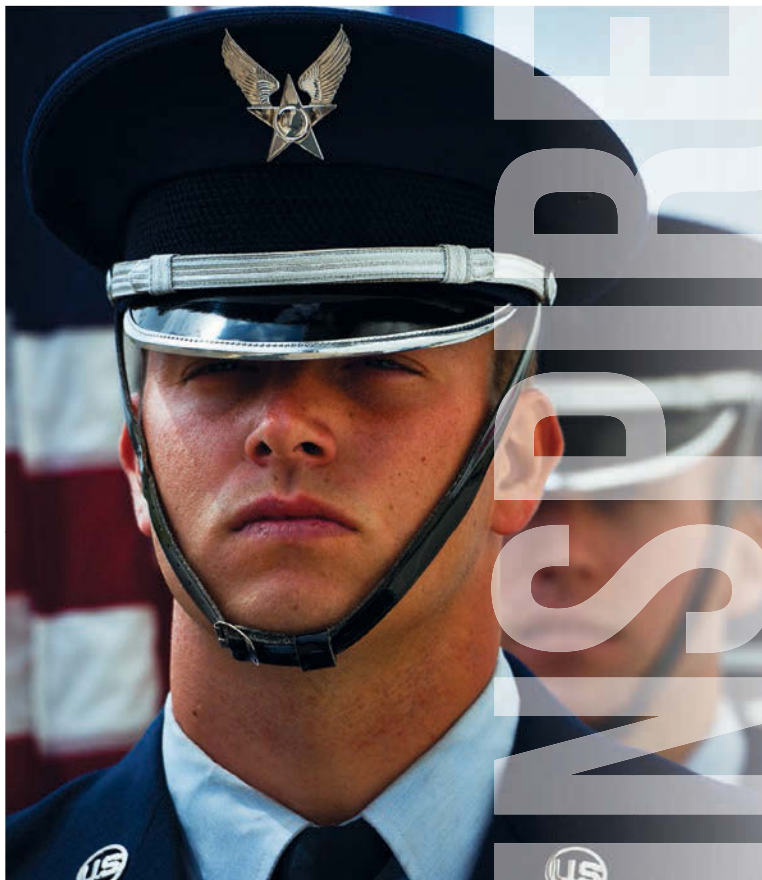
Although the actual raid had virtually no adverse tactical impact on Japan, it significantly raised American morale after four months of glum news and noticeably affected the sense of security of the Japanese people who, until April 18, had not suffered a direct enemy attack on their home islands. Furthermore, the raid caused the Japanese military leaders to pull back fighter squadrons for home defense.

More importantly, Japanese military leaders redirected their strategy from expansion into South Asia and the Indian Ocean to the expansion of their defense perimeter east toward Hawaii. They also began planning a major operation to destroy the American carriers they had missed at Pearl Harbor. This operation ultimately produced a resounding American victory at the battle of Midway, June 3-6, 1942—the turning point in the Pacific War.

On April 15, 2007, close to the 65th anniversary of the Doolittle Raid, Brig. Gen. David W. Eidsaune, the commander of the Air Armament Center at Eglin, dedicated a historical marker to the Doolittle Raiders, commemorating their training at Eglin Field. Subsequently, the base placed the marker near the entrance to Wagner Field.

On May 23, 2014, the Doolittle Raiders were honored with the Congressional Gold Medal. On Sept. 12, 2014, the Air Force Association named its national headquarters building the Doolittle Building, after AFA's first President. Today, only three raiders are living: Richard E. Cole, Robert L. Hite, and David J. Thatcher. ★

Robert B. Kane retired from the US Air Force as a lieutenant colonel in July 2014 and serves as the director of history for Air University, Maxwell AFB, Ala. This is his first article for Air Force Magazine.



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AFA National Report

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By Frances McKenney, Assistant Managing Editor



Emerging Leaders

The Air Force Association's Emerging Leaders Program began in 2013 as a way to prepare volunteers for future AFA leadership roles. Emerging Leaders serve for a year. They participate on a national-level council, attend national leader orientations, and serve as National Convention delegates.

