October 2014/$10

Journal of the Air Force Association

AIR FORCE MAGAZINE

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AIR FORCE MAGAZINE

October 2014, Vol. 97, No. 10

About the cover: An F-15 undergoes tests by mechanics and test-flight pilots at Warner Robins Air Logistics Complex, Ga. See "Depot Redirection," p. 32. USAF photo by Sue Sapp.

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Editorial

By Adam J. Hebert, Editor in Chief

A Moment of Truth in Europe

By early September, the Free World's response to Russia's assault on Ukraine appeared impotent. Economic sanctions and declarations that Russia's actions were illegal did nothing to alter the status quo. Russian forces poured into Ukraine—cementing their hold on Crimea while making additional inroads in eastern Ukraine.

This troubled the allies that once fell under the domination of the Soviet Union. Led by Vladimir Putin, Russia has repeatedly assaulted nearby nations.

This was through cyber attacks, as in Estonia in 2007, which Russia blamed on patriots it could not control.

It was military, as in the case of the assault on Georgia in 2008.

And it is happening in Ukraine—where Russian forces seized Crimea and pro-Russian "separatists" are supposedly acting on their own in the east.

Other nations along Russia's periphery were legitimately concerned they could be next, so President Obama on Sept. 3 laid out America's commitment to the Baltic NATO states of Estonia, Latvia, and Lithuania in the clearest possible terms. "The defense of Tallinn and Riga and Vilnius is just as important as the defense of Berlin and Paris and London," Obama said in Tallinn, the Estonian capital.

Two weeks later, Col. Jaak Tarien, head of the Estonian Air Force, stirringly explained the importance of such assurances. "I know there are some places in the world where American troops are not welcomed, probably those nations have not lived without their freedom recently," he said at the Air Force Association's Air & Space Conference in National Harbor, Md.

"In Estonia, you are very much welcomed. We know that persistent presence of allies on our soil is the best deterrent and the best security guarantee for our region. Now, when I talk about deterrence and security, I would be avoiding talking about the 800-pound bear in the corner if I didn't talk about Russia, so I will go there."

In 1924, the Soviet Union "sent infiltrators to our young republic, they tried to rally local people to demonstrate" against the government, the colonel explained. The Russians tried to seize "governmental buildings and take over the post office," which was "key to their success, because they were supposed to send a telegraph to Moscow asking in the name of the newly formed government," for Russia to send troops. "Sounds quite familiar, doesn't it?" Tarien asked.

Russian-speaking Estonians "are citizens of Europe, and they want to stay that way, they don't want to be citizens of Russia, but it's irrelevant because to Mr. Putin it doesn't matter," Tarien said. If Putin wants to "assist somebody, he is deciding who to assist, where is the next protest, and where … the little green men go."

Putin will not stop until he is made to stop.

NATO asked Putin about the "separatists" in Ukraine, "Are you sure they are not yours? I mean, they wear your latest issue army uniform that not all your regular units even have yet. Their weapons are the specs that only your special forces and the airborne units have. And, oh, their personal communication system … is the very newest edition that only your elite special forces have. Are you sure they are not your guys?" Putin's ludicrous response, Tarien said, was in essence: "No, they bought it all in [a] military store. Not our guys."

Putin has called the collapse of the Soviet Union the biggest geopolitical disaster of the 20th century, and "it's quite clear, quite evident that he is on a mission to restore the Evil Empire [to] its former glory. Now, I may be the youngest air chief in NATO but I'm old enough to have gone to school in Soviet-occupied Estonia. I remember the Soviet rhetoric that the biggest threat to the world peace is [the] American imperialist," Tarien explained. What Putin seeks is "Europe without America, Europe which he can dominate."

How could Putin decouple the US from NATO? "I can see only one theoretical way: if you prove that Article 5 doesn't work," Tarien said, referring to NATO's collective defense provision. "Article 5 is the bonding glue of the Alliance. If the trust is broken, the Alliance is gone. So if you send your road circus into a NATO country, just a small border area, [and] create confusion" with little green men who are supposedly locals or responding to a request for help, will NATO respond?

"I'm not saying Estonia is next. But I think all of us need to be on alert while … the bear there is staring down the West on the border, looking for a weakness to exploit."

Putin will continue attacking his neighbors, supposedly defending Russian interests, until he is made to stop. Ukraine may face a lengthy Russian occupation.

But for those fortunate enough to be NATO members, Article 5 "is crystal clear. An attack on one is an attack on all," Obama stated. "So if, in such a moment, you ever ask again who will come to help, you'll know the answer: the NATO Alliance, including the armed forces of the United States of America, right here, present, now."

This is unequivocal. There can be no backing down from America's commitment to its NATO partners.

After years of assumed affinity, it is now clear that Putin is no friend to the West and Russia is no European partner. "I think the largest changes to NATO in the history of NATO will take effect [over] the next year-and-a-half to two years," said Air Force Gen. Philip Breedlove, Supreme Allied Commander, Europe, also on Sept.17.

This is a tall order for an Alliance that outlived the Warsaw Pact, expanded into former Soviet territory, and recently began out-of-area operations in Afghanistan and elsewhere.

Until now, the Alliance has avoided stationing forces in Eastern Europe, for fear of offending Russia. "We believe that there needs to be a forward element of NATO forces in these nations that are most threatened," Breedlove said.

This is critical. No matter how clear the pronouncements from Obama or military leaders, Putin has to be willing to listen. NATO men and women stationed near the front in Estonia, Latvia, Lithuania, and Poland would send a message of deterrence that not even Putin could ignore. ✪

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Letters

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About That Flight Suit ...

I was disappointed that you printed James Cheney's letter critiquing CSAF for wearing a flight suit during his meeting with the Chief of the Chinese Air Force *["Letters: Flight Suit," September, p. 12].* There are many legitimate reasons for General Welsh to be in a flight suit. Did you check with his office for comment? Did you consider withholding the letter until you knew the facts surrounding the uniform chosen for the meeting? Printing a comment from CSAF's office would have boosted your credibility. As it is, you look more like the *Air Force Times* than the professional journal of the Air Force Association.

Jerry Allen
San Antonio

The person in that photo with me isn't the Chief of the Chinese Air Force. It's Major General Li, my escort officer in China. In Mr. Cheney's letter he writes, "I doubt that General Welsh just stepped out of his cockpit prior to the meeting." Actually, I had just stepped off the airplane we flew to China—General Li met me at the bottom of the ladder and we walked into their DV reception area at the airport, which is where the photo was taken. By the way, we had previously notified Major General Li through the defense attaché office that I would be in a flight suit when we arrived. He had also planned to wear one, but was held up in a meeting and ended up not having time to change before he came to the airport. We'd been traveling for about 15 hours at that point, and been on the ground in China for about 10 minutes. Mr. Cheney would be happy to know that when I actually did meet the Chinese Air Chief, and everyone else we met in China, I was wearing service dress.

Gen. Mark A. Welsh III,
Chief of Staff, USAF
Washington, D.C.

Knock Off the Hand-wringing

I have appreciated *Air Force Magazine's* efforts over the years to keep attention on the 1996 terrorist attack on Khobar Towers and its political aftermath. Even so, 18 years after the attack, I was surprised to see another Khobar Towers article ("Keeper File: Khobar Towers, Before the Scapegoating") in your August issue *[p. 33].*

In response, I'd like to shed additional light on Secretary Perry's statement—particularly his lament about "prescribed" security measures not taken at the time of the attack.

After admitting that I had taken an "extensive set of security measures … [that] undoubtedly saved dozens, if not hundreds, of lives," the SECDEF declared, "It is also undoubtedly true that significantly fewer casualties would have occurred if all of the prescribed security measures had been implemented by the time of the attack."

Nuts.

Fourteen days after the Khobar attack, Perry rushed to a damning judgment even before his own investigation team had shown up at Khobar Towers. The actual facts were these. Only three "prescribed" recommendations not been completed at the time of the attack. They were three of 39 recommendations in an OSI vulnerability assessment triggered by a car bombing in Riyadh (200 miles away) seven months before. The other 36—along with nearly 100 others that my wing had alone initiated—had been completed.

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

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To help your readers consider the validity of Secretary Perry's "if only they had" lament—and the stage it set—I'll describe each of the three open recommendations—and my humble assessment of their potential impact on our actual casualty numbers.

The first recommended that I disperse key personnel throughout the compound. Key personnel dispersal had begun before the attack occurred, but was not finished. I assess that completion of this recommendation would have had no impact on our casualty numbers.

The second recommended that I install a fire detection system in all of our Khobar buildings. Built of concrete years before the attack by and for the Saudis, our 33 high-rise buildings had not been so equipped. Since the 4404th Wing's "provisional" (temporary) designation meant we had no budget to manage, I built a Five-Year Facility Plan (to include installing the fire detection system) and sent it to CENTAF to work the funding. Although the 13th wing commander, I was the first to put together such a plan. Had a fire alarm sounded the night of the attack, I am doubtful it would have mitigated the casualties. On the contrary, reacting to a fire alarm could have further endangered airmen unknowingly rushing toward the impending explosion.

The third recommended that I install Mylar on the windows. While I also included Mylar in my Five-Year Facility Plan, this recommendation, if completed the night of the attack, could have had an impact on the casualty numbers. In considering that impact, I offer two references:

First, the room I was in at the time of the attack was about 800 feet away from the bomb site. The explosion blew away my room's windows and their frames, suggesting that Mylar would have resulted in fewer—but larger—pieces of shrapnel flying through the air.

Second, and perhaps reflecting the SECDEF's own perception of Mylar's impact, the Pentagon hadn't completed Mylar installation on their own windows five years later when the 9/11 attack occurred.

All other "recommended" or "prescribed" security measures had been completed at the time of the Khobar attack. No other military unit in theater had gone to the extent we had (rooftop lookouts, defense-in-depth entry points, double and triple Jersey barriers on our perimeters, etc.) trying to protect its people.

Regardless, on 31 July 1997, SECDEF Cohen accused me of failing to adequately assess the implications of a terrorist attack at my perimeter and negated a promotion the President had approved, and the Senate had confirmed, over two years earlier.

Another useful comparison when considering SECDEF Perry's "if only they had" lament—and the punitive action taken by his successor against me 13 months later—is the effectiveness of our respective security measures at the time of attack.

Khobar Towers, Saudi Arabia, 9:30 p.m., 25 June 1996. From the time we knew something was awry outside our perimeter, we had three to five minutes to respond. The only reason we had any response time at all was because of a security measure (rooftop lookouts) we alone had initiated four months prior. Our lookouts acted quickly and courageously to get people away from the area.

Pentagon, Washington, D.C., 9:37 a.m., 11 September 2001. With significantly greater surveillance capability and area control authority, Pentagon leadership knew for well over an hour that something was awry outside their perimeter. Thirty-four minutes before the attack, they watched on cable news the second hijacked airliner hit the second WTC tower. Eleven minutes before (and aware there were other hijacked aircraft airborne), they ordered all military bases in the United States to increase threat conditions to Delta status. Five minutes before (the max time I had to respond at Khobar), a Dulles Airport radar approach controller reported a hijacked aircraft

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(Flight 77) was heading eastbound toward Washington, D.C., at a high rate of speed. In all that time, as evidenced by people still sitting at their outer-ring desks when the airliner struck the building, security measures taken by Pentagon leadership (to include the SECDEF) did effectively nothing to protect those working in their own headquarters.

Stoked by his predecessor's rush-to-judgment lament on 9 July 1996, Secretary Cohen's action against me the following summer proved to be a craven endgame, indeed.

T. J. Schwalier
Knoxville, Tenn.

More Than a Simple Hunter-Killer

When I receive *Air Force Magazine* the first article I read is your "Airpower Classics." This month's *[August, p. 88]* article about the Lockheed P-3C Orion is excellent. However, you did leave out that the P-3 is not only an outstanding hunter-killer, it also has several other roles. Just a few examples: Some have been modified into P-3 AEWCs, various electronic surveillance models, and some have been converted by Evergreen as aerial tankers for fire fighting. The list goes on but a lot are still classified projects.

MSgt. Levi Exline,
USAF (Ret.)
Simi Valley, Calif.

Joe Kittinger Is Not an Alien

May I suggest that your magazine, to which I am a longtime subscriber, stay out of the "UFO explanation business"? Three years ago, John Correll authored a long piece regarding UFOs *["USAF and the UFOs," June, 2011, p. 68],* which unfortunately included a discussion of the famous "Roswell Incident." I say "unfortunately" because, by simply parroting the thoroughly discredited Air Force's Project Mogul "balloon explanation" (see "The Roswell Report: Fact vs. Fiction in the New Mexico Desert," 1995), he embarrassed himself as a researcher/writer as well as your otherwise worthy publication. At the time, I immediately got an email off to your "Letters" department pointing out where Correll had gone astray, but you have apparently paid no mind to it and have continued on the same pathway. Now, I have your August 2014 issue featuring an article about the high-diving (in a parachute) Air Force captain, Joe Kittinger ("Kittinger" by Peter Grier, p. 62).

As a prelude to manned space ventures and potential ejections from high-flying aircraft, Project Excelsior was set up in the late 1950s to solve the problems associated with such eventualities. As the project's "go-to guy," Kittinger set a decade's-long record (only recently broken) when he descended to Earth by parachute from the gondola of a helium-filled balloon almost 20 miles up. So far, so good.

Your Mr. Grier goes off the rails and into the deep muddy, however, when he tries to equate the little-bodies-with big-heads said by witnesses to have been recovered from the Roswell UFO crash with a Project Excelsior balloon accident in 1959 involving Captain Kittinger and a fellow high-altitude, balloon passenger, one Captain Dan Fulgham. Instead of parachuting, this time they tried to land the balloon with the gondola they were in on the desert floor just north of the town of Roswell, N.M. In doing so, however, the gondola rolled over and landed on Captain Fulgham's head causing it to swell. The red-headed Joe Kittinger and the hapless Dan Fulgham were then transported to the base hospital at Walker Air Force Base (formerly Roswell Army Air Field) just south of Roswell for treatment. Using the Air Force's account of this incident in its discredited publication, "The Roswell Report: Case Closed," 1997, Grier repeats the tome's suggestion that Fulgham was the "alien" reported seen walking on its own into the hospital, and Kittinger was the "nasty red-headed officer" threatening a Roswell mortician that day. It is here that Mr. Grier commits the unthinkable—a fraud upon the readers of *Air Force Magazine* when he stated the following: "Capt. Joseph W. Kittinger Jr.'s high-altitude balloon flights probably fueled false rumors that space aliens in unidentified flying objects crash-landed [i.e., the Roswell crash] in the New Mexico desert in the late 1950s." How true, perhaps, but for one small detail. Not once does Mr. Grier mention to the readers that the alleged Roswell UFO crash occurred in the year 1947—not 12 years later in 1959 when the Kittinger-Fulgham incident occurred! *Air Force Magazine* can do better than this.

Thomas J. Carey
Huntingdon Valley, Pa.

■ *The Air Force's "The Roswell Report: Case Closed" concluded: "Air Force research revealed that the witness made serious errors in his recollections of the events. When his account was compared with offical records of the actual events he is believed to have described, extensive inaccuracies were indicated including a likely error in the date by as much as 12 years."*—THE EDITORS

In the August issue, writer Peter Grier in the opening paragraph of his article on Kittinger says that on "Aug. 16, 1960, Capt. Joe Kittinger sat in the open gondola of a helium balloon 19.5 miles above the New Mexico desert, looking at a vista only a handful of humans had ever seen." I would really like to know who that "handful of humans" were. The Russian cosmonaut Yuri Gagarin did not make it into space until April 12, 1961.

Maj. Vern J. Pall,
USAF (Ret.)
Tucson, Ariz.

Your story on Joe Kittinger is great. He is the greatest! However, something is missing. As a former GIB (guy in back), am I the only one who wondered what happened to WSO William Reich?

Maj. Paul Giguere,
USAF (Ret.)
Manchester, Conn.

I was the information (now public affairs) officer for the 48th Tactical Fighter Wing at RAF Lakenheath when Col. Joe Kittinger was vice wing commander.

In those post-Vietnam War days the Air Force was investing a lot of time and effort into improving race relations. So early in 1977 when I read the security police morning report and saw that a cross had been burned in front of a barracks, I was very concerned and started thinking about what our public and command information responses should be. But someone else was way ahead of me.

At that very moment, Colonel Kittinger, acting in the wing commander's absence, strode into my office. He handed me a piece of paper and told me, "You will run this statement on page one of the 'Jet 48' (base newspaper) this Friday." He turned and left. Our editor tore up the front page and displayed Colonel K's statement very prominently.

That statement, under his byline, was just what the doctor ordered. It condemned the act, showed how it risked the wing mission by endangering good order and discipline, and concluded, "Those who did this will be found, and they will be punished."

Shortly after the newspaper was distributed, two security policemen turned themselves in. Apparently they'd intended the cross burning as a prank. Regardless, the incident quickly was picked up by the British news media, including the sensational London tabloids.

A court-martial would surely recharge press interest, so I coordinated an initial media attendance plan with our staff judge advocate. I PCS'd before the trial, leaving my successor the remaining can of worms. Then-Capt. Mike Gallagher, later CJCS Gen. John Shalikashvili's PAO as a colonel and now a San Antonio

city council member, had to impose a limited media pool on a large bunch of frustrated British reporters because the base courtroom was so small and probably never again would be so full.

All this was bad enough but it would have been even worse had more-timid souls tried to cover up the incident. Colonel Kittinger's prompt initiative and positive leadership stopped any such tendency in its tracks.

Colonel Kittinger also PCS'd before the trial, and I was proud to salute him as he strapped in to one of our last F-4Ds for a true fighter pilot's return to CONUS. He signed his departure Hometown News Release form with me on the crew ladder holding the clipboard. A great guy. His adventurous postretirement career is just what I'd expect.

Lt. Col. Mark R. Foutch,
USAF (Ret.)
Olympia, Wash.

Cover LaPlante

Kudos to our chief of acquisition, Mr. William LaPlante *["Staying Stealthy," August, p. 29].* His comments are the first in recent history from the highest offices in the Air Force which actually acknowledge—even if only slightly—the battlespace beyond the iron and the data that we've come to love so much: the electromagnetic spectrum. Multispectral low observability (i.e., "stealth") is itself an application of spectrum warfare, undeveloped as such for decades and unrecognized by some among us still.

Anti-access,area-denial environments themselves actually begin as spectrum contests, although the prevailing corporate narrative embraces a reality wherein iron and data will save the day on their own without warfighting consideration of the EMS and wherein stealth is something other than spectrum warfare ("electronic protection," in published doctrine). Just about any AF-trained EWO should probably tell you that any TTP or capability that's not dynamic is probably not one you should base an entire campaign on. So as with the current state of stealth ("static EP"), here we are.

Mr. LaPlante indicates a nuanced realization that we must win the spectrum domain first, deliberately and reliably, before we are entitled to depend on data-centric anything. The continuing free fall of Air Force investment in meaningful spectrum warfare materiel and operational expertise (!) has demonstrated decreasing awareness of that realization. Instead we opt for a cozy swim in its data packets and enclaves. Frankly, data should pay the spectrum rent. You don't get to own anything shared that you're not planning to defend and I suspect we're going to be taken to school in the next major escalation. Expensive toys and all. In any event, please assign a security detail to Mr. LaPlante for the remainder of his tenure: He just demonstrated his value as a critical resource to the Air Force's future viability.

Lt. Col. Judge Bourque,
USAF (Ret.)
Stone Ridge, Va.

Early Jumpers

According to your article "Billy Mitchell's Parachute Plan," by Phillip S. Meilinger, p. 58 of the August issue of *Air Force Magazine,* the drop by German parachutists at Sola Airfield, Stavanger, Norway, April 1940 was the first combat air drop by parachutists in a military action.

The first airborne "attack" was 12 March 1938 when German paratroopers seized and captured an airfield at Wagram, Austria, during the takeover of Austria.

Phillip R. Earles
Princeton, Ind.

Enemies for Hire

I'd like to drop a footnote to Walter Boyne's fascinating article, "Enemies for Hire" (June, p. 42), about the rise of commercial fighter vs. fighter enterprises conducting dissimilar air combat tactics (DACT) training for our fighter aircrews. At about midway, Boyne

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mentions that "Convair F-106s" were used by the Navy in its early DACT programs.

I wonder if Boyne acquired this tidbit of F-106 lore from a DACT program that was the subject of an *Air Force Magazine* feature article in the late 1970s about Langley-based 48th Fighter Interceptor Squadron (FIS) F-106s starting up a regular DACT program with NAS Oceana-based VF 101 F-4Js from across the river. What distinguished this particular program was that in 1969 it was the first ever regularized Air Force-Navy DACT program—preceding establishment of both Navy Top Gun and Air Force Aggressors.