Emerging Leaders for 2015 are: Emilie S. Boschert, Shannon M. Farrell, Deborah A. Landry, Michael J. Liquori, Emily C. Shay, Christopher M. Talbot, James A. Thurber, Jeremy Trotter, and Daniel Whalen.

Here's the sixth profile in AFA's second group of Emerging Leaders.

1st Lt. Christopher M. Talbot

Home State: Texas.

Chapter: William J. "Pete" Knight (Calif.).

AFA Offices: Chapter president; former chapter secretary.

Occupation: Executive Officer, 412th Electronic Warfare Group, Edwards AFB, Calif.

Education: B.S., University of Maryland, College Park.



Photo by Paul Vitale

Q&A

How did you first learn about AFA? Buck Buckwalter [AFA's former executive VP]. He needed some help with CyberPatriot at the September [2009] convention and asked for help from my cadet detachment.

What new ideas would you like AFA to try? Working with Arnold Air Society and Silver Wings, if they want younger members. Something I've been doing as chapter president is trying to get them to my events. ... I've gone to a few of their events, and they love having Active Duty there. ... I've had them come out to Edwards, and they've really loved it.

How do you build interest in your chapter? One thought that we had is that if we do a fund-raiser, we contribute all the funds to the Air Force Assistance Fund. [Another is] Teach the Teacher. ... We're going to bring [teachers] on base. ... We're working with the on-base STEM education office.



Photo by Elliot Spilk

Talbot lists music as a hobby. Turns out, he plays the trombone. Here, he rehearses with the band Bah Ram You, playing "Out of Luck," Ska style.

From 10 to 130: Boosting the Numbers

Sometimes only a dozen people showed up for meetings of Tennessee's **Everett R. Cook Chapter**, says its new president, B. Randolph Witt. But in January, more than 130 guests filled the room.

This revival in attendance began last September. That's when Witt showed up for what he thought was a regular AFA meeting in his new hometown of Memphis. Instead, he stumbled into a Cook Chapter reorganization session. By the time he left it, he had been made chapter president.

He immediately invited other military-related organizations to AFA events. One of the groups he contacted was the local Air Force Academy Association of Graduates, headed by retired Lt. Col. Jack R. Trimble, a Vietnam War POW. Trimble was a first lieutenant weapon systems officer on an F-4 when it was downed over North Vietnam on Dec. 27, 1972. He was repatriated in March 1973 and went on to earn pilot wings, retiring from Active Duty in 1990.

In Trimble, the chapter found a compelling guest speaker for its January meeting. Trimble illustrated his Cook Chapter presentation with photos from his time at Udorn RTAB, Thailand; of the Hanoi Hilton where he was prisoner; from the

Continued on p. 77.



ANG photo by Ron Brotherton

Jack Trimble delivers a presentation to the Everett R. Cook Chapter meeting about his experiences as a Vietnam War POW. He also talked about his return visit to Hanoi, 40 years to the day of his shutdown.



Photo by Joe Bryant

The 164th Airlift Wing opened a Globemaster III to those attending the Cook Chapter meeting. Here, loadmaster TSgt. Eric Yost leans against a fold-up seat on the C-17 as he listens to a question from chapter member Vernon Tabor.

Gala in Orlando

The 31st annual Air Force Gala, organized by the Central Florida Chapter in Orlando, Fla., recognized people, units, and industry partners in the command and control field. Together they give USAF the ability to perform any mission, said Chapter President Bill Palmby.

At right: Air Force Secretary Deborah Lee James poses with award recipients representing various C2 roles: Maj. Kendrick Carroll, Lt. Col. Ronnie Hawkins, and Maj. Brad Dvorak (l-r).

Below: Lt. Col. Gary Barker (l), from an Air Combat Command electronic-attack-pod team, and Gala Chairman Mike Liquori meet USAF Chief of Staff Gen. Mark Welsh (r). Many Air Force senior leaders attended the gala, held in conjunction with AFA's Air Warfare Symposium.

Below right: Welsh and James congratulate industry representative George Sewell and Lt. Col. Richard Martino after presenting them with Doolittle Fellow plaques. All C2 award-ees were honored as Jimmy Doolittle Educational Fellows.



Photos by Dan Higgins



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Operation Homecoming repatriation; and even a picture of the Vietnamese MiG-21 pilot, Tran Viet, who claims to have shot him down. (Trimble met Viet during a trip to Hanoi in 2012.)

To pull in a crowd for this occasion, Witt used what he calls “overlapping communications”—the ability to spread the word about chapter activities through other organizations’ members, newsletters, and channels of communication. Indeed, word of Trimble’s appearance brought two other Vietnam War POWs to the chapter meeting: Kenneth R. Wells and Cecil H. Brunson. They both live near Memphis.

As new chapter head, Witt had also paid an office call on the local senior Air Force leader, last fall. Col. Mark J. Devine, commander of the 164th Airlift Wing, Memphis Arpt., Tenn., responded by volunteering to periodically host chapter meetings.

So the chapter’s January meeting took place at the ANG facility—and with an added draw: The wing opened a C-17 Globemaster III for the chapter guests to tour.

Chapter President Witt doesn’t promise big numbers for every meeting, but in January he showed it can be done.

25 New Members: One by One

“We went from 190 members last quarter to over 215 members,” claimed Richard F. Lorenz, membership VP, in Vermont’s **Green Mountain Chapter** newsletter.

Elaborating on how the chapter reeled in 25 newcomers, Lorenz said in a phone interview that the local Guard facilities give the chapter “continuous face time with people.”

During a December drill weekend, the chapter set up a membership kiosk outside the dining hall for the 158th Fighter Wing at Burlington Airport. Air Guardsmen poured through there, Lorenz said.

Eight new members joined because of “direct solicitation.” Asked what that meant, he answered, “I cajole them.”

For example, he is a docent at the museum for Camp Johnson, the state’s National Guard facility in Colchester. The work has given him “proximity to the National Guard,” he said.

Then a year ago, the chapter changed its meeting venue, and Lorenz feels that made a difference. For a decade, the group met at an Elks Club “in the far north corner of Burlington,” he said. Air Guardsmen had to drive 45 minutes to reach the meeting location. They couldn’t “slip away” to a chapter luncheon.

Now, the chapter holds meetings at the ANG site.

For all the support the chapter enjoys from the wing—vice commander Col. Michael R. Morgan serves as its VP—it still boils down to asking people to join AFA. As Lorenz put it, “We pick ‘em off one by one.”

He’s the Boss—and a New Member

As a veteran of deployments to Southwest Asia, Lt. Col. E. G. Shuler III could tell a few war stories himself, but as South Carolina’s **Columbia Palmetto Chapter** president, he left that to the guest speaker, his boss.

Col. David J. Meyer, who became commander of the 169th Fighter Wing at McEntire JNGB, S.C., last May, addressed the chapter in October. He

spoke about the wing’s deployment to Southwest Asia, completed last year. The 169th is the largest operational F-16 wing in the Air National Guard and specializes in the suppression and destruction of enemy air defenses. It had been the unit’s third foray to SWA in four years, according to a unit press release.

Shuler is the plans and programs officer for the 169th, but he is also a C-130 pilot with the 145th Airlift Wing, located at Charlotte/Douglas Arpt., N.C. He’s been deployed twice, to Afghanistan and Qatar, during his six years as chapter president, most recently last summer.

When he returned last fall, he invited Meyer to be a chapter speaker. Shuler

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had already checked the chapter roster and knew Meyer wasn't an AFA member. So when the chapter invitation prompted Meyer to ruminate, "I need to join," Shuler had a quick reply: "Yes, you do."

Singing for the Veteran

You might know her as the first female Air Force pilot to fly a fighter airplane into enemy territory. Or as the first woman to command an Air Force combat squadron.

But did you know that now-retired Col. Martha McSally can sing? Members of the **Cochise Chapter** in Arizona learned this at a January luncheon where she delivered not just any ditty but the "Star-Spangled Banner."

Chapter President George Castle gave this review of her performance: "She is possibly as good a singer as a fighter pilot."