I know about this because I was involved as the 48th FIS point person, working under the direction of my ops officer, then-Maj. John Wotring. Together with my VF 101 counterpart, Lt. Cmdr. Jack Ready, we assembled the F-106-F4J DACT syllabus and flew the first missions over Virginia's Albemarle Sound in a program that lasted for many years. We liked to think that we helped to start up modern-day DACT.

Lt. Col. R. D. Truitt,
USAF (Ret.)
Little Silver, N.J.

Here We Go Again

Just read your editorial from the July issue *["This War Isn't Over," p. 4].* "We may have to fight again to stabilize Iraq and protect Americans that remain there." You were dead on target.

That didn't take very long, did it? I am sickened by the inaction of the Administration both in dealing with ISIS and the Ukraine.

James Malecki
Pompano Beach, Fla.

Fast Study

From a very early age I had read everything written by Lindbergh *["The Cloud Over Lindbergh," August, p. 76].* In 1970, '71, and '72 I was managing a drone contract for 1st Test Squadron, 13th Air Force. Our launch site was Wallace Air Station, more than 100 miles north of Clark AFB, Republic of the Philippines. We were assembling, testing, launching, tracking, controlling, recovering, and refurbishing BQM-34A drones.

About once a month I went to Clark Air Force Base to review our performance with 1st Test Squadron. On one of these trips I heard that the Clark Library had received a copy of a Lindbergh handwritten diary. I spent many hours reading this document. The content was very controversial. Since then the only existing copies I have found are printed and very sanitized. These shortened versions have deleted much of the content.

Although covering a different subject, the information was every bit as controversial as the broadcast Lindbergh made from Madison Square Garden in 1940. The speech was carried live on WOR New York. Because it was Lindbergh talking, this kid was very interested.

John Ewing
Yuma, Ariz.

Lost Opportunity

As a Vietnam era C-130E pilot I read with interest Colonel Broughton's article "The Vietnam War That Wasn't" *[August, p. 68].* During the early 1970s, I fully expected to receive orders to Southeast Asia but was concerned that during such an assignment my potential contribution would have been severely limited by the Administration's micromanagement of the air campaign. I recall many discussions among my squadron compatriots about the limitations that those flying in Southeast Asia were experiencing. These limitations were confirmed by returning crew members.

While on the one hand it was enlightening to read Colonel Broughton's article about the Joint Chiefs option to more effectively utilize airpower, and potentially shorten the war, I was also saddened. It was a real tragedy that so many lives were lost that could have been spared had the Administration not adopted the philosophy of gradualism. The lost opportunity to shorten the Vietnam War, because of micromanagement, will forever resonate in my mind.

Col. Jon S. Meyer,
USAF (Ret.)
Baltimore

Left Side Right

Thank you for your excellent publication! As a Life Member of AFA, I've been privileged to enjoy it for many years—well done!

I would like to comment, however, on the superb article "The US, Japan, ... and China," in the June 2014 edition *[p. 32].* On p. 33, the author states that "Japan annexed the [Ryukyu] islands in 1879 ... [and] retained control of the islands after World War II ended in 1945."

Having spent a number of years flying tankers out of Kadena Air Base in Okinawa in the '70s, I would like to make a minor historical correction to that statement. The US actually took control of the Ryukyus after World War II; President Nixon gave them back to Japan (at the time the technical term that was bandied about was reversion) on 5 May 1973. It was not a popular decision with the Ryukyuans—the mainland Japanese imported several thousand police to help ease the transition ("one on every corner").

The first choice of the local populace at the time was overwhelmingly for independence, followed by remaining under US control; "reverting" to Japanese control was a very distant third choice.

As that fateful day approached, the local shops started putting two prices on all of their merchandise—one in dollars that they'd used since World War I and one in the "new" incoming currency—Japanese yen (which, by the way, was about double the US price at the then going rate of Y300 = $1).

It's interesting that the last part of reversion, switching from driving on the right side of the road (US style) to the left side (Japanese style), didn't actually occur until five years later—31 July 1978. For several months ahead of that date, all of us on the island (military and civilian alike) had to go through an additional traffic course and get the back of our 3rd Air Force driver's licenses stamped ("Cope Switch"—I still have mine). Meanwhile, the local road construction workers were busy installing a new road sign abeam each and every existing one—but on the left side of the road! When these were installed, they were covered with a canvas sack, with a drawstring on the bottom to keep them from blowing away. Then, at midnight Sunday evening, 31 July, all the roads on the entire island were closed to all but emergency/official traffic, and the road crews went throughout the island, moving the canvas bags from the sign on the left to its twin on the right. Then, at 0600 on Monday morning, the roads were reopened, but with everyone driving on the left instead of the right (and using the newly installed signage).

And again, of course, with one of the several thousand imported mainland Japanese police on each and every corner to help ease the transition/help enforce the new traffic regulations.

But it worked! As a matter of fact, we learned so well that, when we PCS'd to Vance Air Force Base in 1980, and the main gate was entered by turning left, my wife quickly earned a reputation with the local gate guards—"Oh, yes, here's the lady from Kadena who always turns into the left (outgoing lane!) instead of the right (incoming) one!

Thank you for letting an old retired guy ramble on with his war stories about a minor historical correction to one of your outstanding articles.

Maj. Howard Deunk,
USAF (Ret.)
Vance AFB, Okla.

UNIQUELY READY,
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BOEING

Aperture

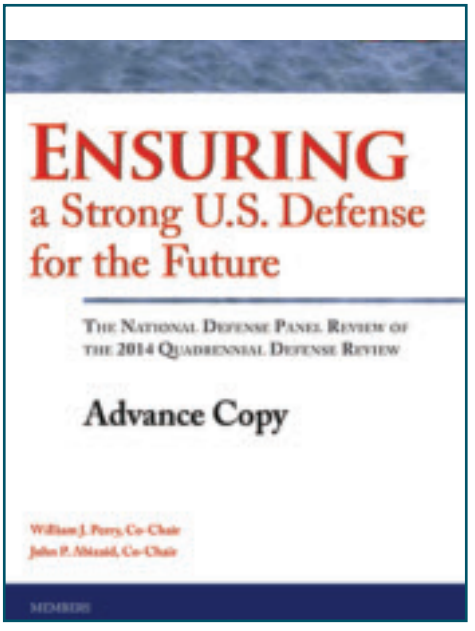
By John A. Tirpak, Editorial Director

Bipartisan consternation; Our own worst enemy; Don't forget the nukes; Points for realism ....

PANEL: SEQUESTRATION IS A "CRISIS"

Soon after the Pentagon released its 2014 Quadrennial Defense Review earlier this year, a dissatisfied Congress asked a bipartisan panel of experts to look it over and give a second opinion. The panel has reported back, with a blunt conclusion: The US military isn't big enough to do the stated job, and the Budget Control Act, which inflicts deep defense cuts through sequestration, must be repealed. Now.

Sequestration has imposed a "readiness crisis," and Congress should appropriate funds to reverse it "on an emergency basis," according to the 10-member National Defense Panel, co-chaired by former Defense Secretary William J. Perry and retired Army Gen. John P. Abizaid. Sequestration constitutes a "serious strategic misstep" that is "ultimately self-defeating" and will put the US in grave danger for years to come, the panel said in its report, "Ensuring a Strong US Defense for the Future."



The forces called for in the QDR "clearly exceed" those resulting from sequester-level spending, the panel pointed out, making the national military strategy impossible to execute. The members also flatly rejected the Pentagon's underlying notion that expected funding should play a big role in determining strategy.

The "QDR is not the long-term planning document envisioned by Congress," the panel said, "because it was dominated by the shifting constraints of various possible budget levels." The panelists said they believe "national defense needs should drive national defense budgets, not the opposite," and recommended that Congress ask the Pentagon for a plan to build needed forces "without undue emphasis on budgetary constraints."

Explaining the QDR at its release, defense leaders said it's pointless to identify needs that won't be funded, insisting the document has to be "realistic."

A review of defense requirements not driven by dollars will likely conclude that the US "must prepare for what will almost certainly be a much more challenging future" in national security, the panel said.

In addition, the NDP urged expansion of the Navy and Air Force and said the planned drawdown in Army end strength "goes too far." The Air Force, the NDP pointed out, "now fields the smallest and oldest force of combat aircraft in its history" and will shrink even further "to approximately 50 percent of the current inventory by 2019" if sequester continues. The Navy is headed toward a fleet of "260 ships or less" but needs between 323 and 346 to meet its obligations, the panel said. All of these force levels are "unacceptable," it said.

Because the scenarios that might involve the US in a new major war are multiplying rapidly, the group insisted there be no delay in getting the US military back up to speed.

TWO WARS, NO WAITING

Since the early 1990s and the end of the Cold War, the US has used the so-called "two-war" scenario as both an ersatz strategy and force-sizing device. It calls for the US to have enough forces to prevail rapidly in one major regional war while being able to deter or stop an aggressor in another region until the first conflict is resolved—at which point the full force can be brought to bear and obtain victory in the second war. In recent years, the idea has been summarized as "win-hold-win."

The NDP said it finds "the logic of the two-war construct to be as powerful as ever" but that it needs some fine-tuning.

It nominated its own take on the two-war construct, as follows: "The United States armed forces should be sized and shaped to deter and defeat large-scale aggression in one theater, preferably in concert with regional allies and partners, while simultaneously and decisively deterring or thwarting opportunistic aggression in multiple other theaters by denying adversaries' objectives or punishing them with unacceptable costs, all while defending the US homeland and maintaining missions such as active global counterterrorism operations."

The two-war model was useful in the early '90s and remains so, but since then, "the international security environment has deteriorated," while the size of the US military has declined, the NDP said, urging a return to force levels of the early post-Cold War period.

Today, the US "could plausibly be called upon to deter or fight in any number of regions in overlapping time frames—on the Korean peninsula, in the East or South China Sea, South Asia, in the Middle East, the Trans-Sahel, Sub-Saharan Africa, in Europe, and possibly elsewhere." It's a more dangerous world than it was when the two-war construct was new and requires more capacity as well as capability, the panelists said.

Everything that can be done to save money should be done, the NDP said, noting there's certainly more efficiency to be found in defense management, reducing acquisition costs, and cutting the Pentagon's in-house health care expenses, now nearing $60 billion a year.

Moreover, "the panel believes that the costs of maintaining a quality all-volunteer force need to be reduced" to avoid cutting

force structure, readiness, or modernization further. The NDP applauded the formation of the Military Compensation and Retirement Modernization Commission, expressing its hope that the other panel will find a way to "be fair" to taxpayers, serving and retired personnel alike.

Likewise, the NDP called on Congress to act responsibly and allow another base realignment and closure, or BRAC, process "as soon as possible" because DOD has 20 percent more infrastructure than it needs. "Delay is wasteful," the panelists said.

The US should up its presence in South Asian waters and the Middle East, to reassure allies "of our capability and our resolve." Specifically, the NDP said the US military must "deter Iran" and present a counterweight to "the rising tide of violence in Iraq and Syria."

RUSSIA, TECHNOLOGY, AND NUKES

The NDP didn't criticize the Obama Administration's so-called "pivot" to the Pacific, but said that Russian adventurism makes it all the more important that NATO "bolster the security of its own frontline states, especially in the Baltics and across southern Europe, but also in Poland, lest they be subject to intimidation and subversion." The US "must lead the alliance in this regard," and the NDP suggested that Europe is a "net producer of security."

The NDP also wants "targeted reinvestment in research and development" so the US can maintain or regain a lead in intelligence, surveillance, and reconnaissance, "space architecture, cyber, … joint and coalition command and control, air superiority, long-range and precision-strike capability, undersea and surface naval warfare, electric and directed energy weapons, strategic lift, and logistical sustainment."

While it wasn't in the NDP's purview to review US nuclear strategy or capability, the members did say that they "are quite concerned about the aging of [US] nuclear forces," and the fact that some elements of it "are approaching obsolescence." Fixing that "would be a substantial cost on top of the already costly increase in general purpose forces recommended in this report." The NDP recommended a successor panel to review the modernization of nuclear arsenal, in search of a "sustainable program plan" free of the "neglect and political whiplash it has endured since the end of the Cold War."

The nation certainly does have to get its "fiscal house in order," but fixing it by slashing defense—especially given that defense had already given up almost a half-trillion in projected spending before the Budget Control Act was enacted—is the wrong thing to do, the panelists said.

"American military forces will be at high risk to accomplish the nation's defense strategy in the near future unless recommendations of the kind we make in this report are speedily adopted."

Besides Perry and Abizaid, NDP members included retired Marine Corps Gen. James E. Cartwright; Ambassador Eric S. Edelman, former undersecretary of defense for policy; Michèle D. Flournoy, also a former USD for policy; retired Army Lt. Gen. Francis H. Kearney; retired Army Lt. Gen. Michael D. Maples; former Rep. Jim Marshall (D-Ga.); retired Air Force Gen. Gregory S. Martin; and former Sen. Jim Talent (R-Mo.).

THE AIR FORCE ADDS UP

Alone among the armed forces, the Air Force's preliminary budget submission to the defense leadership—which includes a daunting list of new gear—seems well-balanced and paid for with offsets, the Pentagon's acquisition, technology, and logistics chief said in September.

Frank Kendall, Pentagon weapons czar, said at the COMDEF 2014 conference in Washington, D.C., that the services submitted their program objective memoranda proposals just after Labor Day, and only the Air Force's appears to be "reasonably balanced." Given USAF's moves to shrink its size, both in people and aircraft, Kendall said he sees no reason why the service can't afford the F-35 fighter, Long-Range Strike Bomber, the KC-46 tanker, a replacement for the E-8 Joint STARS, and the T-X trainer.

That impressive list is "still affordable," at the budget levels proposed by President Obama, Kendall said, but if sequestration goes back into force, it will have to be rethought.

"There's the problem, of course, with ... Congress agreeing to anything ... we want to do [that] will save money," he said.

The Defense Department has asked Congress to accept "reductions in the growth rate of compensation," as well as a BRAC, to "lay-up some cruisers," retire the A-10 fleet, and realign Army aviation.

However, "the answer to all of these, so far, seems to be, basically, 'No.'" That will present the Pentagon with unsavory choices, Kendall said. Without the shifts to new equipment and research and development, "I'm deeply concerned about the fact that we are at risk of losing our technological superiority in certain areas of warfare."

The Air Force's sister branches haven't stepped up yet to the unhappy task of shrinking in some areas to pay for needed modernization, Kendall said.

"The other services, I think, are trying to preserve different parts of their force structure, and they're not quite as in balance, perhaps," as the Air Force, Kendall observed.

The Army "has made a decision to emphasize end strength," but has "very little left in terms of modernization." The Navy is making an effort toward striking a balance, but is too focused on shipbuilding, Kendall added. Meanwhile, USAF has made the "difficult trade-offs" necessary to have a robust modernization plan.

Kendall said he's concerned that certain programs that don't represent a major platform but are "very important to the department," such as electronic warfare, missile systems, wide-area surveillance systems, and communications, may not be getting all the attention they deserve.

The submission of the POMs marks the beginning of the season of budget horse trading, in which Kendall's shop looks at the service proposals and suggests things AT&L believes "should be in the service budgets but aren't there."

Kendall said he's got grave concerns about research and development. The defensewide R&D budget has plummeted from $80 billion to $60 billion, he said—a "major cut."

"That's a lot of engineers who've lost their jobs," he said.

Consequently, Kendall is pushing for "tailored" R&D that will focus on what the Pentagon believes will be the game changers of the future.

The department's new deputy secretary, Robert O. Work, is "looking for what he calls the 'technology offset strategy,'" Kendall reported. In the 1950s, that meant tactical nuclear weapons, and in the 1980s to 2000s, it was "precision weapons, stealth, networked forces, and wide-area surveillance systems, … the capabilities we demonstrated [in] the first Gulf War … and that we've continued to rely on in the operations that we've done over the … 20 years since then."

Without giving away all the new technology pushes, Kendall suggested they will be in the areas of "things that allow us to act from longer range" as well as unmanned systems and "autonomy."

There will also be a new shift away from "the reliance on small numbers of very expensive objects." In space, for example, "we need to start looking at how to get quantity into the mix at a reasonable cost." ✪

Verbatim

verbatim@afa.org

By Robert S. Dudney

Things Fall Apart

"In the 1930s, when things began to go bad, they went very bad very quickly. Japan's invasion of Manchuria in 1931 exposed the hollow shell that was the League of Nations—a lesson acted upon by Hitler and Mussolini in the four years that followed. Then Germany's military successes in Europe emboldened Japan to make its move in East Asia. ... The successive assaults of the illiberal aggressors, and the successive failures of the liberal powers, thus led to a cascade of disasters. ... Let us hope that those who urge calm are right, but it is hard to avoid the impression that we have already had our 1931. As we head deeper into our version of the 1930s, we may be quite shocked, just as our forebears were, at how quickly things fall apart."***—Robert Kagan, Brookings Institution,*** **Wall Street Journal,** ***Sept. 5.***

McCarthy's SITREP

"We have a problem because America's not leading. We need a very clear, concise foreign policy doctrine for America. Currently, our friends don't trust us, and our enemies don't fear us."***—House Majority Leader Kevin McCarthy (R-Calif.), interview on Hugh Hewitt radio program, Sept. 4.***

No Strategy Yet

"I don't want to put the cart before the horse. We don't have a strategy yet."***—President Barack Obama, on how the US will deal with ISIS, White House news conference, Aug. 28.***

Now We Have One

"Tonight, with a new Iraqi government in place, and following consultations with allies abroad and Congress at home, I can announce that America will lead a broad coalition to roll back this terrorist threat. ... "Our objective is clear: we will degrade, and ultimately destroy, [ISIS] through a comprehensive and sustained counterterrorism strategy."***—President Obama, address to the nation, Sept. 10.***

Zinni's Question

"My God, we are the most powerful nation in the world. This is a moment we have to act. How many Americans getting their throats cut on TV can we stand?"***—Retired USMC Gen. Anthony C. Zinni, referring to ISIS murders of journalists James W. Foley and Steven J. Sotloff,*** **Tampa Tribune,** ***Sept. 3.***

Paradise Lost

"We have lost the electromagnetic spectrum. That's a huge deal when you think about fielding advanced systems that can be [countered] by a very, very cheap digital jammer. ... We have got to, in my opinion, regain some dominance in the electromagnetic spectrum, or at least parity, so things that we buy continue to operate as we intended them to. ... People are able to create very agile, capable systems for very little money, and those agile, capable systems ... can impact the performance of some of our high-end platforms."***—Alan Shaffer, DOD research and engineering chief, quoted in breakingdefense.com, Sept. 3.***

Revenge of the Little Guys

"While we face a multitude of threats and sources of instability in the world, I am greatly concerned that our military's technological superiority is being challenged in ways we've never experienced before. As the United States emerges from more than 13 years of grinding warfare and large-scale counterinsurgency operations, we're seeing firsthand that the rest of the world has not stood still. Disruptive technologies and destructive weapons, once solely possessed by only advanced nations, have proliferated widely and are being sought or acquired by unsophisticated militaries and terrorist groups. Meanwhile, China and Russia have been trying to close the technology gap by pursuing and funding long-term, comprehensive military modernization programs. They are also developing anti-ship, anti-air, counterspace, cyber, electronic warfare, and special operations capabilities that appear designed to counter traditional US military advantages—in particular, our ability to project power to any region across the globe by surging aircraft, ships, troops, and supplies. All this suggests that we are entering an era where American dominance on the seas, in the skies, and in space—not to mention cyberspace—can no longer be taken for granted. And while the United States currently has a decisive military and technological edge over any potential adversary, our future superiority is not a given."***—Secretary of Defense Chuck Hagel, address to a defense industry conference, Newport, R.I., Sept. 3.***

Welsh on the Force Mix

"The intent is to figure out how to quit doing things that stand in the way of doing things with common sense. ... If we can become more efficient as an Air Force without losing operational capability, by putting more things in the Air Guard and Reserve component, then why wouldn't we?"***—Gen. Mark A. Welsh III, USAF Chief of Staff, speech to the National Guard Association of the United States, Aug. 24.***

Again, Der Führer

"Putin is ... more talented and dangerous than either Nikita Khrushchev or Leonid Brezhnev. Their truculence was not fueled by fury. Putin's essence is anger. It is a smoldering amalgam of resentment (of Russia's diminishment because of the Soviet Union's collapse), revanchist ambitions (regarding formerly Soviet territories and spheres of influence), cultural loathing (for the pluralism of open societies), and ethnic chauvinism that presages 'ethnic cleansing' of non-Russians from portions of Putin's expanding Russia. This is more than merely the fascist mind; its ethnic-cum-racial component makes it Hitlerian. Hence Putin is 'unpredictable' only to those unfamiliar with the 1930s."***—Syndicated columnist George F. Will,*** **Washington Post,** ***Sept. 3.***

Dissatisfaction Abounds

"I see our veterans as American heroes—not as cartoon characters. ...The VA is a broken system, and this is yet another example of the failure of VA executives to provide veterans the respect and quality service they deserve. ... I am calling on the Secretary of Veterans Affairs, Robert McDonald, to publicly apologize and deal with executives responsible for this offensive training guide."***—Rep. Blake Farenthold (R-Tex.), on the VA training guide depicting a dissatisfied veteran as "Sesame Street" character Oscar the Grouch, statement issued Aug. 28.***

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Air Force World

By Amy McCullough, News Editor

Air National Guard Pilot Killed in F-15C Crash

An F-15C pilot from the Massachusetts Air National Guard was killed when his F-15C crashed Aug. 27 in the mountains of western Virginia.

Lt. Col. Morris Fontenot Jr., a 1996 Air Force Academy graduate, was a full-time Air Guardsman with the 104th Fighter Wing at Barnes Arpt., Mass. Fontenot, who was serving as wing inspector general and as an F-15 instructor pilot, had more than 2,300 flight hours, the Air Guard said. A graduate of the USAF Weapons School, he served as a squadron commander at multiple locations and was a decorated combat veteran.

Fontenot's F-15 Eagle was on a solo flight to Naval Air Station New Orleans for an aircraft upgrade. He reported a mechanical problem shortly before radio communications were lost. Search parties that reached the wreckage determined that Fontenot did not successfully eject before the crash.

"The 104th Fighter Wing is extremely grateful for the outpouring of support demonstrated by our local community, and [the] nearly 30 agencies in the Virginia area that spent more than 30 hours scouring over dangerous terrain, committed to finding our fallen airman and to bring him home," said Col. James Keefe, 104th Fighter Wing commander, in an Aug. 29 news release.

Eighty-three F-16Ds Grounded for Structural Cracks

The Air Force grounded 83 of its two-seat F-16D Fighting Falcons due to structural cracks discovered on the canopy sill between the front and rear pilot seats.

Cracks found on one aircraft during a routine postflight check led to an immediate action time compliance technical order to inspect all 157 F-16Ds. The inspections found cracks in the canopy sill longeron in 83 aircraft. The remaining D models were restored to flight status as of Aug. 18.

Air Force F-16 Systems Program Office and Lockheed Martin engineers were still analyzing the F-16 structures and developing repair procedures in late August to allow a limited return to flight by the affected aircraft until a permanent fix can be made.

The F-16Ds are used primarily for flight training by Air Education and Training Command and the Air National Guard. Air Force officials are working with the operational units to mitigate the impact of the grounding.

AFSOC Airman Awarded Silver Star

TSgt. Matthew McKenna, a combat controller with the 22nd Special Tactics Squadron at JB Lewis-McChord, Wash., was awarded the Silver Star, the third highest award for valor, for his bravery during a 13-hour firefight with Afghan insurgents in 2013. Supporting ground troops during the battle, McKenna called in air strikes and two aerial resupply drops to replenish ammunition. He then exposed himself to heavy enemy fire to coordinate danger-close air strikes to counter an intense assault.

McKenna was awarded a Bronze Star, as well, for other missions supporting ground troops in Afghanistan.

At the same ceremony, Lt. Gen. Bradley A. Heithold, commander of Air Force Special Operations Command, presented the Bronze Star Medal with Valor Device to combat controller SSgt. James Sparks, who also is assigned to the 22nd STS.

Kadena Rescue Airman Awarded DFC

SSgt. Zachary C. Hoeh, a pararescueman with the 31st Rescue Squadron at Kadena AB, Japan, was awarded the Distinguished Flying Cross with Valor Device on Aug. 1 for his heroism retrieving a wounded soldier from a mine-laden ambush site in Kandahar, Afghanistan, in 2011.

On May 26, 2011, Hoeh was sent on a "harrowing rescue mission into the Shorbak district, Kandahar province, where a squad of United States Army Pathfinders had been decimated by multiple improvised explosive device attacks,"

reads his DFC citation. At the time, Hoeh was serving with the 46th Expeditionary Rescue Squadron.

Guardian Angels in the lead HH-60 successfully rescued two patients before the aircraft lost power, causing the helicopter to rapidly descend and "narrowly escape crashing to the desert floor." Hoeh "immediately volunteered" to recover the remaining casualty.

Surrounded by mines and explosives, he was hoisted down to the ambush site, secured the patient, and signaled for extraction in less than 15 seconds, according to the citation. Once onboard, Hoeh helped to evaluate and treat the soldier as the flight returned to Kandahar Airfield.

Hyten Takes Charge of Space Command

Gen. John E. Hyten became the 16th commander of Air Force Space Command, succeeding Gen. William L. Shelton, in an Aug. 15 ceremony at Peterson AFB, Colo.

Hyten, who had been AFSPC's vice commander since May 2012, received his fourth star prior to taking charge. He now oversees the Air Force's space and cyber forces, some 42,000 airmen and civilians worldwide.

Shelton is retiring from the Air Force after more than three-and-a-half years as AFSPC's leader and a career of 38 years in uniform.

First Female Bomb Wing Commander

Col. Kristin E. Goodwin took command of the 2nd Bomb Wing at Barksdale AFB, La., on Aug. 1, becoming the first woman to command an Air Force bomber wing, according to an Air Force Global Strike Command news release.

Goodwin is a command pilot with nearly 2,900 hours in the EC-130 Compass Call, B-2 stealth bomber, and other aircraft. Goodwin, who previously served as vice commander of the 509th Bomb Wing at Whiteman AFB, Mo., is now responsible for providing B-52H Stratofortress aircraft, aircrew, and associated support personnel and resources to conduct global bomber taskings.

"Make no mistake, Kristin knows airpower. She has advocated long-range combat airpower in many circles. There is no doubt the B-52 will see the results of those efforts in coming years," said Maj. Gen. Scott A. Vander Hamm, 8th Air Force commander, during the ceremony.

09.04.2014

C-17 Globemaster IIIs are prepared to be loaded with 2nd Cavalry Regiment Stryker armored vehicles during Steadfast Javelin II at Ramstein AB, Germany. The NATO exercise took place across Estonia, Germany, Latvia, Lithuania, and Poland.

USAF photo by SrA. Damon Kasberg

USAF photo by TSgt. Regina Young

You're Supposed to Zipper Merge: *Airmen maneuver an F-15 through traffic on a road near the City Hall in Warner Robins, Ga. The aircraft was loaned to the city by the Georgia Air National Guard to serve as a static display for a new veteran's memorial.*

The command change came on the 20th anniversary of the 47-hour globe-circling flight by two 2nd BW B-52s that were the first ever to drop bombs—over Kuwait's Udairi Bomb Range—during a circumnavigation mission.

New Boss at 24th Air Force

Maj. Gen. Burke E. "Ed" Wilson assumed command of 24th Air Force at JBSA-Lackland, Texas, during a July 31 change-of-command ceremony.

Wilson, who previously served as director of space operations in Washington, D.C., replaced Maj. Gen. James K. "Kevin" McLaughlin, who led the numbered air force since June 2013, according to a release. McLaughlin was promoted to lieutenant general and has become deputy commander of US Cyber Command at Fort Meade, Md.

The 24th Air Force is the Air Force's cyber unit.

Pease Named First KC-46A ANG Main Operating Base

Pease Intl. Tradeport ANGS, N.H., will be the first Air National Guard-led main operating base for the KC-46A Pegasus, the Air Force announced Aug. 6.

Pease, which was named as the preferred alternative in May 2013, was selected as a main Guard operating base after officials analyzed operational considerations, installation attributes, economic, and environmental factors. It was chosen because of its highly successful Active Duty association, which would lead to a lower Active Duty manpower requirement, and its location in a region of high air refueling demand.

The KC-46A "remains one of our top acquisition priorities. Making a final basing decision is an important step in recapitalizing the tanker fleet," Air Force Secretary Deborah Lee James said.

The formal Pegasus training unit at Altus AFB, Okla., and the first Active Duty-led main operating base at McConnell AFB, Kan., will begin receiving aircraft in 2016, and the first KC-46As are scheduled to arrive at Pease beginning in Fiscal 2018.

Eielson Preferred for PACOM'S First F-35As

The Air Force has selected Eielson AFB, Alaska, as the preferred alternative to host the first F-35A Lightning II squadrons in the Pacific area of responsibility, the service announced Aug. 7.

The air base, located near Fairbanks, was selected due to its ability to support the mission, economic factors, and environmental considerations, officials said in a press release.

By the Numbers

848

The number of airmen Air Force Global Strike Command will add to its missile and bomber wings beginning this fall, in an effort to improve the culture and mission effectiveness of the nuclear force.

"Basing the F-35s at Eielson will allow the Air Force the capability of using the Joint Pacific Alaska Range Complex for large force exercises using a multitude of ranges and maneuver airspace in Alaska," Air Force Secretary Deborah Lee James said. "This, combined with the largest airspace in the Air Force, ensures realistic combat training."

The F-35A basing decision will become final on successful completion of the required environmental impact assessment. The Air Force expects the first of 48 F-35As to begin arriving at Eielson in 2019. The service still must decide where to base the 18th Aggressor Squadron's F-16s, currently at Eielson.

Operations Group Formed for AFGSC Helicopters

Air Force Global Strike Command formed a provisional helicopter operations group that will provide a more focused command chain for the three helicopter squadrons in 20th Air Force.

The operational group, established at F. E. Warren AFB, Wyo., will work to "identify, prioritize, and create the facility, personnel, communication, and process infrastructure required" to take control of the three squadrons at the end of its provisional period, said Col. Dave Smith, the helicopter operations group commander, in a July 31 news release.

The group was recommended by the Force Improvement Program, said Maj. Gen. Jack Weinstein, 20th Air Force commander.

Look Out Below: ***Maj. Zensaku Munn relays drop clearance to an inbound C-130 over Shimoda bay, Japan, during the Shizuoka Comprehensive Disaster Drill, an exercise honing tactical air delivery of low-cost, low-altitude bundles containing disaster relief. US airmen and marines cooperated with Japanese military members in three disaster relief managment exercises in the region over a three-day period in August.***

Flight Restrictions on Test F-35As Eased

The Pentagon in mid-August relaxed some flight restrictions on the test fleet of F-35 strike fighters following a June engine fire at Eglin AFB, Fla. Under the restrictions, the 20 test aircraft can fly six hours between mandatory engine inspections, instead of the three-hour limit still imposed on the 79 other Air Force, Navy and Marine Corps F-35s.

Program officials said the older F-35s are considered less likely to have the engine problem because they are already "broken in," and engineers think if the problem were to occur on those jet aircraft, it would have happened already.

Program Executive Officer Lt. Gen. Christopher C. Bogdan said Sept. 3 the natural "flex" of the mishap engine under high-G conditions caused fan blades to "rub" and "dig too deep" in the rubber-like seal around the power plant.

From 138 possible causes, "we've narrowed it down to four" and the root cause could be some combination of them all, Bogdan said.

Steps to address the issue are underway, including a "burn in" technique requiring two sorties per engine that could prevent the problem on other jets.

Bogdan expects a permanent fix in late October, but "I need 21 test airplanes" back to full capability "by the end of the month or else there will" be delays to the flight test program.

—Otto Kreisher and John A. Tirpak

USAF photo by Osakabe Yasuo

Sometime next year, the new group will assume control of the 37th, 40th, and 54th Helicopter Squadrons and a newly formed operations support squadron tailored for the three helicopter units.

Installation and Mission Support Center Activated

The Air Force Installation and Mission Support Center was activated on Aug. 8 at its temporary headquarters at JB Andrews, Md.

Maj. Gen. Theresa C. Carter was named provisional commander of the center, which is intended to consolidate major command-level installation and mission support activities into a single location.

The center will also "become the parent organization for several existing field operating agencies," including "Air Force Security Forces Center, Air Force Civil Engineer Center, Air Force Installation Contracting Agency, the services directorate of the Air Force Personnel Center, and other FOAs," states the Aug. 7 press release.

The center was established in response to a 2013 Defense Department mandate to identify ways to reduce overhead and redundancies and consolidate staffs.

50 More Former ICBM Sites Destroyed Under New START

The last of 50 deactivated Minuteman III intercontinental ballistic missile launch facilities once operated by the 564th Missile Squadron at Malmstrom AFB, Mont., was demolished Aug. 5, another step toward US compliance with the New Strategic Arms Reduction Treaty, signed with Russia in 2010.

Contractors used heavy equipment to bury the site's 110-ton launcher closure door and fill the launch tube with dirt, eliminating it as a usable missile launch silo.

The removal of the 564th ICBM sites now leaves the 341st Missile Wing with 150 Minuteman III missiles on alert. In addition, another 50 silos already were destroyed at F. E. Warren AFB, Wyo., leaving only three ICBM test silos at Vandenberg AFB, Calif., yet to be destroyed before the US meets the New START mandate.

The treaty, which became effective Feb. 5, 2011, limits both countries to 1,550 nuclear warheads deployed on 700 ICBMs, sea-launched ballistic missiles, and nuclear-capable bombers.

Aggressor Unit Inactivating

Budget cuts and service "right-sizing" are claiming one of the Air Force's two Aggressor units based at Nellis AFB, Nev., according to Air Combat Command.

The 65th Aggressor Squadron, which flies 18 older model F-15Cs, stood down on Sept. 26. Six of the F-15s—painted to look like Russian-made Flankers—plus a spare airplane, as well as nine pilots and 90 maintainers, will temporarily transfer to Nellis' 64th Aggressor Squadron. The aircraft will later shift to other units or retire to the Air Force's aircraft "Boneyard." The F-15Cs not going to the 64th will be retired in September.

There was a Nellis ceremony to inactivate the unit in September. Asked if the move will affect the quality of Red Flag and other exercises at Nellis, ACC spokesman Capt. Andrew Schrag told *Air Force Magazine* on Aug. 11, "We are confident the quality of training … will remain world-class." Schrag said, "Details of future training presentations are being discussed and evaluated."

Dusty Reapers: ***Airmen with the 451st Expeditionary Aircraft Maintenance Squadron pass by MQ-9 Reapers at Kandahar Airfield, Afghanistan, in August. The Reapers at Kandahar are launched, recovered, and maintained at the facility, in addition to being remotely operated by pilots in the US.***

USAF photo by SSgt. Evelyn Chavez

The War on Terrorism

Operation Enduring Freedom

Casualties

By Sept. 17, a total of 2,344 Americans had died in Operation Enduring Freedom. The total includes 2,341 troops and three Department of Defense civilians. Of these deaths, 1,835 were killed in action with the enemy while 508 died in noncombat incidents.

There have been 19,987 troops wounded in action during OEF.

US Army General Killed in Insider Attack in Kabul

Army Maj. Gen. Harold J. Greene was killed Aug. 5 after a man believed to be a uniformed Afghan army soldier opened fire on coalition forces during a routine "site visit" at the Marshal Fahim National Defense University in Kabul, officials said. Greene was the highest-ranking service member to die in the wars in Iraq and Afghanistan.

"Our thoughts and prayers are with Maj. Gen. Harold J. Greene's family and the families of our soldiers who were injured today in the tragic events that took place in Afghanistan," said Army Chief of Staff Gen. Raymond T. Odierno Aug. 5, adding, "These soldiers were professionals, committed to the mission. It is their service and sacrifice that define us as an Army."

Pentagon spokesman Rear Adm. John Kirby said that despite measures put in place to mitigate insider attacks since 2012, Afghanistan is still at war and insider threats are "pernicious" and "difficult to always ascertain." The shooter was killed shortly after the attack.

A joint ISAF-Afghan investigation is underway.

Air Force EOD Presence Ending in Afghanistan

The 466th EOD Operating Location Bravo Flight, the last Air Force explosive ordnance disposal unit operating in Afghanistan, completed its final mission Aug. 19.

Since its initial assignment to Afghanistan in 2004, the flight's airmen—more than 600 explosive ordnance disposal technicians—have completed 20 rotations of more than 10,000 missions.

The unit lost eight airmen during this time.

"Our impact [on] Operation Enduring Freedom has been huge," said Capt. Justin Shultz, the flight's executive officer. "Because of our abilities and technical expertise, I feel like we have become one of the frontline EOD units in Afghanistan," he said.

In addition to Kandahar Airfield, the flight operated from six forward bases. "Our unit responded to any explosive hazard on and off base, such as unexploded ordnances, improvised explosive devices, and post-blasts," said Shultz.

Liberty Mission Coming to End in Afghanistan

The 361st Expeditionary Reconnaissance Squadron at Kandahar Airfield, Afghanistan, is winding down for its return to the United States after four years of ISR missions in southern Afghanistan. The squadron flew more than 25,000 air tasking order sorties in the MC-12W Liberty, racking up 115,000 combat flight hours, according to a Kandahar news release.

"A lot of sacrifice and commitment has gone into this [mission]," said 361st ERS commander Lt. Col. James Mansard. The squadron "eliminated 450 insurgents, … provided overwatch for more than 50,000 friendly forces, and scanned [more than 8,000 miles] of roads supporting ground forces outside the wire," states the release.

NATO forces will remain at Kandahar to continue the mission.

Campbell Takes Command of US, Coalition Troops

Army Gen. John F. Campbell assumed command of NATO's International Security Assistance Force (ISAF) and US Forces in Afghanistan on Aug. 26, relieving Marine Gen. Joseph F. Dunford Jr., who held the joint command for 18 months.

Campbell will be the last ISAF commander as NATO will shift to an advise and assist mission with a sharply reduced force next year.

Campbell is starting his third tour in Afghanistan.

Dunford is slated to become the next Marine Corps Commandant in October, relieving Gen. James F. Amos.

AWACS Block 40/45 Upgrade Declared Operational

Air Force E-3 AWACS aircraft equipped with new Block 40/45 hardware and software are ready for real-world operations, according to an Aug. 15 news release.

Air Combat Command chief Gen. Gilmary Michael Hostage III declared initial operational capability for the new E-3G Block 40/45 configuration on July 28.

"This modification represents the most significant upgrade in the 35-plus year history of the E-3 AWACS and greatly enhances our crew members' ability to execute the command and control mission while providing a building block for future upgrades," said Col. Jay R. Bickley, commander of the 552nd Air Control Wing at Tinker AFB, Okla.

The wing has taken delivery of six E-3Gs, two of which have deployed to support counterdrug operations, said Gordon Fitzgerald, the 552nd ACW's requirements director.

The entire AWACS fleet is scheduled to receive the Block 40/45 upgrade by Fiscal 2020, he said.

Space Command Seeks Info on New Rocket Engine

Air Force Space Command has asked industry to provide information on a potential new booster propulsion and launch system for evolved expendable launch vehicle-class spacelifts. USAF is seeking a domestic alternative to the Russian RD-180 engine to ensure continued access to space.

According to the request for information notice, the new domestic solution may be a near carbon copy with "similar performance characteristics to currently used engines," or it can consist of different configurations (such as a multiple engine configuration) that provide similar functionality. Use of completely different launch vehicles also is a possibility.

Moody Selected as Afghan A-29 Training Site

The Air Force has selected Moody AFB, Ga., to be the US training location for the Afghan Air Force's A-29 pilots and maintainers.

The service recently completed the assessment of the environmental impact of establishing the mission at the Georgia base, clearing the way for the final basing decision, according to an Aug. 22 press release.

Over the next four years, Moody will be the site for 20 A-29s, 17 Air Force instructor pilots, 24 maintenance and support personnel, and 30 Afghan pilots and 90 maintainers. Training is expected to begin in February 2015.

The Air Force opted for Moody "because of the availability of the airfield, airspace, and suitable facilities," said

Senior Staff Changes

NOMINATIONS: To be Major General: Veralinn **Jamieson. To be ANG Brigadier General:** Dennis D. **Grunstad II.**

CHANGES: Brig. Gen. Paul H. **Guemmer,** from Dept. Dir., Strategy, Capabilities, Policy, & Log, TRANSCOM, Scott AFB, Ill., to Cmdr., Jeanne M. Holm Center for Officer Accessions & Citizen Dev., AETC, Maxwell AFB, Ala. ... Lt. Gen. Tod D. **Wolters,** from Cmdr. 12th AF, ACC, Davis Monthan AFB, Ariz., to DCS, Ops, Plans, & Rqmts., Pentagon.

SENIOR EXECUTIVE SERVICE CHANGES: Miranda A. A. **Ballentine,** to Asst. SECAF, Instal, Env., & Log, Pentagon ... Gordon O. **Tanner,** to General Counsel, Office of the SECAF, Pentagon. ▪

Timothy K. Bridges, the service's deputy assistant secretary for installations.