McSally, newly elected to the US House of Representatives as a Republican, performed at a luncheon honoring retired Army Lt. Col. Earl Devine. The Greater Sierra Vista United Veterans Council chose Devine as Veteran of the Year. The Cochise Chapter, as a member of the council, took its turn this year in organizing the luncheon.

Chapter President George Castle explained that the chapter did "all the legwork," including inviting McSally—known to him because he'd worked on her election campaigns—and another VIP guest, Maj. Gen. Robert P. Ashley Jr. He is commanding general and commandant, Army Intelligence Center of Excellence at Fort Huachuca, Ariz.

Nearly 100 guests attended the luncheon. "There were so many people, when they found out [Devine] was going to be honored," said Castle. "Some of his friends came from Texas." Devine, a former artillery officer who served in Vietnam, is no stranger to the chapter, because he led a fund-raising effort last year for an indoor chapel for the city's veterans cemetery. The chapter donated \$4,000, said Castle.

Chapter VP Stu Carter served as master of ceremonies for the luncheon. Castle presented Devine with a ball cap, personalized on the front with his name and on the back with his newest title, "Veteran of the Year." 🌟

Update Your Info

This is a good time to remind our readers to update their addresses and phone numbers. Contact the Membership Department at 1-800-727-3337, by email at membership@afa.org, or by writing to 1501 Lee Hwy., Arlington, VA 22209-1198. You may also update this information under the Members Only area of our website, www.afa.org.

Reunions

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6th Bomb Gp, Tinian (1944-45). Sept. 9-13 in Portland, OR. **Contact:** Glenda Richards (951-233-4516) (grr41797@msn.com).

98th BG/Wg Veterans Assn. Aug. 24-28 at the Crowne Plaza Hotel in Dayton, OH. **Contacts:** Dennis Posey, (770-509-7734) (dennis_posey@att.net) and Bill Seals (281-395-3005) (colbillyseals@hotmail.com).

504th BG, Tinian (1945). Sept. 23-27 at Homewood Suites in New Orleans. **Contact:** Frank Cacich (612-396-7949) (frank.cacich@frontiernet.net).

601st Tactical Control Assn. Oct. 7-10 in Dayton, OH. **Contact:** Jim Ernst (jimernst@q.com) (575-430-3904).

AF Officer Candidate School, all classes (1943-63). Oct. 8-12 in Montgomery, AL. **Contact:** Dave Mason (757-820-3740) (blokemason@verizon.net).

C-141A/B crew members and squadron, Travis AFB. June 20 at Pippo Ranch, Vacaville, CA. **Contacts:** Jack Pledger

(520-705-0658) or Vic Perry (707-321-3016).

Pilot Tng Class 55-P. June 14-16 at Courtyard Dayton North, OH. **Contact:** Norman Fogg (865-984-8401) (norm-fogg@bellsouth.net).

Three War Veterans, all services. May 18-20 in Las Vegas. **Contact:** Lee Yagle (888-452-3434) (all3wars@aol.com).

Udorn RTAB, Thailand, veterans. July 9-13 at the Best Western Plus Cutting Horse Inn and Suites, in Weatherford, TX. **Contacts:** Jerry and Thim Long, 118 Mariah Dr., Weatherford, TX 76087 (817-594-4623) (jclhydsr71bafb@gmail.com).

Having a Reunion?

Email reunion notices four months ahead of time to reunions@afa.org, or mail notices to "Reunions," *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. We reserve the right to condense notices.



The Cochise Chapter in Arizona organized a Veteran of the Year luncheon. Back row, third from left is the honoree, retired Army Lt. Col. Earl Devine. Back row, second from right, is Chapter President George Castle. Army Maj. Gen. Robert Ashley stands at left. Front row, fourth from left, is US Rep. Martha McSally (R-Ariz.).

In New York, the Gen. Carl A. "Tooey" Spaatz Chapter secretary, Joe Traina (second from left), presented an AFA Civil Air Patrol Outstanding Squadron Cadet of the Year award to CAP Cadet 2nd Lt. Joseph Zaino. At far left is CAP Col. Johnnie Pantanelli, for whom Zaino's CAP 238 Squadron is named. At far right is CAP Maj. Edward Miraglia, squadron commander.