Sweeping Changes Proposed for Officer Training

Air Education and Training Command headquarters and the Air Staff are reviewing proposals from the Officer Training School that would make dramatic changes to the way the Air Force prepares its new officers. The proposal would merge OTS's three separate officer programs into a single course combining Active Duty, Air Force Reserve, and Air National Guard officer candidates and new officers with direct commissions as judge advocates, medical professionals, and chaplains.

OTS, based at Maxwell AFB, Ala., currently runs the Basic Officer Training School for prospective Active Duty and Reserve officers, the Academy of Military Science for ANG officer candidates, and the Commissioned Officers School for direct-commissioned non-line officers.

"We want to change that," Lt. Col. Ryan J. Aerni, commander of the 24th Training Squadron, said. "We want a common officer training experience" to give Total Force officers a shared foundation.

The Beagles Are Back

The renowned World War II American Beagle Squadron was reactivated during an Aug. 22 ceremony at Tyndall AFB, Fla. During the ceremony, the 325th Operations Group Adversary Air program became the 2nd Fighter Training Squadron.

The squadron flies T-38 Talons against the base's F-22 Raptor in flight training, taking some of the pressure off the F-22 fleet and helping cut costs, according to a press release.

"The Air Force is not getting any more F-22s," said Lt. Col. Derek Wyler, squadron commander. "Every hour we fly on that airplane is an hour that we never get back. If we can save all those hours for mission training, it preserves the lifespan of those airplanes."

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Bernard F. Fisher, 1927-2014

Retired Col. Bernard F. "Bernie" Fisher, the first recipient of the Air Force-designed Medal of Honor, died Aug. 16 at his home in Idaho, at age 87.

Then-Major Fisher received the Medal of Honor from President Lyndon B. Johnson for action on March 10, 1966, in South Vietnam. Assigned to the 1st Air Commando Squadron at Pleiku, Fisher was leading a two-ship of A-1E Skyraiders to the A Shau Valley on a close air support mission when his wingman, Maj. D. W. Myers, was hit by enemy fire.

Myers bellied in on a nearby Special Forces airstrip, fled the aircraft, and hid on the edge of the strip. Fisher began coordinating a rescue, but as the enemy was closing in on Myers and a helicopter rescue was at least 30 minutes away, Fisher elected to act alone. He landed on the strip under heavy fire, taxied to Myers' position, then helped him into Fisher's own A-1E. Fisher was able to safely take off and return to base, despite numerous shell and bullet hits on his aircraft. Fisher had earned a Silver Star flying CAS the previous day in the same battle. He also is the recipient of the Distinguished Flying Cross and Bronze Star Medal among others.

President Johnson presented the Medal of Honor to Fisher on Jan. 19, 1967, for "personal action above and beyond the call of duty."

Fisher started his military career in the Navy and spent time in the Idaho Air National Guard before receiving his Air Force commission in June 1951. In addition to the hundreds of CAS missions flown in the A-1E "Spad" in Vietnam, Fisher also flew the F-80, F-86, and the F-101. He retired from the Air Force in 1974 and was a Republican candidate for governor of Idaho in 1981.

Two parks, a portion of a Utah highway, and a Military Sealift Command vessel, *Maj. Bernard F. Fisher* (T-AK-4396), are named for him. The A-1E he flew during the Myers rescue was restored and is displayed at the National Museum of the US Air Force at Wright-Patterson AFB, Ohio.

Al Qaeda Cites Air Force Academy as Possible Target

An English-language online publication produced by al Qaeda has cited the Air Force Academy as a possible target for a terrorist attack, among an array of American and international facilities and institutions, reported *The Gazette* newspaper of Colorado Springs, Colo.

USAFA officials said they are aware the academy "is mentioned in a recent online publication. We remain vigilant and maintain all appropriate protocols of a military installation to include force protection and being cognizant of existing and emerging threats."

Other US targets listed by the terrorist publication include casinos and night clubs in Las Vegas, the Georgia Military College, Times Square in New York City, the General Atomics headquarters in San Diego, oil tankers, and trains. ✪

CORPORATE MEMBER SPOTLIGHT

The AFA Corporate Membership Program recognizes companies that support the Air Force Association's mission, people, and events. These businesses play a vital role in making AFA the most powerful advocate for every member of the Air Force family. This month we highlight select Corporate tier members. For more information on the Corporate Membership Program, please visit www.afa.org/CM.

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The "Iron Curtain" Speech

In early 1946, Winston Churchill was at loose ends, having failed in a bid for re-election. Britain's former (and future) Prime Minister was asked by Westminster College, in Fulton, Mo., to come and speak. Churchill didn't disappoint. He delivered a stern warning about Soviet aggressiveness and used a memorable phrase: "From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the Continent." It wasn't the first use of the term "iron curtain." For decades, it had been a metaphor for Russia's secretiveness. Even Churchill had used it before. Still, the Fulton speech gave the phrase wide circulation. "Iron Curtain" became a near synonym for the Cold War, symbolizing the ideological conflict and physical division of Europe into Communist east and free west.

"The Sinews of Peace"

Winston Churchill
Address to Westminster College
Fulton, Mo.
March 5, 1946

Find the full text on the *Air Force Magazine's* website www.airforcemag.com
"Keeper File"

A shadow has fallen upon the scenes so lately lighted by the Allied victory. Nobody knows what Soviet Russia and its Communist international organization intends to do in the immediate future, or what are the limits, if any, to their expansive and proselytizing tendencies. I have a strong admiration and regard for the valiant Russian people. ... It is my duty, however, for I am sure you would wish me to state the facts as I see them to you, to place before you certain facts about the present position in Europe.

From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the Continent. Behind that line lie all the capitals of the ancient states of Central and Eastern Europe. Warsaw, Berlin, Prague, Vienna, Budapest, Belgrade, Bucharest, and Sofia, all these famous cities and the populations around them lie in what I must call the Soviet sphere, and all are subject in one form or another, not only to Soviet influence but to a very high and, in many cases, increasing measure of control from Moscow. ... The Russian-dominated Polish government has been encouraged to make enormous and wrongful inroads upon Germany, and mass expulsions of millions of Germans on a scale grievous and undreamed-of are now taking place. The Communist parties, which were very small in all these Eastern states of Europe, have been raised to pre-eminence and power far beyond their numbers and are seeking everywhere to obtain totalitarian control. Police governments are prevailing in nearly every case, and so far, except in Czechoslovakia, there is no true democracy.

Turkey and Persia are both profoundly alarmed and disturbed at the claims which are being made upon them and at the pressure being exerted by the Moscow government. An attempt is being made by the Russians in Berlin to build up a quasi-Communist Party in their zone of Occupied Germany by showing special favors to groups of left-wing German leaders. At the end of the fighting last June, the American and British armies withdrew westwards, in accordance with an earlier agreement, to a depth at some points of 150 miles upon a front of nearly 400 miles, in order to allow our Russian allies to occupy this vast expanse of territory which the Western democracies had conquered.

Photo via National Churchill Museum

If now the Soviet government tries, by separate action, to build up a pro-Communist Germany in their areas, this will cause new serious difficulties in the British and American zones, and will give the defeated Germans the power of putting themselves up to auction between the Soviets and the Western democracies. Whatever conclusions may be drawn from these facts—and facts they are—this is certainly not the liberated Europe we fought to build up. Nor is it one which contains the essentials of permanent peace.

The safety of the world requires a new unity in Europe, from which no nation should be permanently outcast. ... Twice in our own lifetime we have seen the United States, against their wishes and their traditions, against arguments, the force of which it is impossible not to comprehend, drawn by irresistible forces into these wars in time to secure the victory of the good cause but only after frightful slaughter and devastation had occurred. Twice the United States has had to send several millions of its young men across the Atlantic to find the war; but now war can find any nation, wherever it may dwell between dusk and dawn. ...

From what I have seen of our Russian friends and Allies during the war, I am convinced that there is nothing they admire so much as strength, and there is nothing for which they have less respect than for weakness, especially military weakness. For that reason the old doctrine of a balance of power is unsound. We cannot afford, if we can help it, to work on narrow margins, offering temptations to a trial of strength. If the Western democracies stand together in strict adherence to the principles of the United Nations charter, their influence for furthering those principles will be immense and no one is likely to molest them. If however they become divided or falter in their duty and if these all-important years are allowed to slip away, then indeed catastrophe may overwhelm us all. ✪

SUPPORT THROUGH THE COMBINED FEDERAL CAMPAIGN

Low-key partnership programs between US states and foreign nations have paid big dividends.

THE GUARD PARTNERSHIPS

By Amy McCullough, News Editor

THE California National Guard's state partnership with Ukraine began in 1993, just two years after the collapse of the Soviet Union. Although Ukraine is not a NATO member, the partnership has always been critical because of the country's influence in Eastern Europe and its strategic location along Russia's border and the Black Sea.

Though strong now, there was initial concern, "maybe even skepticism, up front about what to expect from one another," said Lt. Col. Jon Siepmann, one of the California Guard's State Partnership Program directors. Those serving in the military in the late 1980s vividly remembered training for a potential conflict against the Soviet Union "and then next thing you know you're in former Soviet territory working with a new partner," said Siepmann.

For more than two decades now California Guardsmen have worked with Ukrainians to build up trust, enhance cooperation, and further develop the country's military and civil capabilities.

Thanks to this long-term partnership, Ukrainians "immediately knew they could come to us," when Russia started bolstering its military forces along Ukraine's border earlier this year, said Siepmann.

"Our perspective wasn't in question with them. That meant we could continue down the path of what to do next because they're approaching it ... without the skepticism you might have if you were doing something for the first time," he said.

The Army National Guard and Air National Guard have partnered with Ukraine on five to 10 exchanges each year. The activities ranged from small-scale swapping of legal or chaplain personnel to larger exercises such as Safe Skies 2011, where seven F-16s and more than 40 support personnel from five states took the lead in a multinational air superiority exercise. Nearly 200 Ukrainian airmen participated.

Safe Skies featured more than 60 mock air intercepts using Ukrainian Su-27s and MiG-29s, as well as US and Polish F-16s, according to the California National Guard website. The exercise took two years to plan and is still the largest exchange in the partnership's history.

But the engagement plan for 2014 was put on hold earlier this year due to ongoing security concerns, said Siepmann.

The California Guard, as a result, is taking a deep look at Ukraine's requirements and using them as a basis for determining future engagements, he said. "I don't know what the next fiscal year is going to look like for us. It will be interesting for sure. I suspect we'll have significant engagements, but we'll have to wait and see how the process comes out."

The California Guard's relationship with Ukraine is just one example of many the National Guard has built across the globe through its State Partnership Program.

The National Guard Bureau allocates just $14 million a year for the SPP, supporting 65 partnerships in more than 74 nations (several states are partnered with more than one nation). Although the bureau is not the sole funding source for SPP events, the program is often touted on Capitol Hill and in the Department of Defense as a cost-effective way to provide consistent engagement with countries around the world.

SPP launched in 1993, just after the end of the Cold War, when many militaries wanted to retool and reform. The Latvian government, which wanted

USAF MSgt. John M. Oliver (left), a tactical air control party specialist, and 1st Sgt. Modris Circenis, a TACP with the Latvian National Armed Forces, communicate with another team during a reconnaissance mission in Operation Northern Strike at the Grayling Air Gunnery Range, Mich. The National Guard-led, multistate, multinational exercise lasted three weeks in August.

USAF photo by SSgt. Lealan Buehrer

to step away from its former Soviet-style military, sought US help as it looked to move toward a citizen-soldier model, similar to the US National Guard.

At the same time, the US government also was looking for a way to expand military-to-military cooperation with former Soviet bloc countries in central and Eastern Europe without threatening the new Russian Federation. The National Guard seemed like the obvious choice, Air National Guard Lt. Col. Andrew J. Roberts, then bilateral affairs officer in the Office of Defense Cooperation at the US Embassy in Riga, Latvia, told *Air Force Magazine* in June. Roberts is now commander of the Alpena Combat Readiness Training Center in Michigan.

LONGEVITY, STABILITY

The Guard was also a logical choice because the US was able to match states with countries of a similar size. Another benefit was that guardsmen typically stay in the same unit longer than Active Duty service members, a model similar to some European assignment systems. This enabled the same forces to train together for years, said Roberts.

A proposal to pair National Guard units from Michigan, Maryland, and Pennsylvania with the Baltic countries of Latvia, Estonia, and Lithuania, respectively, officially began the program in 1993. Since then, SPP has grown significantly and continues to evolve to meet national security demands.

In Fiscal 2013, the National Guard conducted 739 SPP events, including 233 in US Southern Command, 229 in US European Command, and 115 in US Africa Command, as well as events in US Central Command, US Pacific Command, and US Northern Command.

Since SPP's beginnings, these events have included a range of activities, such as training in disaster preparedness, humanitarian assistance, and cyber defense, to the stand-up of a US certified joint terminal attack controller (JTAC) unit in Latvia. From 2003 to 2013, 28 SPP partners participated in Operation Iraqi Freedom and Operation Enduring Freedom, including 16 that deployed alongside their state partners, according to the Fiscal 2013 SPP annual report. During that same time period, the co-deployed forces participated in a total of 87 troop rotations, ranging from NATO military assistance teams to embedded support teams.

"Sometimes a country falls off the priority list, but we still engage with them. When things ramp up, we are able to engage at an even faster pace," Air National Guard Col. Pierre B. Oury said in an interview in Latvia in June. Oury serves as the Air National Guard advisor to the commander of US Air Forces in Europe-Air Forces Africa. "That's priceless," he said. "It's the marriage between the two states. You don't just divorce them."

MICHIGAN LEADS

Latvian defense chief Lt. Gen. Raimonds Graube said his country's state partnership with Michigan was a vital part of the rebuilding process once Latvia gained its independence in 1991, following 50 years of Soviet rule.

"We started [our] defense system from scratch. I mean from very scratch," Graube told *Air Force Magazine* in June during an interview in Riga. "Our goal was to turn toward a Western-type of approach [to defense] and Michigan played a role in that from the very beginning."

Graube said the partnership was a "crucial start," and exchanges covered the full "spectrum of defense matters," including personnel, planning, and training. Over the years, however, the partnership has "become more sophisticated and more selective."

The highlight of the 22-year partnership, he said, is the stand-up and certification of Latvia's joint terminal attack

Maintainers from the Alabama and California Air National Guard replace an air data controller on an F-16 while in Ukraine for Safe Skies 2011, a military-to-military exchange between California, Ukraine, and Poland.

USAF photo by TSgt. Charles Vaughn

USAF photo by SSgt. Lealan Buehrer

Illinois Guardsmen and Polish airmen—including Lt. Przemyslaw Milinski (crouching)—coordinate unloading a C-130 in August at Greater Peoria Arpt., Ill. The Illinois Air National Guard has teamed with Poland's air force since 1993.

controller program. In 2007, the NATO International Security Assistance Force in Afghanistan was looking for more countries to get involved in operations. Latvia wanted to help fill that role, "but there were certain skills they didn't have," said Roberts, an ANG pilot who was serving as commander of the Grayling Air Gunnery Range in Michigan at the time.

A year later, the National Guard Bureau endorsed a proposal, initiated by the Latvians, to send a joint team of Michigan National Guard members and Latvian soldiers to Afghanistan in support of Operation Enduring Freedom. They would become the first SPP partners to deploy as an operational and mentoring team, according to a 2013 DOD release about the program's 20-year anniversary.

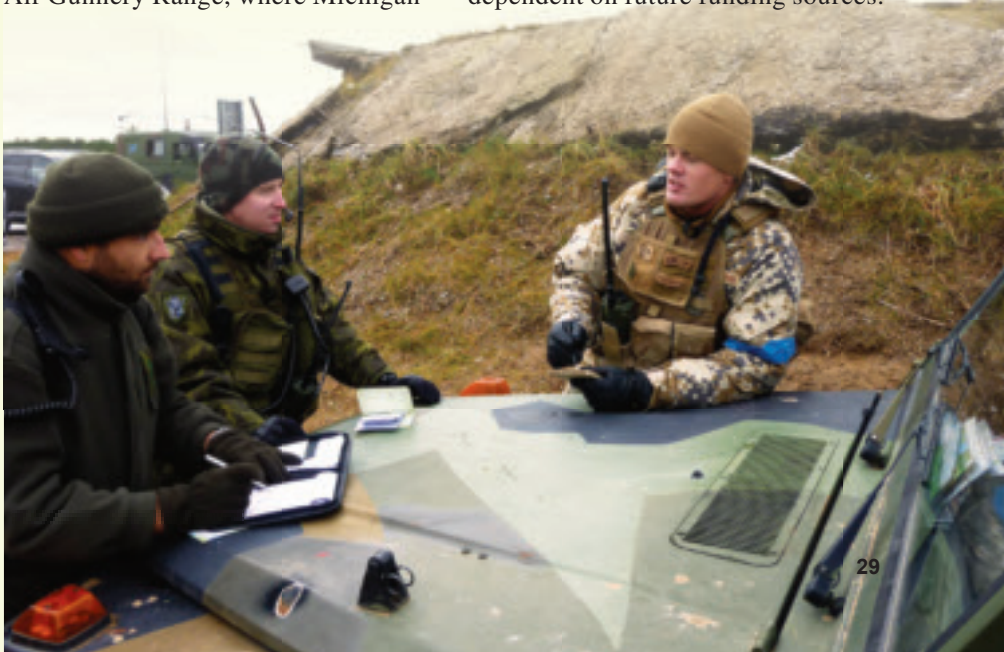
But first, Latvia needed to develop JTAC capabilities so it could effectively direct close air support and indirect fire downrange.

That was a fairly tall order for a country that doesn't have its own Air Force. So, the US team first set up a "precourse" to familiarize interested JTAC candidates with the close air support world, said Latvian tactical air control party commander Maj. Dans Jansons.

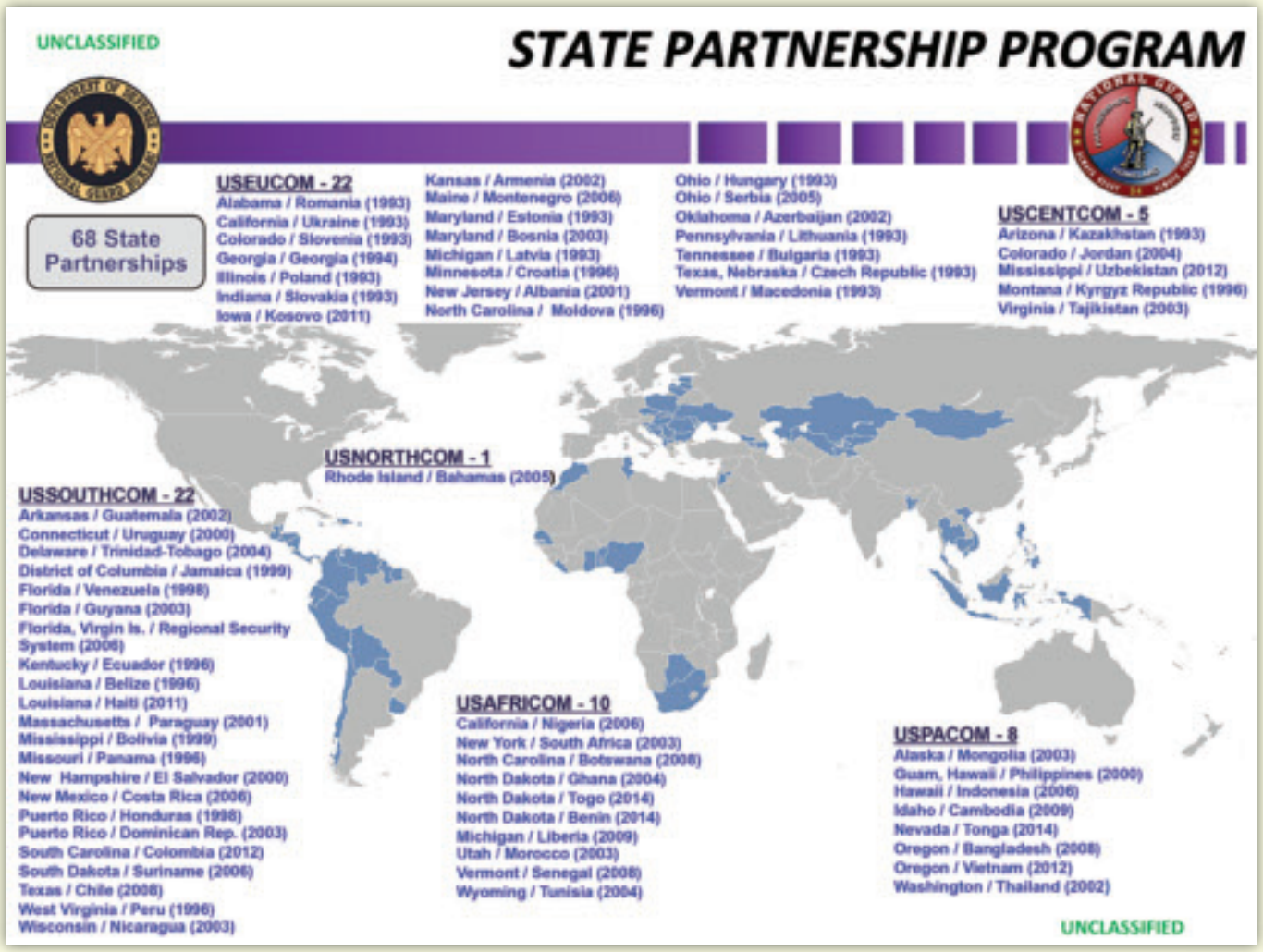
After the walk-through, the US team selected the first two Latvians to travel to the US for further training.

Jansons said he attended a two-week academic course at the Naval Strike and Air Warfare Center at NAS Fallon, Nev. From there, he went to the Grayling Air Gunnery Range, where Michigan Guardsmen helped him through the initial JTAC qualification process. "Then I went to Afghanistan," he said.

The Latvian program received its full certification in 2010 thanks to the help of Michigan Guardsmen assigned to the Alpena Combat Readiness Training Center. Today there are about a dozen "fully accredited, up-and-running, full-time, self-sustainable" Latvian JTACs, said Jansons. The goal is to eventually grow the program to 16 JTACs, though Jansons said that is dependent on future funding sources.



Latvian tactical air control party commander Maj. Dans Jansons (r) works with Estonian joint terminal attack controllers during a partnership mission.



TRUE FRIENDSHIP

The Latvian JTAC program is often referred to as one of the great SPP success stories, but it came at a significant price. Two Latvian soldiers, including the first to be selected for the JTAC training program, died during a battle at Combat Outpost Bari Alai in Kunar province on May 1, 2009. It was the first joint deployment for Michigan and Latvia. The bond between the Latvian soldiers and Michigan Guardsmen is strong, however. The two fallen soldiers' pictures hang on the Hall of Heroes wall at the Joint Force Headquarters in Lansing, Mich., alongside those of 21 Michigan Army Guardsmen who died in Iraq and Afghanistan.

In mid-June, Roberts stood in the pouring rain at Camp Adazi, Latvia, reminiscing about the first time he met

South Carolina Air National Guard F-16s fly alongside a Colombian air force Kfir during a combined air cooperation engagement in Colombia in August.

USAF photo by Maj. Matthew Booth

USAF photo by Maj. Matthew T. Mutti

Ukrainian Lt. Gen. Vasyl Nikiforov (left) and USAF Maj. Gen. Donald Ralph (right) prepare for a Safe Skies mission in a Ukrainian Su-27 at Mirgorod AB, Ukraine, in 2011. California and Ukraine have been state partners since 1993.

Jansons back in February 2008. It was clear the mentoring relationship also has led to a true friendship.

"He's been to my house in Michigan six times. … That's the piece of the State Partnership Program that you don't see with a normal engagement on any other level," said Roberts. "You see teams come in, … they go away, and they never come back to Latvia. With this program you see six, 10, 20 years later, guys who know each other and are still working together and building capability and capacity."

Graube has a similar story of how the SPP has shaped his family life. Graube was a young lieutenant when the partnership first formed. Now a lieutenant general, his career has often run parallel to that of his US counterparts. Some 10 years ago, both his sons went to Michigan and stayed with a colonel he had met through the SPP. They attended high school in Michigan for one year and then came back to Latvia where they are now "extremely successful" businessmen, said Roberts.

"That influence from the US, you can't buy that. It's real. It's tangible. He feels it. He gets it. That's what this program really kind of gets for you in a lot of ways," said Roberts.

There are other residual "side effects" of the SPP as well, said Oury. For example, civilian medical library, youth, and academic exchange programs have developed over the years. Some states even provide scholarships or free tuition for residents of their partnership nation states. "It's a two-way street," said Oury. He noted that North Carolina wanted to build a wine industry, so it looked to Moldova, its SPP partner, for help.

Some of the more mature partnerships, like California and Ukraine, have taken on second partnerships, typically on the African continent. California has also been partnered with Nigeria since 2006.

BANG FOR THE BUCK

Oury said the idea came from senior leader engagements. The goal was to take the capabilities and capacities gained over the last two decades and train someone else at little extra cost.

"The fundamental tenets of the partnership program are the same," said Siepmann. "It bleeds over. From a California perspective, the partnership is broad. It's not just about SPP. It's about any and all engagements we do."

Oury said Pacific Command and Africa Command are "big SPP areas of growth." There are 10 partnerships within AFRICOM. The oldest, each formed in 2003, were built between New York and South Africa and Utah and Morocco. North Dakota, which partnered with both Togo and Benin this year, represents the newest partnership. There also are eight partnerships within Pacific Command dating back to Guam's and Hawaii's partnership with the Philippines in 2000 and including the newly formed partnership between Nevada and Tonga this year.

AFRICOM Commander Army Gen. David M. Rodriquez "wants five more partnerships this year," said Oury. "He's banging on the table calling [National Guard Bureau Chief Army Gen. Frank J. Grass] saying, 'You need to help me.' But we can't work that fast. There is a point where states can only do so much because they still have to maintain their own missions."

Oury said the Guard does still have the capacity to take on more partnerships, but it's going to take time. In the meantime, partner nations themselves are looking to share their knowledge with other countries. For example, the second accredited Latvian JTAC is now running an accredited JTAC schoolhouse in Poland. Jansons said it "is another great achievement [done] with the help of the Michigan Air National Guard."

Oury said that development is proof the State Partnership Program "gives you the greatest bang for the buck" when it comes to security cooperation. "The [combatant commands] have really spoken up about the value of the program. The Guard Bureau also finds it is a huge training opportunity." ✪

Depot Redirection

By Autumn A. Arnett, Associate Editor

The Warner Robins Air Logistics Complex is working to make its repair work less art and more science.

After years of instability led to a severe backup on the nation's sole F-15 depot line, things are finally coming together at the Warner Robins Air Logistics Complex at Robins AFB, Ga.

Up until recently, the complex's approach to depot maintenance was to treat it as an art form. Restoring an aircraft was a delicate art, and each artist—or worker or crew chief—had an individualized approach to the process. This approach made the process (and the results) very personality-driven and ensured that any movement in personnel could disrupt the entire operation. Something had to give. All too often that was the F-15 repair schedule.

"Our own processes are our biggest time hindrance," said Doug Keene, the chief civilian overseeing the depot and special assistant to the ALC's then-boss, Brig. Gen. Cedric D. George.

The depot was instructed to implement a new, more disciplined, scientific approach to workload maintenance in 2012 when an Air Force Sustainment Center reorganization occurred. The goal was to find ways to deliver cost-effective readiness across the entire Air Force. Lt. Gen. Bruce A. Litchfield, commander of the Air Force Sustainment Center at Tinker AFB, Okla., has touted a scientific, data-driven decision-making processes to achieve the best cost benefit across the entire service. With the shift in attitudes, a concerted effort was made at all three Air Force depots (the Ogden ALC at Hill AFB, Utah; the Oklahoma City ALC at Tinker AFB, Okla.; and Warner Robins) to depart from personality-driven maintenance to a process-driven, sustainable activity-based style of maintenance. Sustainment Center officials refer to this as the "AFSC Way."

According to an April white paper on cost-effective readiness released by AFSC, the new way would be based on a shared leadership model emphasizing speed, safety, quality, and cost-effectiveness. Based on the Theory of Constraints—focusing on identifying hindrances to productivity and restructur-

Staff photo by Autumn A. Arnett

An F-15 undergoes disassembly in the first stage of depot maintenance at Warner Robins Air Logistics Complex on Robins AFB, Ga.

ing the approach to get around them—the AFSC Way systematically identifies waste and constraints to productivity to create a more efficient process.

It was a process George himself had to go through during his time as commander of the 76th Maintenance Wing at Tinker. He said in the second year of implementing the then-trial system at Tinker, it started to take hold of him and show him that increased efficiency was possible under the new approach.

While he acknowledged that the new system of dividing duties, analyzing breakdown and hindrances to productivity, pinpointing specific problems, and identifying ways to solve each problem individually should make logical sense, he said it is not necessarily a no-brainer to believe the system will work—especially when they'd been doing it completely differently for years. "It's very easy to [say], 'We're doing alright. Don't change it,'" said George. It takes much more gumption to decide to overhaul an entire system and get the team to buy into a whole new way.

The results he saw on the KC-135 line, though, really made him a believer.

All of the KC-135 depot work is done at the Oklahoma City Air Logistics Complex. None of the work is farmed out to the private sector, an approach George said is much less expensive. The KC-135 depot team was the first unit to really take hold of the AFSC Way's system and make it their own—going from 400 days on an aircraft to less than 100 during a depot cycle. "When I saw that, I said, 'I'm all in,'" said George.

The focus began shifting to a format that established a "right" way to do aircraft maintenance. "There's a science to fixing an aircraft," Keene said. "If we all apply the same science, we get common outputs." The foundation of the AFSC Way is process discipline, a scientific way of doing business, and "throughput's a key part of that," George said. "All of our production operations are assessed using a mathematical approach for how we do maintenance. It's not just a gut feel."

FURLOUGH EFFECT

But as with any change, this shift is taking time to be fully embraced. Implementing the AFSC Way is not just about changing one or two things in the existing process. It is about completely changing the culture at Warner Robins. Personnel who actually regarded themselves as masters of their craft have to be taught to remove themselves from the process and focus on the science of new methods.

Though it was initially introduced as a concept in 2012, it was not until December 2013 that the base was able to take hold of the new way of doing things. Federal budget maladies trickled down to affect base operations that were already moving slowly. Just as the new approach to depot maintenance was being implemented, sequestration hit. Voluntary early retirements, separations, and furloughs further knocked back productivity. "Throughput was not where we wanted it, actually, going into the furlough, and then … as we went into the furlough, we realized why [we aren't] getting the throughput," why it was disturbed, and that it was "because we didn't have the process discipline," George said.

With roughly 7,500 civilians working on depot operations at Warner Robins, the overtime bans before sequestration made it difficult for teams to work off a backload of aircraft, and the mandatory furloughs of sequestration set the teams even further behind. "We ended up having an additional 18 to 22 aircraft just basically clogged here," George said. "You could not work any overtime, you could not do anything to just move those machines."

"If you were an aircraft [maintenance] squadron that was in trouble before the furlough, the furlough killed you," said 561st Aircraft Maintenance Squadron director Mike Arnold. He said that due to "lots and lots of 'nobody can come out here and work' time," the squadron "gained nearly 25 days on every airplane just during that six-week furlough." Not only that, he said, 20 percent of the squadron's workforce was eliminated because of separations and scale-backs.

Despite the impact to the workload, the staff at Warner Robins grasped that depot maintenance was a logical place to make cutbacks. "The Air Force very

USAF photo by Tommie Horton

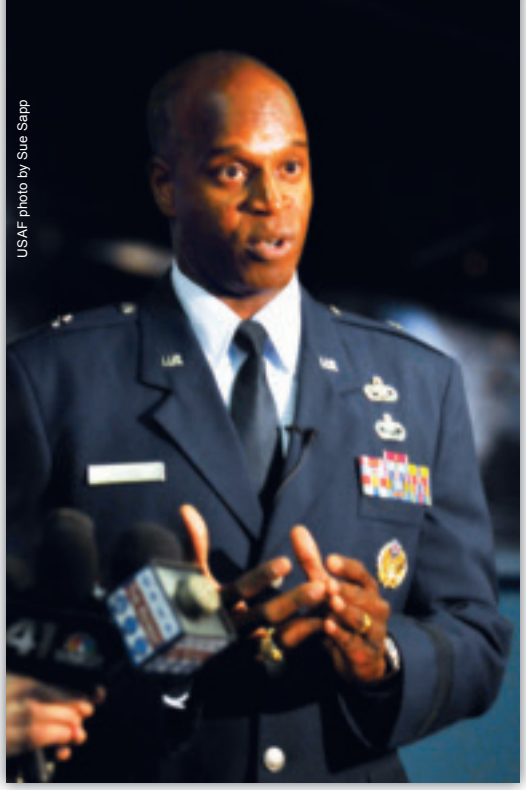
Jerome Estell, a 560th Aircraft Maintenance Squadron mechanic, cleans and inspects an aircraft part at WRALC.

deliberately made sure that the dollars that were going to the folks who were in harm's way" were not interrupted, Keene said. "If you're going to make cuts, while it's painful and it degraded the mission some to have us go on a six-day furlough, you certainly wouldn't want to cause mission failure out there in the field. … You wouldn't want a guy or a girl out on the front line not getting food every day or weapons or the types of things they need, information they need."

But with a large civilian workforce, it is sometimes hard to matter-of-factly make that call. George made it plain: When Warner Robins' 7,500 civilians stop working, the depot shuts down. For George, it is the "devastating effect" on the people he commands that he thinks about most. "Many people made the mistake … of thinking it was just one civilian, but we had civilians married to civilians, so it was families," George said. Cuts had an "impact ... across entire families, and so it had a huge effect and we are still restoring the trust of our civilians."

Beyond mandated time off from the aircraft, time that may have otherwise been spent repairing airplanes was redirected. Trying to deal with ensuring the personal welfare of the employees who were the heart and soul of the depot operations was a necessary process, but it took effort away from the job at hand.

"What really hurt us here in that time is [that] the focus came off the mission," Keene said. "The focus came on to managing through the furlough. We were very concerned about our employees. We were making sure that they were given every opportunity off base to seek financial counseling," Keene said.


USAF photo by Sue Sapp

Above left: Brig. Gen. Cedric George, then-WRALC commander, said, "We've got to get those aircraft out of here and ensure touch time ... gets down to 115 days." To reach this goal, the depot is applying what is known as the AFSC Way. It identifies constraints on productivity and creates more efficiencies. Above right: Finished with the repair stage, F-15s wait to enter build-up.

Starting with the Bipartisan Budget Act of 2013, which ended the furloughs and authorized pay raises for civilian staff on base, George and the staff at Warner Robins said they have begun to restore the trust of the workforce and get the mission back on track.

Keene said staffers "don't want to be focused on scary things, like a furlough and the possible loss of days." He said, "In the last few months, the focus has really come back to the mission and the process."

MINDS TOGETHER

Around the end of 2013, George and his staff were able to set in motion a mandate to properly implement the AFSC Way. But while the easing of sequestration has allowed the team to move expeditiously to work off the Fiscal 2013 backlog, there was a snowball effect that first put them further behind where they'd like to be this year.

"If you work off last year's aircraft, that impacts this year's aircraft, so we have some 40 aircraft here in the station that we need to work off, … 18 additional aircraft above the number that we want to have here," George said. Of those aircraft, most are F-15s.

If the aircraft are sitting in the depot, they are not available for training or combat purposes, he noted.

Because of a previous emphasis on meeting the target date, Arnold said the staff had cut a lot of corners that ended up damaging the process and the overall results heading into the sequestration. "We were focusing on one method, one goal, and that was: The airplane had to leave here on time. If you leave here on time, in a lot of ways, you cut corners. ... We broke a lot of basic maintenance processes along the way to get that really good performance," Arnold said.

"There're a couple ways you can get that done: You can just get your giddy-up on. And that's not the way we do it, because that's not sustainable," said George.

The right way, George said, is understanding "what the constraints are in the machine, [using] science to make sure you understand it, then [applying] our outstanding people to that well-thought out and disciplined approach to the process."

The leadership team is still working to assess the full impact of sequestration on base operations, but George knows one thing for sure: "We don't ever want to go back to a furlough."

Staff photo by Autumn A. Arnett

Mike Arnold, the 561st Aircraft Maintenance Squadron director, meets with his crew chiefs weekly to discuss ways to improve the maintenance line.

Staff photo by Autumn A. Arnett

"We need to make sure that we capture fully the intended and unintended consequences of [sequestration]," George said.

Part of the consequences, said Arnold, was not having all the tools to do the job. "We got through the big problem in February and March of not having the basic parts and resources" needed to properly maintain the airplanes. Once that issue was solved, the team in May "started getting smoother about how we're doing this. In eight weeks, we have reduced the number of days that it takes us to get airplanes through here by about 41 days."

George said the crews are making progress, but he wants to continue to push his team to be more efficient, constantly striving to eliminate any clogs that arise in the system. Many aircraft lines are flowing now, but "we are in no way satisfied with the fact that we just unclogged them," he said, adding that he wants to speed up the flow to get caught up.

In October and November, Keene said, the squadron was producing three airplanes per month. As of July, they were up to nearly six, but the target is eight.

The depot gets two types of aircraft: those needing regular depot maintenance overhaul and those coming in for rewiring. They get 48 airplanes coming in for regular maintenance per year, and they are supposed to be at the depot no more than 125 days. In July, they were at 236 days—111 more than the standard. On the rewire side, the standard is 185 days, but the depot was still exceeding that by 90 days and holding airplanes for 275.

"The customer sends us an airplane, pays us to fix it, and we say, 'Your oil change will be done in 30 minutes.' Instead, it's done in three days," Arnold said.

He said the answer is to employ a collaborative approach to problem solving. "We're trying to get all of those smart minds and everybody's perspective in the room. They've got to arm wrestle it out and let everybody throw their piece out there on the table," he said. Then, with a number of perspectives on the same data, they are able to reach applicable solutions that may improve efficiency. The team identifies one problem to target at a time, and everyone mobilizes to improve that area so that they can, as a group, move on to solving the next problem.

In one July meeting, all of the crew chiefs and engineers sat around a table and analyzed each individual depot station. What were the strengths, weaknesses, and challenges to efficiency, and how could each individual step of the process be improved to create a smoother overall process, they asked. After deliberating for some time, they decided that actually consolidating two work stations into one would make the process more efficient. Instead of breaking an airplane down and separately charting what needed repairing or maintenance, they could evaluate the aircraft as they broke it down. By doing so, they could eliminate several days from the process and save themselves some effort backtracking. They would not have been able to reach that conclusion independently, if each chief were working in isolation, said Arnold.

"The key is throwing all those minds together. That helps us actually solve problems and move forward," he said. "For me, it makes my job a whole lot easier. Everyone's not standing around looking at me for what the easiest solution's going to be, because I'm probably not going to have it anyway."

NEW OPPORTUNITIES

The depot has started to recover and its workforce has refocused on its mission. But despite gains made, it is not enough. George says the Warner Robins Air Logistics Complex, like other depots at Hill and Tinker, must deliver the same readiness at less cost. And that means in less time.

"We've got to get those aircraft out of here and ensure the touch time on those gets down to 115 days" from the time they arrive on base to the time they are out the door, said George. "If we're doing 200 days on an F-15, we want to get that lower and lower, ... and the way we do it is that scientific way."

"The problem is, we are way behind," Little said. "Forty-one days, yeah, that's really good, but what have you done for me lately? You've got to get more. That's really what we're trying to do."

George is confident that the depot staff has everything it needs to reach the goal set if they keep plugging away at the process. "I believe we are back in stride. It took some time to get back in our full stride and get them fully engaged," he said. "We need them focused on producing aircraft and making sure that our warfighters, our sons and daughters in harm's way, have the necessary capability that this depot provides. And that's what we're back to." ✪

Future operations will require quick decisions and rapid effects.

The Air Force is working to execute its core missions faster. Modern threats and long distances demand that USAF develop faster tools for future missions.

Greater speed is needed across the "kill chain"—the process that covers the time that includes information gathering, decision-making, and action against targets.

"Our most challenging scenario is in increasingly contested environments where gaining and maintaining air and space superiority will be our toughest mission—and our highest priority," Air Force spokeswoman Jennifer Cassidy said when asked about Air Staff planning assumptions about future threats.

To meet these needs, USAF is restructuring some organizations, encouraging tactical and operational experimentation, and putting valuable dollars into research and development. Funding for next generation adaptive aircraft engines, hypersonic weapons, and nanotechnology are not just science projects. They are critical aspects of future USAF dominance, Air Force Chief of Staff Gen. Mark A. Welsh III has said.

"The big picture for me is: Speed compresses kill chains. Real speed really compresses kill chains and reduces the enemy's decision time. For our warfight-

The Lockheed Martin Skunk Works-designed hypersonic aircraft concept in this illustration would conduct missions at speeds up to Mach 6. USAF wants more speed across the entire kill chain.

Speed Kills

By Marc V. Schanz, Senior Editor

Lockheed Martin illustration

ing force, that's an important concept," Welsh said in July, as he unveiled the service's new strategic plan. It touts broad USAF investment in technology and tactical experimentation within its missions.

Anything the Air Force can do to speed up the effects it wants to create is a good thing, Welsh said, "whatever domain we operate in."