Photo by CAP Cadet 2nd Lt. Kyra M. Carlson



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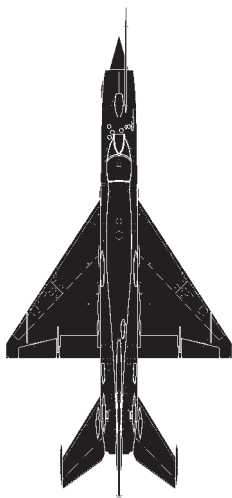
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MiG-21 Fishbed



The Soviet-designed MiG-21—NATO code name Fishbed—is the most-produced supersonic jet aircraft in aviation history and the first Soviet aircraft to successfully combine fighter and interceptor traits. Created by Mikoyan-Gurevich Design Bureau in the 1950s, it is best known as an effective and tenacious foe of the F-4 Phantom during the Vietnam War. It probably has flown in more wars than any other fighter.

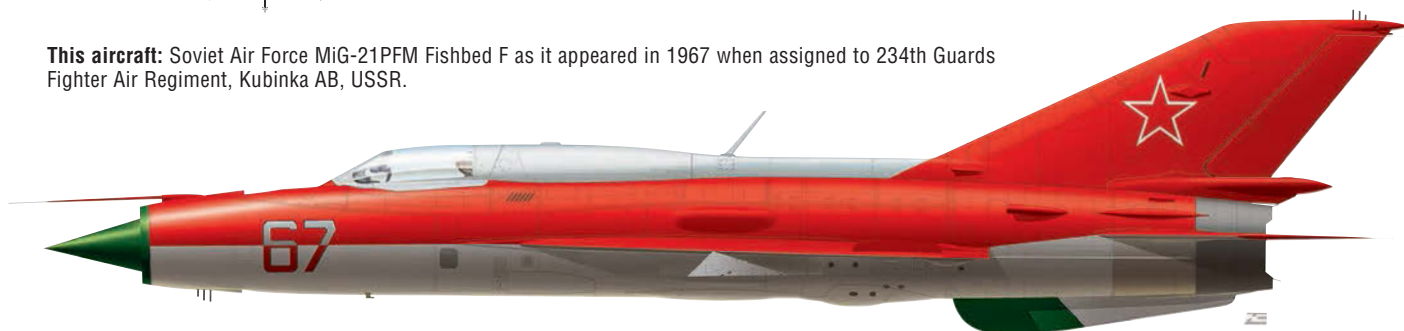
From the outset, the MiG-21 has been a small, fast, and agile lightweight fighter, achieving Mach 2 with a low-power turbojet engine. Its delta wing has a 57-degree sweep angle on the leading edge. The early MiG-21 was hampered by a short range, but later variants acquired more fuel capacity, along with heavier armament and

better avionics. They have also been fitted with a more powerful engine. Simple, inexpensive to buy and maintain, and easy to fly, the MiG-21 was widely exported and continues to be upgraded and used in several countries.

The effectiveness of the speedy MiG-21, in the hands of skilled North Vietnamese pilots, came as a shock to US F-4 pilots in the skies over South-east Asia. It would attack in swarms, coming at the F-4s from different directions, then abruptly break off to escape. The little fighter's success was eventually overcome, late in the Vietnam War, by greatly improved US pilot training and better rules of engagement.

—Robert S. Dudley with Walter J. Boyne

This aircraft: Soviet Air Force MiG-21PFM Fishbed F as it appeared in 1967 when assigned to 234th Guards Fighter Air Regiment, Kubinka AB, USSR.



In Brief

Designed, built by Mikoyan-Gurevich OKB ★ first flight Feb. 14, 1956 ★ number built 11,496 (USSR, 10,645; Czechoslovakia, 194; India, 657) plus undetermined number in China ★ **Specific to MiG-21-PFM Fishbed F:** one Tumansky R-11F2S-300 turbojet engine ★ armament one external GSh-23 cannon, up to 3,300 lb of missiles or rockets ★ max speed 1,386 mph ★ cruise speed 550 mph ★ max range 1,035 mi ★ weight (loaded) 20,010 lb ★ span 23 ft 6 in ★ length 40 ft 4 in ★ height 13 ft 6 in ★ service ceiling 62,000 ft.