Faster execution begins with information, and its wide portfolio of ISR tools drives the Air Force's decision-making process. The Air Force needs to capitalize and build on its strengths in this area, as it is vital to fast, agile global operations.

Speaking at the Air Force Association's Air Warfare Symposium this past February, Welsh pointed out that in the aftermath of the first Gulf War, "nobody knew what ISR was." Since then, USAF has built and adapted a global network of sensors, aircraft, and air and space operations centers to expand its global ISR operations. The Air Force has largely led the charge to build a global ISR enterprise to move data and information "all over the world at the speed of light," he noted.

But the question today is how the service adapts a system oriented to a sprawling ISR enterprise supporting tactical soda straw ISR operations from remotely piloted aircraft in a counterinsurgency campaign, to one that refocuses on ISR as a mission in and of itself. Intelligence is not a mere support function, and USAF must work to get useful information where it is needed—quickly.

ISR ASCENDANT

The problem is particularly acute, USAF's senior ISR airman said, because it is adapting to prosecute ISR in conflicts far different from the last decade. ISR is at a "strategic turning point," Lt. Gen. Robert P. "Bob" Otto said in June. The Air Staff is updating plans for how it will receive and transmit ISR in contested and anti-access, area-denial (A2/AD) environments.

Linking assets that can operate in these environments—such as the B-2, F-22, and F-35—with older aircraft is crucial to future operations. Distributed networks, to help valuable ISR data and targeting information pass back and forth rapidly and reliably, are vital to success.

"We need to get data to places where we can make sense of it," Otto said. That will allow both pilots and operators and commanders to tighten their decision-making cycles even further.

This need is why, at a time when USAF is slashing command and headquarters staff, it has announced the realignment of the Air Force ISR Agency to become the service's newest numbered air force this fall—25th Air Force. The NAF provides a single command structure for USAF's ISR airmen, bringing a wide range of units and organizations under its authority, from the Air Force Cryptologic Office at Fort Meade, Md., to the Air Force Technical Applications Center at Patrick AFB, Fla. Along with processing, exploitation and dissemination, targeting and other AOC-level skill sets now under 25th Air Force, aircraft wings are now also under the organization. These include the 9th Reconnaissance Wing at Beale AFB, Calif., and the 55th Wing at Offutt AFB, Neb. (home of USAF's RC-135 fleet), among others.

By standing up 25th Air Force, USAF is seeking to "normalize the ISR mission into the combat air forces," Air Combat Command boss Gen. Gilmary Michael Hostage III said in July. The new structure better unifies tactical, regional, and national ISR capabilities, streamlining decision-making regarding requirements. "Combatant commanders and other mission partners count

USAF must link fifth generation assets, such as this F-35, with older systems to successfully exchange ISR data in contested environments.

Lockheed Martin photo by Darin Russell

on Air Force ISR capabilities every day," he said, noting that the mission is "fundamental" to the combat Air Force. Airmen will be able to more quickly produce standardized ISR products for commanders and operators, seeking more comprehensive capabilities such as analysis, imagery, and targeting.

In addition to streamlining some organizations, Welsh and Secretary of the Air Force Deborah Lee James spoke in July about finding "pivot points" in USAF programs where key technologies can be introduced, to ensure the service's capabilities do not become mired in obsolescence.

For example, hypersonic technology is critical for the future relevance of USAF's nonpenetrating B-52 and B-1B bombers, as standoff hypersonic weapons could make these aircraft useful in a fight against an enemy with advanced air defenses.

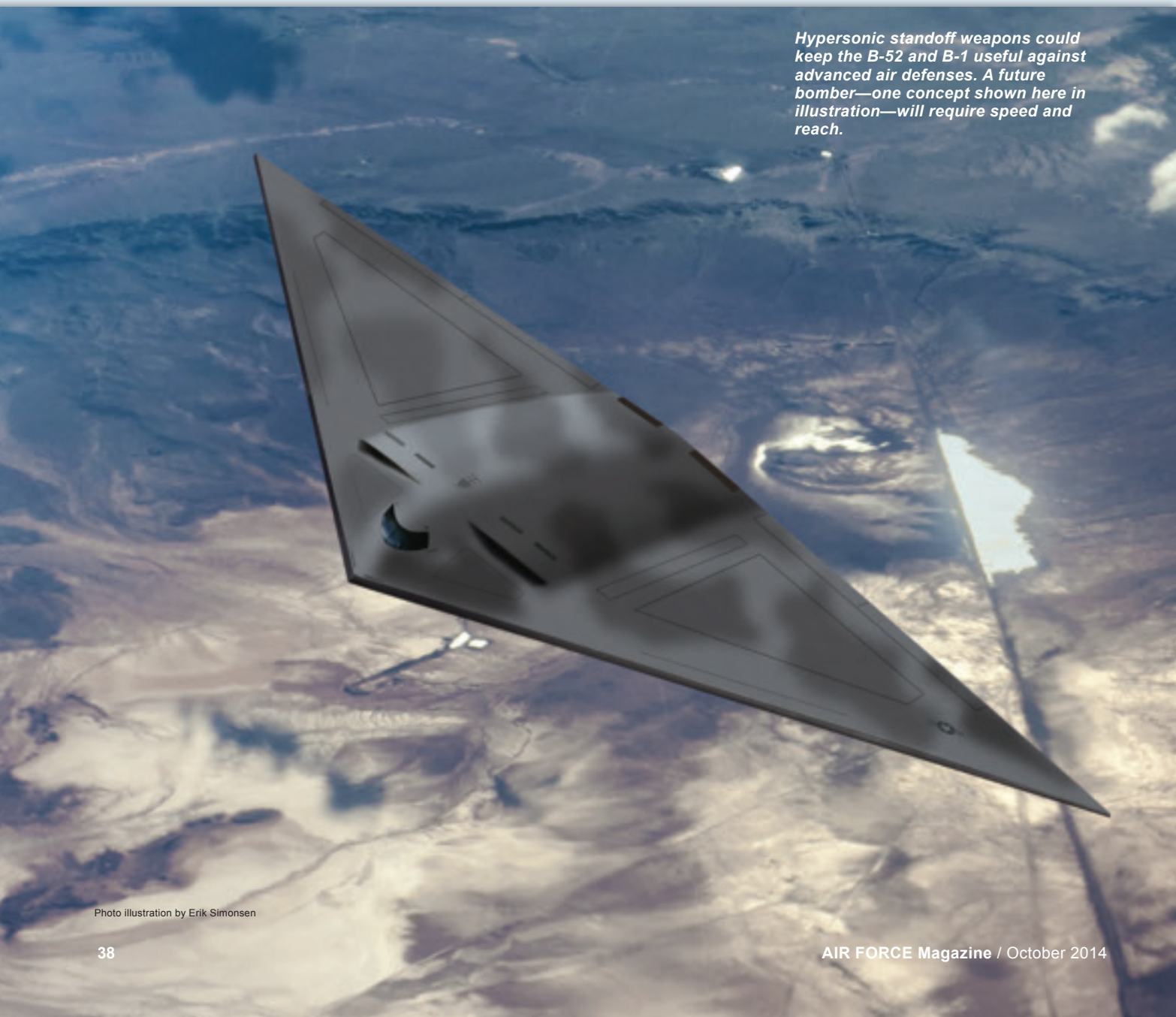
NUCLEAR OPTION

The Long-Range Standoff weapon, a proposed follow-on to the AGM-86 nuclear cruise missile, is needed to maintain the potency of the nation's bombers, the head of US Strategic Command, Adm. Cecil D. Haney, said in June during a Capitol Hill speech. Proliferating A2/AD defenses require a range of response beyond just relying on stealth, be it in the form of a B-2 with gravity bombs or a follow-on Long-Range Strike Bomber, and speed and reach cannot be separated from this equation.

While testing of hypersonic capabilities such as the X-51 WaveRider has provided the Air Force with a trove of scientific data, it is a costly enterprise. While the Air Force pursues these capabilities, it also needs "to do the right kind of investment in propulsion technologies that allow us to save money," Welsh said. Though research has not yet reached the "long-awaited goal of practical application," the service's new strategy document states, the advantage such a capability would yield warrants USAF's continued focus.

But USAF is betting the investment will pay off soon, introducing propulsion systems that could send both weapons and aircraft around the world at speeds exceeding Mach 5—some 3,800 mph.

Maj. Gen. David W. Allvin, the Air Staff's director of strategic plans, said with this kind of speed "you get survivability aspects you haven't seen before," as targets previously out of reach could



Hypersonic standoff weapons could keep the B-52 and B-1 useful against advanced air defenses. A future bomber—one concept shown here in illustration—will require speed and reach.

Photo illustration by Erik Simonsen

USAF photo by Wayne Amann

Air Force Academy cadet Justin Niquette (foreground) works on a cyberdefense competition problem. A variety of ISR airmen will now come under 25th Air Force authority, and USAF sees this mission as a growth area.

now be held at risk wherever they are located.

This is why USAF has moved to increase funding for hypersonic research in its Fiscal 2015 budget request. Sequestration forced the cancellation and rescheduling of more than 100 research and development contracts, but now the 2015 budget request includes $2.3 billion for science and technology. This focuses mostly on three core technology areas USAF believes will be vital to speed and reach of future operations: hypersonic and autonomous flight research, nanotechnology, and directed energy.

"I firmly believe maintaining and even expanding our technological advantage is vital to assuring our assured access and freedom of action in the air, space, and cyberspace," USAF's Deputy Assistant Secretary for Science and Technology David E. Walker told Senate appropriators in May.

In 2012, the Air Force marked some $213 million for a new Adaptive Engine Technology Development (AETD) research effort, aiming to develop a new class of aircraft engines that demonstrate variable cycle propulsion, enabling sharp reductions in both fuel costs and raising performance. Since then, senior USAF science and technology officials, such as Air Force Chief Scientist Mica R. Endsley, have vigorously defended the effort, arguing if the service succeeds in these efforts, a host of multimission aircraft will improve range, persistence, and performance.

USAF photo by SrA. Peter Reft

USAF photo

Above: SSgt. Michael Jones loads a JDAM onto a lift truck during a Rapid Raptor drill in Alaska. During the exercise, F-22s like the one at left tested the idea of sending Raptors into combat quickly.

Engine research is also a platform to explore nanotechnology also prioritized by USAF in its research funding. "Nanotech reduces weight. When you re-engineer things at the molecular level, it enhances speed and range," affecting everything from how much it could cost to get spacecraft on orbit to building survivability of assets in a contested environment, Allvin said.

Another technology crucial to USAF efforts to speed up the kill chain is directed energy. While long considered by some in the military as a far-fetched science project, senior USAF leaders have increasingly touted its potential value across missions. From aerial weapons to logistics, directed energy applications would give the Air Force the ability to operate in contested environments where traditional weapons may have limited utility. More importantly, directed energy breakthroughs would fundamentally change the logistics of combat airpower by changing the dynamics of munitions themselves.

In a July talk, ACC chief Hostage extolled the virtues of the fifth generation F-22 Raptor and its speed, reach, and stealth. But, he added, its "magazine depth"—the amount of munitions an aircraft can carry at one time—limits the fighter's effectiveness.

SMALL MAGAZINES

"One of my great frustrations with our weapon systems today is the limited magazine," Hostage said. "I've got a platform now in the Raptor that can go into heinous territory at great risk, but I can only whack eight bad guys in the process," he said, referring to the internal carriage for air-to-air missiles on the F-22. "I've got to come back, get more, and go back. I'd like to go over there and whack a whole bunch of them before I come back."

Faster and more efficient engine technologies are not the only approach to the pursuit for greater speed. The Air Force is also adapting existing systems and methods to increase operational tempo, basing and support options, and to give commanders broader tactical leeway and increase their decision-making time.

These ideas, the Air Force believes, will not come from headquarters most times. "Those who operate … systems in the field continue to discover uses that designers never imagined," the service's new strategy document states. USAF should move to "rapidly validate operating concepts developed in the field and disseminate them force-wide." This will foster a "climate for innovation" to push new tactics into the force quickly.

Speeding up the kill chain could involve directed energy. In this artist's conception, an RPA fires a laser at a ground target.

Photo illustration by Erik Simonsen

USAF photo by SSgt. Jason Truskowski

Two High Mobility Artillery Rocket Systems are loaded onto a C-17 after an exercise. Airmen and soldiers practiced rapid deployment and redeployment of the ground-based weapon.

"Let's be willing to use them—and make mistakes and learn from them," Allvin said.

Some innovations are already paying off. In summer 2013, a small team of F-22 pilots and weapon officers tested a concept of operations in joint exercises in Alaska to quickly deploy and send the fighters into combat if necessary. The "Rapid Raptor" concept started off as a white paper written by a veteran Reserve pilot and was briefed to Welsh during an official visit to Alaska that August.

Rather than endorsing a faster engine or weapon, the concept radically re-imagined the deployment template for F-22s in a crisis.

Unlike a large-footprint Theater Security Package involving 12 jet aircraft and accompanying personnel and support equipment, Lt. Col. Kevin Sutterfield—working with pilots from the USAF Weapons School at Nellis AFB, Nev., and the CSAF's Strategic Studies Group—started with a small footprint. Using a flexible combination of four F-22s and one C-17 equipped with key materials, munitions, and maintainers, the Rapid Raptor concept was born.

These small cells can land, refuel, rearm, and redeploy again in as little as 24 hours, throwing open planning and deployment options to combatant commanders seeking to maximize assurance and deterrence, and deployment speed—and to minimize vulnerability. From Wake Island in the Pacific to simulated strikes on targets near the North Pole, several exercises tested the concept before it was certified for regular operations.

"This concept emphasizes the fundamental tenets of airpower: speed, flexibility, and surprise by pairing smaller formations of fighters and airlift that can move quickly together and operate from unexpected locations" Sutterfied said last October. Now, "you can move airplanes to different locations and not leave them at a fixed location for a long period of time. There are a lot of airfields out there," PACAF commander Gen. Herbert J. "Hawk" Carlisle told *Air Force Magazine* in September 2013. The concept also supports "passive defense," the dispersing and rapid movement of critical capabilities, like the F-22, which affects an adversary's targeting analysis in the event of a conflict. An adversary may know Raptors are there, but "by the time he wants to do anything about it, you won't be there anymore," Carlisle said.

New innovations and concept development at the unit level are also taking place in mobility, to enable rapid aerial deployments even in austere and challenged conditions—and to carry out some innovative joint operations with tighter command and control loops.

Last November, Air Force and Army units at JB Lewis-McChord, Wash., worked for a month to develop a unique deployment of ground-based rocket artillery. Airmen with the 62nd Airlift Wing, working with US Army soldiers from the 5th Battalion, 3rd Field Artillery, carried out Operation Guy Fawkes at multiple locations in Washington state and California. In the operation, four C-17s left McChord carrying seven High Mobility Artillery Rocket System (HIMARS) vehicles, with about 100 personnel.

Over the next two days the C-17s deployed to three separate airfields, unloaded the vehicles, performed a firing simulation, and then rapidly reloaded the vehicles to return to McChord. Mobility airmen, working with soldiers, deployed HIMARS vehicles on dirt runways and at night. For airmen, it was a chance to think creatively about speeding up unconventional mobility operations to carry out a new and unique scenario.

"You won't always have publications stating how to tie down every piece of equipment," said SrA. Ashton Taylor, a 7th Airlift Squadron loadmaster. "It comes down to fundamentals that we learn in tech school." The November drill was the second joint HIMARS exercise performed in 2013, helping broaden joint planning between air mobility airmen and soldiers. The scenario served to prepare airmen for the "full spectrum of C-17 operations with an emphasis on command and control during wartime," said Capt. Paul Tucker, the 7th Airlift Squadron exercise lead.

Taken together, USAF is hoping these various efforts will allow it to react and respond faster to a full range of contingencies. With fifth generation aircraft linked to ISR networks, resilient space assets, and new cyber weapons systems that can penetrate adversary networks, new solutions can be brought to bear even more quickly. Allvin pointed out, "You have the opportunity to leverage all three domains": air, space, and cyberspace.

USAF is the world leader in establishing air superiority, but capabilities are rapidly changing and USAF needs to keep pace.

"If it's the 'Enter' button on the keyboard that makes all the adversaries fall into the ground, I'm OK with that," Hostage said. "My job is to produce air superiority, air supremacy, and I'm agnostic as to how I do that." ✪

RED FLAG FOR THE FUTURE

By **John A. Tirpak,** Editorial Director

The realistic combat training exercise must constantly evolve to replicate real-world threats.

Photo by Jim Haseltine

An F-15 and an F-16 Aggressor fly a sortie just before sunset during a Red Flag exercise at Nellis AFB, Nev.

Red Flag, coming up on its 40th year as the world's premiere air combat wargame, has always adapted to changing threats and technology. The Nellis AFB, Nev.-based exercise—and its Alaska counterpart—is now transforming into a new kind of training event.

In recent years, Red Flag Nellis has grown from a live-fly exercise—teaching USAF, other service, and allied pilots the advanced skills of fighting an operational-level air war—to include a constructive digital environment that expands the real-world 3.1 million-acre arena by hundreds of miles, populated with computer-generated players and out-of-area assets.

Next year, Red Flag will also include growing numbers of virtual aircraft and other assets operated from simulators.

Moreover, these simulation-enhanced exercises will be the exclusive means for trying out and practicing tactics unique to fifth generation aircraft and technologies that Air Combat Command wants to keep hidden from watchful adversaries.

As a percentage of the overall wargame, the live-fly portion of Red Flag will diminish, though USAF experts predict that no matter how good simulation gets, the need for live-fly will never go away completely.

Conceived in the 1970s as a way to reverse the kill ratios of the Vietnam War—where US airmen achieved only a two-to-one victory ratio over enemy pilots—Red Flag began as a way to give aircrews a better chance to survive in the air combat arena, marked by increasingly lethal air-to-air and surface-to-air missiles.

The idea was to give Air Force pilots the equivalent experience of 10 combat missions without the peril of learning under real fire.

WHY WE NEED IT

Statistics showed that if pilots survived the first 10 missions, chances were they would survive to the end of the war. Red Flag was the Air Force's means to provide those critical first 10 missions in a controlled, peacetime environment.

Untested combat pilots were thrown against seasoned experts who played the Aggressor force. "Red Air" was equipped with nimble F-5E fighters that approximated the performance of Russian MiG-21s serving in dozens of world air forces. Tweaking the capabilities of their jet aircraft and immersing themselves in Soviet-style tactics, the Aggressors usually started out the exercise by giving "Blue Air" visitors a dogfight thrashing. By replaying the recorded aerial engagements afterward, young pilots could see and learn from their mistakes.

By the end of the exercise, Blue Air would not only be combat experienced, but the rookie combat pilots had valuable immersion in countering the specific threats they were likely to face.

As time went on, Red Flag grew, adding more players and more capabilities. To dogfighting were added bomber missions, suppression of enemy air defenses, rescue operations, and more.

Green Flag, for example, was once a separate exercise aimed at testing USAF's electronic warfare specialists. Since EW became so integral to air combat, it was combined with Red Flag, and Green Flag now denotes a close air support drill flown in conjunction with Army and Marine Corps ground units.

As now incarnated, Red Flag replicates "the operational level of war," according to its commander, Col. Jeff Weed, head of the 414th Combat Training Squadron.

In just the past three years, Red Flag planners have integrated command and control functions at the theater level, space and cyber operations, the Nellis Air Operations Center, and constructed environments. These expand the fight in a "scenario that plays itself out … from about Eugene, Oregon, down to Phoenix [Arizona], out to the Gulf Coast of Texas and off the West Coast," Weed said in a July interview.

An E-3 AWACS takes off on a Red Flag-Alaska mission in 2011. Units flying such limited in number but crucial warfighting assets participate in the wargames at a higher rate than most others.

USAF photo by SrA. Cynthia Spalding

The air tasking order for Red Flag typically comprises some 500 sorties, he said, but only 60 to 80 of those "are taking place on the Nellis ranges." Many of the aircraft on the ATO are phantoms in the wargame digital construct. The push is now on to integrate simulated aircraft being flown by real pilots, as if they were actually flying with the real airplanes over Nevada.

The blending of intelligence, surveillance, and reconnaissance, command and control, cyber, and space are some of the more subtle changes in Red Flag over the last decade, said Weed, while the introduction of stealthy F-22 fighters and B-2 bombers are some of the most obvious.

There's also been an increase in the number of foreign participants in Red Flag. In the last few years, the wargame has included Eurofighter Typhoons, French Rafales, and Russian-designed Su-27s (flown by India), although partner participation doesn't always mean fighters. In Red Flag 14-3, which played out in July, France sent C-130s and commandos to practice special operations. In addition to its F-15SGs, Singapore sent CH-47 transport helicopters.

In Red Flag 14-2, F-16s from four international air forces—including Belgium, Denmark, and the United Arab Emirates—participated. "We don't mix the formations" of different nation F-16s, Weed said, but "they're all on the range all at the same time."

Which countries will participate is a decision made at the highest levels of the Air Force, and there is no typical role for partner nations, Weed said. It's a function of what strengths their air forces have—from fighters to bomb-droppers to electronic warfare to airlift.

"It really depends on … what that nation plans to do with its own air force" in wartime, Weed said. "We roll them in just like any other US units, into those roles and missions."

INTERNATIONAL IMPLICATIONS

For many international participants, Red Flag is their sole opportunity to drop live ordnance or fly to the edges of their machines' performance, he said. Many can't do that anywhere else because of the flight restrictions in many countries.

Weed said he was assigned to US Air Forces in Europe-Air Forces Africa when the 2013 sequester caused USAF to cancel a Red Flag, and he saw some of the international fallout of that decision.

When a Red Flag is called off, he observed, "it not only degrades our ability to train and go to war but our partners' ability to train and go to war."

The Air Force has reduced the number of Red Flags it has run annually since 2001. The demands of the wars in Afghanistan and Iraq took their toll on the budget and on the simple availability of people and equipment—since so much of the Air Force was either preparing to deploy to war, deployed, or recovering from a deployment. There wasn't much time or money available to practice for a major war against a near-peer enemy when the top Pentagon leadership wanted the real-world fight to take priority. Force structure was also cut, as were flying hours and other training events.

Air Force Secretary Deborah Lee James said in July that all these factors have led to serious concerns about USAF readiness, and she repeated her frequent request that Congress not cut readiness accounts further. An ACC spokesman said the Air Force spends "approximately $35 million annually" on Red Flag exercises.

Four Red Flags were scheduled last year, but only three took place because of sequestration. Three were scheduled for this year, but USAF wants to add the fourth one back, because three a year is too infrequent to give everyone the needed training.

Belgian airmen run to a USAF HH-60G Pave Hawk during a combat search and rescue exercise for Red Flag on March 11, 2014, at the Nellis AFB, Nev., training range. Belgium was one of four international air forces to participate in that Red Flag exercise.

"Let's say your average time at a base is 28 to 30 months," Weed explained. "When we do three per year, that unit comes back every 39 to 40 months," so some air and ground crews might completely miss their unit's participation in Red Flag. "When we get back to four a year," he said, "that number comes back to something … more like [every] 24 months. … So that we should cover people during an assignment cycle."

KEEPING SECRETS

That said, "there are some units"—flying F-22s, conducting suppression of enemy air defenses, E-3 AWACS, RC-135 Rivet Joints, and other ISR platforms—"that will always have to come back at a higher rate" because they are limited in number but crucial to the wargame and in wartime.

Of four annual Red Flags, two are done at "higher classification levels," Weed said.

Gen. Gilmary Michael Hostage III, ACC commander, recently said the F-22, and soon the F-35, introduces complications to the Red Flag model.

Fifth generation technology—which he defined as principally about stealth and sensor fusion—"has brought us capabilities and lethalities that are straining my ability at Red Flag to produce that same realistic environment." Hostage said.

"I can't turn on every bell and whistle on my new fifth gen platforms because a) they're too destructive and b) I don't want the bad guys to know what I'm able to do."

Potential adversaries watch Red Flags closely, Hostage said, and ACC in turn watches the watchers to gauge what USAF capabilities worry them most.

For the future, Hostage sees the increasing fidelity of simulators as "reversing the training paradigm."

The notion of a "live constructive virtual arena … I think will provide us the path to the future." While today's live-fly Red Flag is the "pinnacle event" in training combat air forces, Hostage said for fifth generation forces, "the live virtual constructive arena will be the pinnacle event, ... the highest-end training."

He continued, "I will still do Red Flags. I will still do live training in live platforms, but the place where I'll be able to take all the gloves off, turn on all the bells and whistles and get full capability" will be in the virtual constructive arena.

It's not a pipe dream, Hostage said, noting that the computer game industry is "rapidly approaching the point at which you can't tell if you're in a simulated, … or [virtual], environment, unless you peek under the flap on the canopy … to see if you're in a simulator or ... an airplane." Once simulation can "replicate the kinesthetic awareness" and sensory inputs a pilot can get in a real airplane, "then I think we've reached that point where I can now simulate everything that [the pilot] would need to see in a combat environment."

The Air Force is working on building that environment, he said, but there are challenges, both technical and policy-driven. The ability to protect the networks "that would run such a thing" is a concern.

Still, the simulated battlespace will resolve one of the toughest limitations Red Flag has always faced, Hostage said: the fact that, with "100 airplanes up over the Nellis range … nobody blows up when you take them out of the fight." Adding that realism will, he thinks, "fundamentally" change the dynamics of the air battle. "It looks different. You react differently."

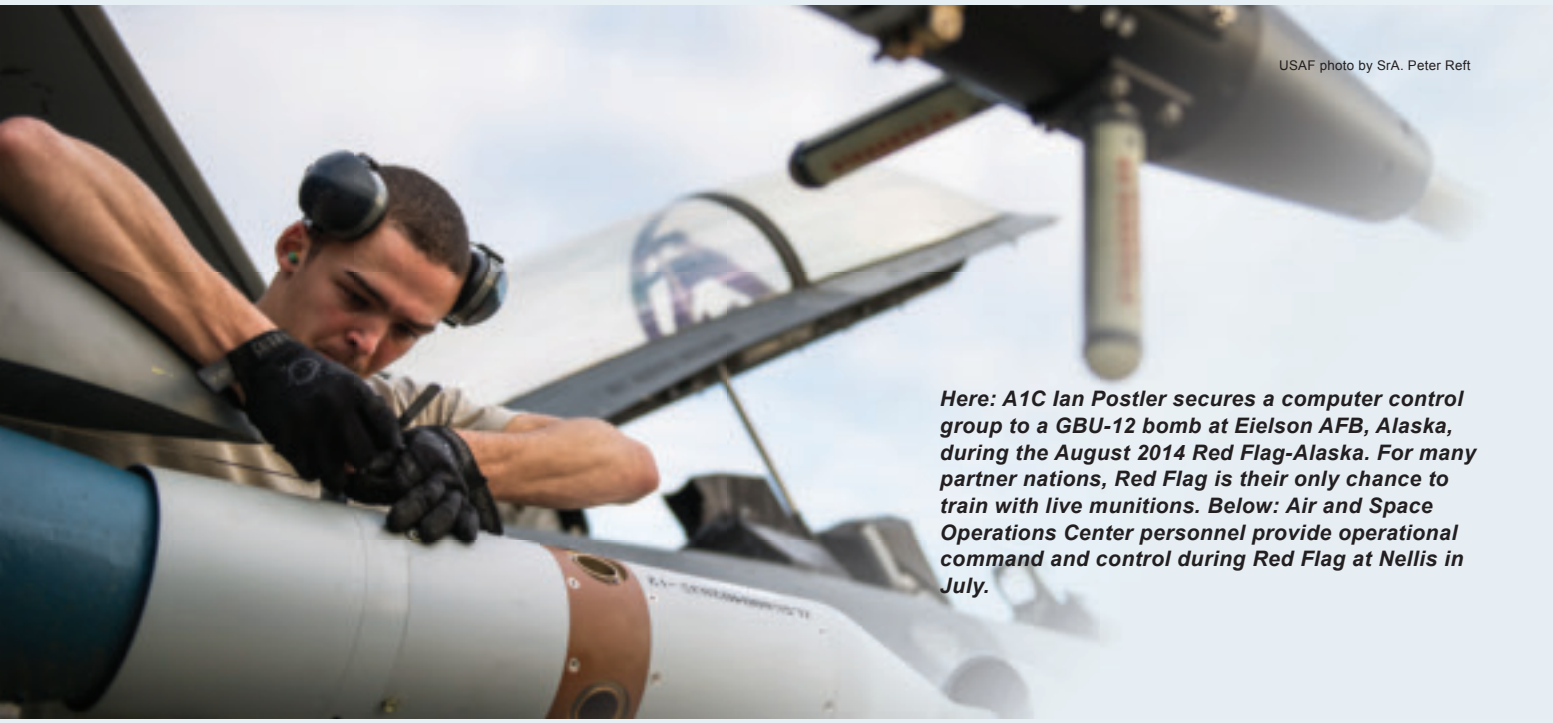
Hostage recounted how as a young officer, he would participate with the Army's National Training Center ground battle exercises. Airpower would be allowed to make a few passes at the enemy formation, but then were "shooed away."

Had the airpower been allowed to continue working over the enemy, there would have been little left for the ground units to do, and they would have missed out on the training they needed. Airpower's decisiveness can be a curse when training is involved.

USAF photo by A1C Thomas Spangler

USAF photo by A1C Joshua Kleinholz

SrA. Oren Hemphill, an F-15E crew chief, runs a preflight check on a Strike Eagle before it heads out for a night training mission for Red Flag at Nellis in January. F-15s were flown not only by the US, but by Singapore as well.



USAF photo by SrA. Peter Reft

Here: A1C Ian Postler secures a computer control group to a GBU-12 bomb at Eielson AFB, Alaska, during the August 2014 Red Flag-Alaska. For many partner nations, Red Flag is their only chance to train with live munitions. Below: Air and Space Operations Center personnel provide operational command and control during Red Flag at Nellis in July.

USAF photo by SSgt. Siuta B. Ika

Something similar is happening at Red Flag now, he said.

"We bring the cyber guys and the space guys in—and they play—but then we have to say, 'All right, go to the bar and have a Mountain Dew, because you guys make it too damn dangerous.'"

That, he said, is a "very hopeful sign" because "we have some capabilities that are astounding, and the way they leverage [off] our airpower is very positive."

In a virtual constructive arena, he said, cyber and other shadowy elements can be turned loose. "I will have real-time kill removal [and] … not hurt anybody," and participants will know the full capability of their hardware, so they can fully exploit it in real combat, he said.

ACC's 2014 Strategic Plan, released in June, said that "our ability to hide our countertactics from our adversaries is also more difficult in the live-fly arena," and this is one more reason to "flip the realistic training paradigm."

According to the ACC document, "physical aircraft and live-flying continue to be important, but can no longer be the primary training environment for the high-end fight. The aircraft, and other hands-on training, will continue to provide basic 'blocking and tackling' skills" but the virtual and constructive environment "will become the primary method for advanced training in all aircraft, not just our fifth generation assets." The command said it will explore similar approaches "across all career fields" to avoid wasting resources.

The Air Force is reducing its fleet of E-8C JSTARS ground-radar aircraft, hoping to save money that it can put into recapitalizing the already limited fleet with new aircraft that will be easier to maintain. This financial reality will drive one of the first forays into simulation at Red Flag, Weed said.

Among the things "on track to happen next year" is to pipe data about the real Red Flag battlefield to a JSTARS simulator, and "pump the [communications] of the real fight to the sim and back" so the E-8 can "play" in the game without pulling a real asset from a real-world mission, Weed explained. This move will both enhance the exercise, provide training for new operators, and avoid having to take a real E-8 from real-world missions for an exercise.

HIGH-LOW MIX

By the fourth Red Flag of next year, "Virtual Flag," traditionally a separate event, will become part of the live-fly wargame.

"It will be the first time at the Flag that we'll have live, virtual, and constructive happening all at the same time," Weed said. While a Red Flag of this year is 20 percent live and 80 percent constructive, "during Red Flag 15-4, I expect it to be 20 percent live, 40 percent constructive, and 40 percent virtual through sims. ... The virtual sims will be flying a constructive adversary at the same time the live-fly is going on."

"We have never lost our core of doing the high-end fight, but there are also days and times ... where it's not the high-end," Weed said. Particularly at the height of the conflicts in Iraq and Afghanistan, Red Flag has occasionally been tailored to "some low-end stuff—things like Predators, MC-12s, a lot of intensive ISR over that urban fight."

Some target villages were set up on the southern end of the Nellis range, he said, "so people could run in and out of buildings and you could have to deal with collateral damage and the difficulty of finding targets in a slightly more urban terrain."

Recently, however, the focus has shifted to more "core mission sets" at the high end of the threat, which "we just didn't spend as much time on over the last 10 years," Weed said.

Red Flag typically doesn't start with the worst Weed can throw at the Blue Forces.

"I let them, in a building-block approach, learn to fight together, because frankly, [for] a lot of them, … this is the first time they've been to a Flag. ... It's a huge number of airplanes" and they have to learn to work with each other.

A typical week's worth of Red Flag starts on a weekend. Participants arrive and Weed briefs them, explaining that, right away, "Fight's on." There are "info aggressors" already at work trying to gain access to work spaces, the flight line, and materials they're not supposed to be able to reach—trying to compromise the Blue Force. Cyber aggressors are also trying to exploit the Blue Force networks.

"They're the people that the Blue Forces love to hate while they're here," he said. The info aggressors "exploit weaknesses in [operational security] and hold it against them."

SrA. Daniel Yager (cockpit) and SSgt. Adrian Navarro (right) conduct a test of the hydraulics system on an F-15. Aggressor aircraft like this one must be kept sharp and tuned up to offer the most effective training for Blue Forces.

USAF photo by A1C Timothy Young

USAF photo by A1C Timothy Young

Above: Two B-52s taxi out to the runway before a Red Flag mission at Nellis, with the Las Vegas skyline as a backdrop. The original Red Flags didn't host bombing operations, but now bomb droppers are a big part of the exercise. Below: RAF Typhoon fighters on the flight line at Nellis in January.

The info aggressors will try to disrupt Blue operations "and it's up to them to protect their resources. … It's time to put their games faces on, just like they're going to war."

The first big air operation at a Red Flag is usually the establishment of a notional "no-fly zone," focusing on air-to-air threats. The second day progresses to a global strike scenario, a traditional anti-access, area-denial, kick-down-the-door, take out the operating SAMs, adding the surface-to-air threat to a worsening air-to-air threat.

The next night, strikers are tasked to take out the tactical ballistic missiles in the Red Country adversary. The targets are often mobile, "fleeting in nature," and can be visually identified from the cockpit. The air defense threats persist. This training is meant to break pilots out of a decade-long habit of having to "call and ask permission first" to destroy an obvious target, Weed said.

However, the subsequent tasking is to find a particular "high-value target or high-value individual" that can't be identified just from the cockpit. Protocols for getting target confirmation through command and control and ISR resources are rehearsed before clearance to shoot.

The game usually wraps up with air interdiction missions coupled with a combat search and rescue operation "in a higher-threat environment." The Blue Force must work as a team to get the CSAR assets in and out of enemy territory.

DEGRADING THE ENVIRONMENT

In recent years, Hostage has been adamant that Red Flag compel the Blue Force to operate without all the support it usually gets from space, ISR, and other assets. Weed said this is called CDO, or

USAF photo by Lorenz Crespo

Photo by Jim Haseltine

The front of the 414th Combat Training Squadron building at Nellis sports the Red Flag logo and models of both current Aggressor aircraft, an F-15 and an F-16.

a contested, degraded, and operationally limited environment.

Some of the degrading happens by itself, he said. "During every fight, there's always somebody who can't get on the right net or get on the right radio."

The Aggressor Forces also "have the ability" to jam or interfere with signals or degrade Link 16 communications data links, he said. Although this part of the training Hostage has described as a day without space, Weed said, "I don't think we ever get to the point where … we flick it 'off.' It's a more graceful degradation and more targeted to specific areas."

He said much of this comes into play when "I tell the Aggressors they have a particular area they must defend" because they have tactical ballistic missiles or some other asset the Red Country values highly. Then, the Aggressors will do "everything they can … to degrade" the Blue Force capabilities, including "electronic jamming, space jamming, [and] navigation warfare issues. They'll try to make it as difficult [as possible] for the Blue team."

Planning Red Flag starts a year in advance. In January, the Combat Air Forces Weapons and Tactics Conference discusses areas of interest or concern that have been relayed to ACC by regional combatant commanders. Those issues "get whittled down … to about three to five topics that get discussed in great detail" over the two weeks of the conference.

"ACC allows us to see all of those issues, and we try to roll as many of those into Red Flag for the next year as possible," Weed explained.

Although China and Russia are developing fifth generation fighters of their own, there's no plan yet to simulate fifth gen capabilities in the hands of Red Air, he said. Red Flag seeks to exercise the "most proliferated threats" in the world and stay current, and those fifth gen fighters are not yet operationally available to anyone.

In 10 years, Weed predicted, Red Flag will still have "a significant live portion." That will be true if only because foreign partners will need to train in integrating with the US, and some of them "can't afford or won't get on the virtual networks" necessary to join in a strictly digital exercise.

Ten years out, if the F-35 delivers at the anticipated rate, most of USAF's fighter force "will be fifth gen," Weed noted, and "that will create some changes to how we do business at the tactical end." He said Red Flag is "vitally important" for the Air Force, no matter how the exercise changes, because it's still the only way USAF can faithfully replicate all the pieces necessary to pull together an air war before those skills are needed in the real world—especially for partner nations that "have consistently, when the chips are down," gone to war alongside the US.

Weed said, "I think there are some things our Air Force must do, and I think this level of training, no matter what the bill is, is one of those things." ✪

AGGRESSORS

In August, the Air Force announced it would inactivate the 65th Aggressor Squadron—one of two at Nellis AFB, Nev., that perform the role of Red Air at Red Flag. Of the squadron's 18 F-15s—painted in Russian Flanker colors—12 are set to be retired by the end of September, the rest by next March. Nellis' other Aggressor unit—the 64th, flying F-16s—is expected to continue operating.

Col. Jeff Weed, commander of Red Flag, said the Aggressors are vital to Red Flag.

"I couldn't do it without them," he said in an interview.

"They establish … [and] monitor the training rules, they have experience on the ranges, … they run the debriefs at the end of the night to say, 'This is what happened in the … fight.' So they are the arbitrators."

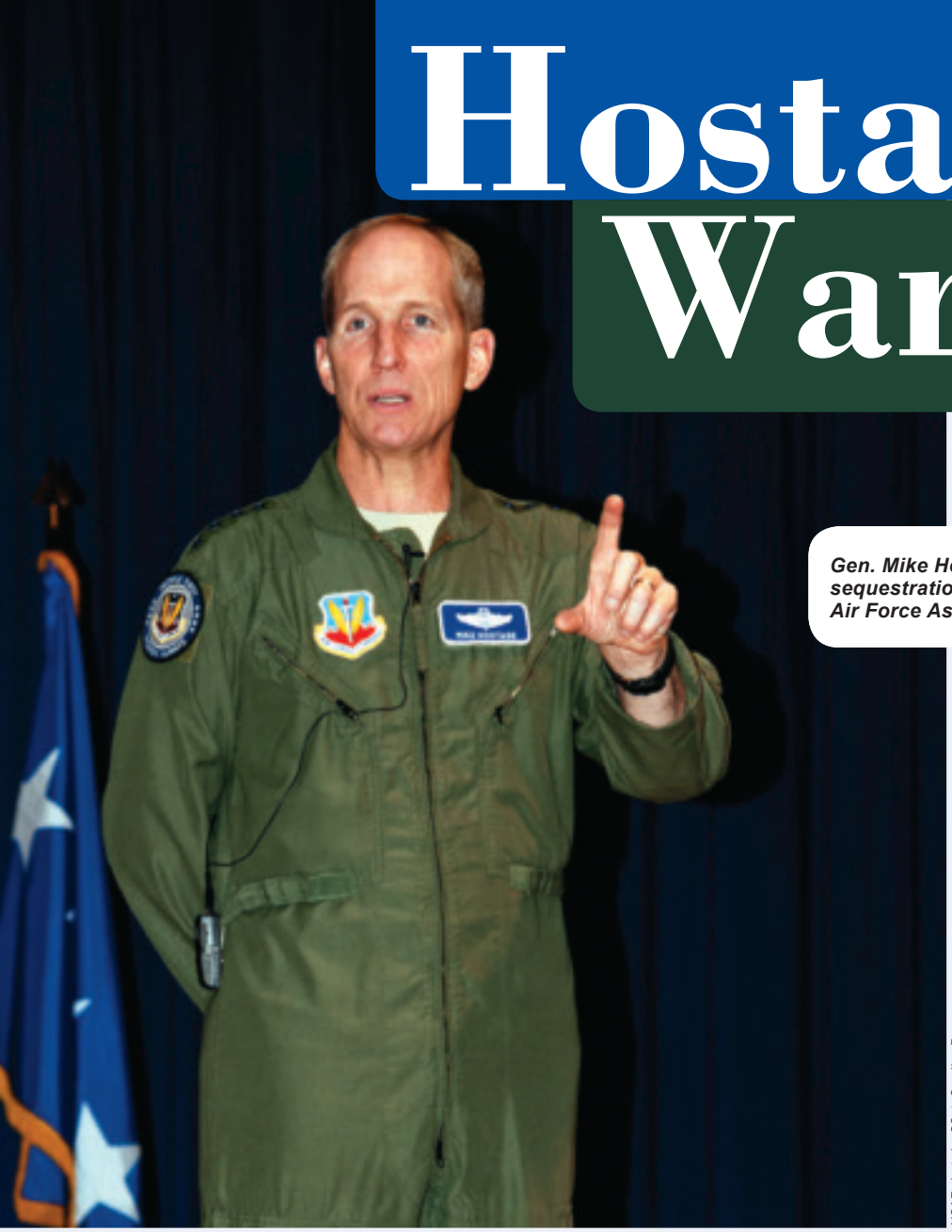
The Red Air chairman integrates the myriad threats that "provide an adversary for all of the people who show up at Flag," Weed said.