Famous Fliers

Aces: North Vietnam Nguyen Van Coc (7 kills), Nguyen Doc Soat (5), Vu Ngoc Dinh (5); Syria Muhammad Mansour (5), Bassam Hamshu (5), Adeeb el-Gar (5). **Notables:** Munir Redfa (Iraqi defector who in 1966 flew MiG-21 to Israel); Abdul Qadar Al-Termanini (Syrian pilot who in 1976 defected with MiG-21 to Iraq); Danny Shapira (Israeli test pilot who flew pilloined MiG-21); Ayesha Farooq (Pakistan's first war-ready female fighter pilot). **Selected wars:** Vietnam War (flown by North Vietnam); Iran-Iraq War (Iraq); Angolan Civil War (Cuban pilots); Balkan Wars (Serbia); 1967 Mideast War (Egypt, Syria, Iraq); 1971 Indo-Pakistani War (India); 1973 Mideast War (Egypt, Syria, Iraq); 1982 Lebanon War (Syria).

Interesting Facts

Used by North Vietnam in "one pass, then haul ass" attack strategy ★ prompted US Navy to create Topgun and USAF to start Red Flag ★ in December 1972, scored first-ever air combat kill of a B-52 bomber, over Hanoi ★ nicknamed "Balalaika" and "Pencil," due to shape, also "Blue Bandit" ★ flown by more than 60 nations on four continents ★ still in service some 60 years after first flight ★ suffered early design defect that shifted center of gravity to rear whenever two-thirds of fuel used ★ examined in 1968 by US, which used a MiG-21 captured by Israel ★ in December 1966, North Vietnamese pilots downed 14 F-105s with no losses.



USAF photo by S/A Benjamin Wilson

A Romanian MiG-21 takes off from a Camp Turzii, Romania, runway.



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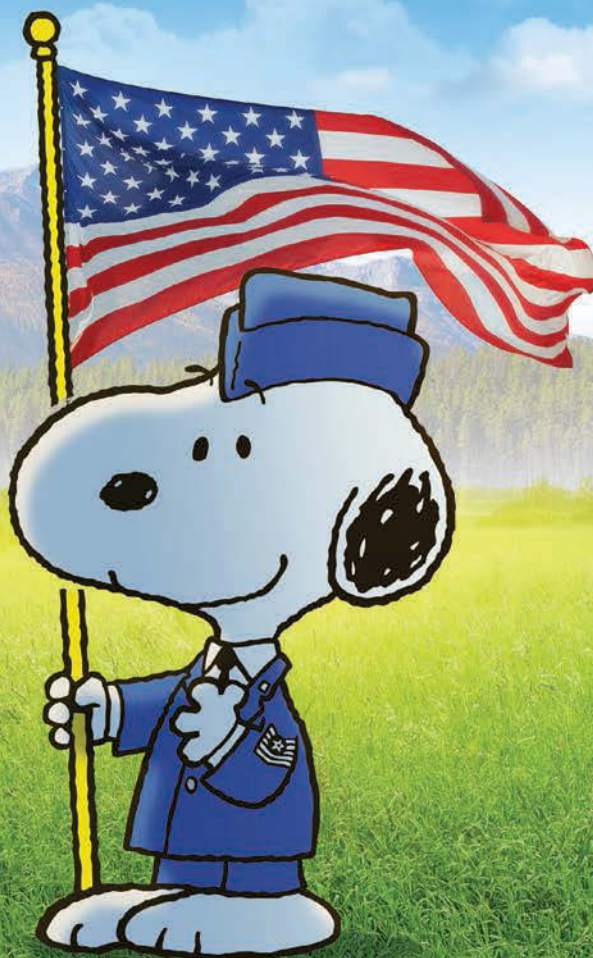
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