The Aggressors, of course, are the physical enemies for the Blue Forces, flying their fighters in a manner similar to that of various countries. Aggressors must be conversant in a wide variety of potential enemy weapons, radar modes, and other capabilities to present as realistic an encounter as possible.

"The fact that we have people who do this full time means I don't have to pull in an operational squadron" to play the enemy, Weed said. A pilot in an average squadron "does not practice" simulating a threat and would be less effective in the role than full-time Aggressors.

Hostage's Warning

By John A. Tirpak, Editorial Director



USAF photo by SSgt. Candice Page

Gen. Mike Hostage slammed politics, parochialism, and sequestration at a monthly breakfast sponsored by the Air Force Association.

Last year's budget sequester so crippled the Air Force that a third of its fleet was grounded and only a handful of jet aircraft were ready in case of a new international crisis, according to the head of the combat air forces. That debacle drove USAF's request to shrink even more, as the service desperately tried to save enough cash to keep a smaller force fully prepared for unexpected wars.

And without Congress' help, the same sequestration-based disaster will surely play out again next year.

Last summer's stand-down was as badly timed as could be imagined. It was preceded by years of here-and-now combat operations that shortchanged depth and left the Air Force in a fragile readiness state, according to Air Combat Command chief Gen. Gilmary Michael Hostage III.

And, as he said in a July speech at an Air Force Association-sponsored event, the damage is still reverberating.

"By the end of the grounding period—three months and a week—we had eight combat ready airplanes" in the continental US that weren't either already forward deployed to a combat area or getting ready to go.

"In other words, I had no reservoir force, were a contingency to pop up—a Syria, Iran, North Korea. ... That was how bad it got." He said he spent this past summer on Capitol Hill trying to explain "the reality of what sequestration does to us. We have to stop this."

Hostage said he's reached the practical limits of asking his people to "do more with less" and won't do it anymore.

He started his speech—attended by industry, media, foreign air attachés and USAF officials—by noting that "my successor's been named," so "I say what I want. I don't care who hears me. I'm going to tell the truth ... because at this point, there's not much they can do to me."

Hostage is expected to retire this fall, and Pacific Air Forces chief Gen. Herbert J. "Hawk" Carlisle is set to take over ACC.

The command faced "pressure" not to ground units because "that would look bad," Hostage said, but he had little choice. There's "no definition for flying below ... basic military capability rate," meaning that aircrew are safe to fly, and in bad weather, but aren't combat ready.

Rather than take his whole force below BMC, he elected to keep some units ready while others he simply shut down. Such a "debacle" mustn't happen again, and he's made a commitment to

Mike Hostage laid out the Air Force's past and future readiness problem in no uncertain terms.

his airmen, saying, "I will not send you into combat unless you are organized, trained, and equipped to do what we're going to ask you to do. I will get fired before I send somebody who's not ready to go."

How did USAF get in this mess?

The Pentagon knew sequester was coming for the first half of last year, but until the law actually kicked in, spending wasn't seriously constrained.

"We had already been overspending because of the Continuing Resolution. Then, oh, by the way, [Congress decided not to] … reimburse" war spending.

"We had to absorb all that in six months. When we did the math, that would mean … flying the aviators once or twice a month. So I said, that can't happen. So we figured out who we could keep fully operational and who we had to stop."

While he believed airmen would accept grounding as a one-time fix to fiscal problems, "I don't think they can accept it if I go back to them, year after year, and say, … 'This year, we're going to ground *you.*' I think we would run into a morale issue pretty quickly."

It was only because of the Murray-Ryan bipartisan budget deal that there was relief from sequester in Fiscal 2014. ACC has "clawed [its] way back out of that hole" by getting its pilots and crews requalified, but "it was a long struggle," Hostage related, and depot maintenance is still backlogged. The three months of grounding required six months of rebuilding proficiency. Then, there was a 10-day government shutdown, requiring a further three weeks "on the recovery."

Before the budget deal, Hostage said, he was contemplating "several months" of keeping units at BMC in Fiscal 2014, then working them back up to combat mission readiness, to avoid grounding. However, he's decided that just won't work. In fact, he fully expects that sequestration will return, and "we're going to hit the same spot at the bottom of the cliff."

He sees no sign that the nation is confronting its fiscal problems, the sequester being simply a "by-product."

"Based on that, I'm telling my force we have to be ready to deal with a sequestered budget for the duration of the law." It expires in 2023.

The only reasonable path, he said, is to make "painful decisions" like the personnel cuts and aircraft retirements USAF has requested in its Fiscal 2015 budget. Those amount to some 27,000 people and hundreds more airplanes than the Air Force has already reduced over the last eight years.

WHAT WE OWE YOUNG AIRMEN

As ACC commander, Hostage said his role is not to "whine" about what he doesn't have, but to "produce as much combat power as I can possibly produce for whatever the nation allots to me to do that." And the way to achieve that, he said, is for USAF to get smaller—"not able to go as many places at once" but with enough proper equipment and training that "wherever we go, we will dominate."

To achieve that, USAF must have the flexibility to manage, he said, and politics "is not letting us make those hard choices."

The "horrific" budget options include cutting A-10s, KC-10s, and U-2s, he noted.

"I have need for those capabilities. I just don't have the resources," he explained. Hostage would like to retain a force of 250 A-10s, but, he said, the funds won't be there, and frankly, "it really pisses me off" when people say the Air Force wants to cut these airplanes.

"I'm only losing the U-2 because I was directed [by Congress] to buy the Global Hawk and the only way I could buy the Global Hawk is to get rid of U-2s. I can't afford both." In a "perfect world," he'd have both, because "right now" the unmanned Global Hawk doesn't have "the same awareness" of a U-2 pilot.

"So don't tell me I cut the U-2. I didn't. I'm sacrificing the U-2 to pay for something I'm told I have to buy."

The aircraft the Air Force is consolidating around, he said, will let ACC "produce combat power across the range of military options that we have to be prepared for."

However, "I don't think we're going to be allowed" to make those hard choices.

The Air Force of 30 years ago was big enough to ride out political and economic "perturbations," but it's too small for that now, Hostage said.

"We don't have the latitude anymore to hang onto the amount of force structure we have or the infrastructure."

USAF has for years begged Congress to let the service close bases. It doesn't have enough airplanes to spread around them all.

"I could close one in three bases across my command and still have plenty of infrastructure," he asserted. This "baggage" is "having a serious impact on our ability to produce maximum combat power."

Hostage now tells commanders he won't ask them to try to do more with less. Instead, "I tell [them] … work to the maximum amount of combat capability you can produce. When you hit a limitation, tell me what that is. Don't push past it. … Don't cut corners. Don't do the things you're tempted to do because you don't want to report failure."

Instead, Hostage wants commanders to "tell me what your limit is, stop at that point, and I will either fix that limit or we'll deal with it until the time comes that we can remove [it]." He said, "We owe it to those young airmen" not to ask them to do more than they are trained and equipped to do.

"By the end of the grounding period … I had no reservoir force, were a contingency to pop up—a Syria, Iran, North Korea. … That was how bad it got."

The effects of the sequestration will linger for some time. One entire class of the USAF Weapons School was canceled, and "we can never recover from that because time moves on." The potential future service leaders who missed that class "will not get the chance to go [back], and if they do, they'll bump somebody else." The result will be a years-long deficit in elite operational weapon experts that will only heal when that year group finally ages out of the Air Force.

The service has just 17 E-8 JSTARS aircraft used to track and target ground vehicles. USAF will be taking some of them out of service to free up funds to develop—"out of hide"—a replacement for the type. While an E-8 replacement isn't in the "top three" of USAF buying priorities—the F-35, the KC-46 tanker, and the Long-Range Strike Bomber are—the JSTARS would be fourth, he said.

Having fewer E-8 JSTARS available involves taking some risk. Consequently Hostage told the industry representatives in the audience that "what's critical about this program is speed. I need to

put renewed capability on the ramp as soon as possible because I'm taking risk in the interim."

ACC is uninterested in "new stuff," but simply needs a sustainable replacement for the capability already in the JSTARS. (Air Force leaders have said they expect the solution to be a heavily tricked-out, off-the-shelf, business-class jet aircraft.)

ACC is also trying to work more closely with industry to identify the technologies that will make a real difference in preserving the nation's military edge, he said. Independent research and development has two functions: to produce "the stuff I actually need to go to war" and to keep adversaries second-guessing.

Hostage would like to retain a force of 250 A-10s, but the funds, he said, won't be there, and frankly, "it really pisses me off when people say the Air Force wants to cut these airplanes."

"What I really want to do is make [adversaries] … spend whole bunches of money to defend themselves against something that I don't spend very much on. … I want them to spend a million bucks to defend against my five-dollar weapon. I can't afford to be on the opposite side of that."

One of those asymetric imbalances he mentioned as being in the Air Force's favor was directed energy, including both high-powered lasers and high-powered microwaves.

Not all of USAF's troubles are due to shortages. In remotely piloted aircraft, the Air Force has too many.

ACC's fleet of RPAs is "overweighted" with machines good "at fighting in a permissive environment," he said. "I need to resize and reapportion that fleet." It would be "foolish" to get rid of all the existing RPAs, as the MQ-9 Reapers "still have some applicability on the edges of a contested fight, but only on the edges," Hostage observed. "I need the ability to produce [intelligence, surveillance, and reconnaissance] in a contested environment."

The other services that depend on USAF for ISR have come to expect a "staring eye on the battlefield, 24/7" and that's "not going to happen in a contested environment," Hostage warned.

FIGHT COMPLACENCY

The answer isn't a stealthy new RPA. "We're working to build … the capability" to deliver that expected ISR product, though not necessarily with an aircraft," he said. "There's a love affair out there in the nonaviation world with the concept of the unmanned platform, but I really need the human tightly in that loop." So-called "nontraditional ISR"—in the form of a fighter with sensors in the thick of the action—will still be essential.

"The day will come" when pilots flying an aircraft remotely will have all the "kinesthetic" awareness of what's going around the airplane, and when that day comes, "I'm happy to stop flying manned airplanes. But that day is not here, yet." While Hostage doesn't think "we've seen the birth of the last human aviator," he said, "I believe it will happen someday."

Hostage said the effort to second-guess potential enemies and have the right mix of capabilities on hand for any contingency is an ongoing battle of wits, and it's getting harder to think out loud about that particular cat-and-mouse game.

An Air Force "Red Team" looks constantly "at what potential adversaries are capable of, what their methodologies are. We look very carefully at what they think of us. We watch how they train, because how they train indicates what they think we're capable of." He said, "We think we know what our strengths and weaknesses are, and we look for disconnects" in the comparison.

Times have changed, though, and thinking openly about the challenges has become precarious.

Twenty-five years ago, "there was no possibility that all your secrets could disappear just because somebody plugged a thumb drive into your computer," he said. "So we're far more circumspect now about talking and writing and publishing and putting out there those kinds of thoughts." Hostage said, "We live in a world where, when I tell you something, … the next day it's known around the world," and "some very smart people" decide, "'Let's go steal what they're doing.'"

Hostage pushed for the new bomber, explaining that "we have an ancient fleet of B-52s [and] a rapidly aging fleet of B-1s," both "excluded" from operating in or near denied airspace, because they lack the stealth to survive. They can "get close" to contested space, with the help of fifth generation fighters, "but they can't conduct deep strike in the way the B-2 can." The stealthy B-2 fleet, at 20 airplanes, however, is "just way too small to be our sole capability" against heavily defended targets deep within an enemy's territory. USAF must preserve the ability to deny "sanctuary" to any target, he asserted.

While Hostage is thrilled with the capability delivered by the fifth generation F-22 and F-35, they have a shared shortcoming: magazine depth. That's why he's hopeful that research into directed energy weapons will bear fruit and that lasers may even be "retrofittable" onto older generation fighters to keep them relevant.

He could not say whether directed energy will "define" a future sixth generation fighter and even conceded that air dominance after the F-22 may not even be an aerial platform. In the near-term, however, Hostage warned that the US must not be complacent about its ability to win air wars. The surface-to-air missile threat is large and proliferating and making it tough to engage even a medium-size nation such as Syria with good weapons.

"I could not send an A-10 into Syria right now," he said. "They'd never come back. I would have to conduct three weeks of very significant [integrated air defense system] degradation before I could think about sending a fourth gen platform, and I sure as heck wouldn't send an A-10 in because the rate of fire that would come in at low altitude would be unsustainable."

Good as it has been, Hostage said, the A-10 no longer represents a survivable system in well-defended airspace.

When "I talk 'contested/denied space,' I'm talking about the South China Sea," Hostage said, as well as "dozens" of other places where small, mobile, or shoulder-fired threats are proliferating to create contested airspace. Simply put, the environment USAF has to fight in is changing.

Hostage said people have to understand USAF is "no longer a requirements force [where] you tell me what the requirement is, I build the force." The Air Force has become a capabilities force: "I've got this much capability, you've got this much requirement. You tell me where you want to use it, but when you use this much, we're done," he said. ✪

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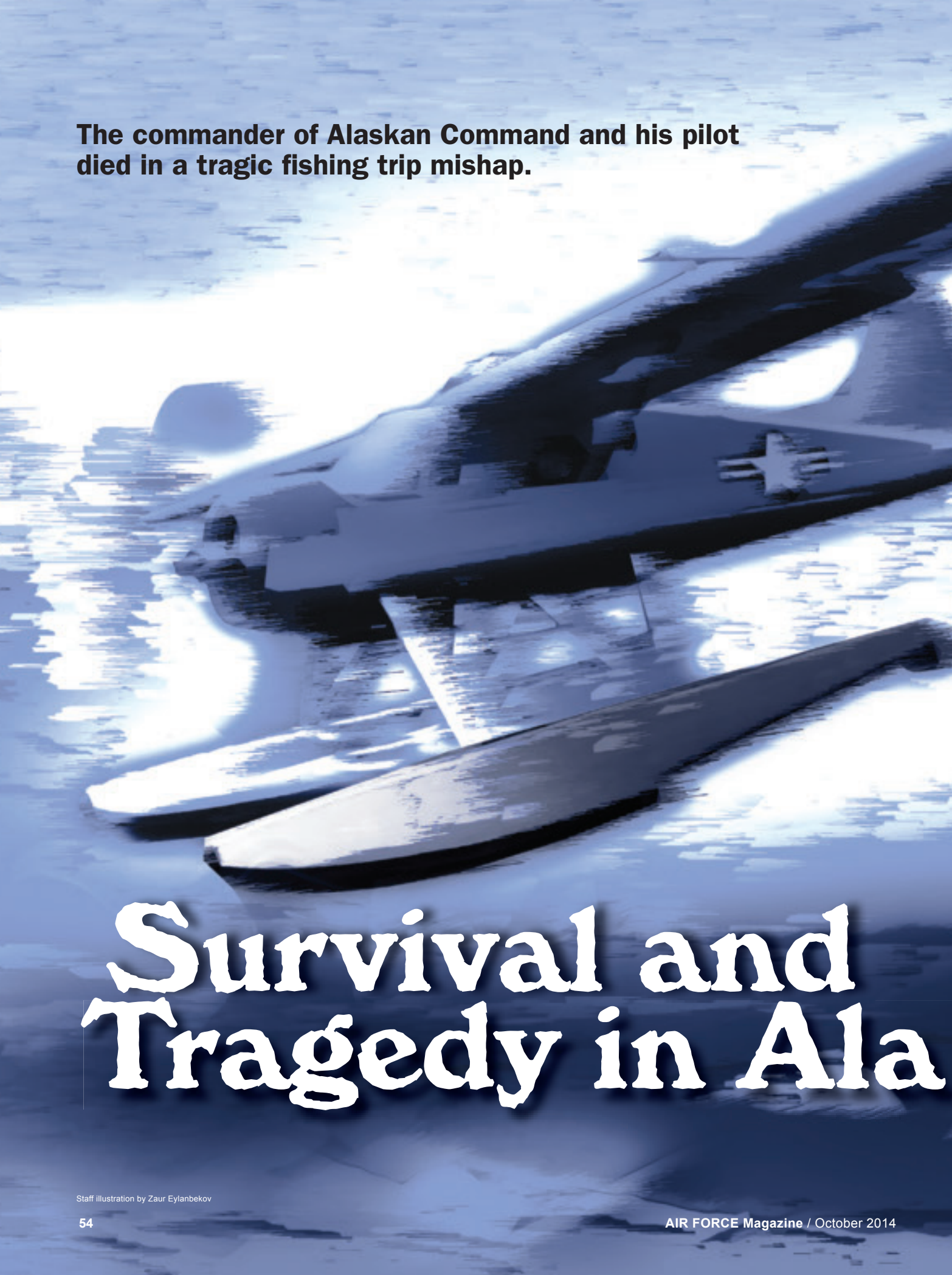
The commander of Alaskan Command and his pilot died in a tragic fishing trip mishap.



Survival and Tragedy in Ala

Staff illustration by Zaur Eylanbekov

ska

By John Lowery

With high clouds to the west and a light breeze stirring the water's surface, the float-equipped de Havilland Beaver—designated a U-6A—lifted off Naknek Lake, home of King Salmon Air Force Station, located on the upper Alaskan Peninsula. As the aircraft became airborne the blast of the 450 horsepower Pratt & Whitney Wasp Junior engine echoed loudly across the water's surface.

It was 6 a.m. on June 3, 1967, and the party of four was off to enjoy some of Alaska's renowned fishing. The group included Lt. Gen. Glen R. Birchard, commander of Alaskan Command, Maj. Gen. Joseph A. Cunningham, the 22nd Air Force commander, ALCOM's conservation officer Edward A. Bellringer, and Birchard's pilot, Maj. Norman C. Miller. The fickle Alaskan weather seemed to be cooperating and it promised to be a beautiful day.

INTO THE WIND

An hour later they landed on Upper Ugashik Lake. The party beached the aircraft and promptly began fishing. As advertised, the action was superb; after five hours of landing silver salmon it was time for lunch. They reboarded the aircraft to return to King Salmon's Naknek Lake camp.

Unfortunately, gale-force winds were now churning the open water, producing four- to seven-foot waves. Although surface wind velocity data was not readily available in the Alaskan outback, float-equipped civil aircraft, such as Cessnas and Super Cubs typically stopped flying once wind velocity reached 18 to 20 mph. Winds at that speed create rough water—given away by whitecaps topping waves on the lake's surface.

Based on the reported four- to seven-foot waves, Miller faced a close judgment call, and as an Air Force general's personal pilot, he was unlikely to have had extensive floatplane experience.

Landing a floatplane is a far different task from landing on a runway. Taking off or landing in rough water pounds a floatplane's structure—subjecting the pontoon attach points, struts, and engine mounts to possible failure. On a windy day in Alaska it was not uncommon to see a floatplane taxi in with the engine drooping and the propeller slicing the floats, because the upper engine mounts failed. The U-6A Beaver could handle somewhat rough conditions, but it still had limits.

Normally, when rough water conditions exist, for both passenger comfort and safety, pilots look for an area sheltered from the wind. To Miller's credit, he did just that. "The first takeoff was aborted because the pilot encountered a crosswind and rough water prior to attaining liftoff speed," USAF's official accident report of the incident stated. This was an entirely prudent decision.

But the mission wasn't over yet.

Winds that day were apparently highly variable. "The second takeoff was started into the wind. As the aircraft approached the shore of the lake, a left turn was made to parallel the shoreline. The aircraft again encountered rough water and continued through a series of hard bounces and turns," the accident report stated. According to the USAF investigation, the turns and bounces eventually placed the aircraft "in its final takeoff path with a quartering tailwind." Yet instead of aborting due to the rough bounces, this time Miller continued at full power.

Despite being downwind "the aircraft bounced high into the air several times, but did not have sufficient airspeed to remain airborne," the report stated. The Beaver finally crashed when the floats contacted the water with tremendous force after the final bounce. The float and strut assemblies collapsed, and the aircraft nosed down into the water.

Birchard, Cunningham, Bellringer, and Miller were uninjured and successfully escaped as the aircraft rolled over and sank.

All four were dutifully wearing life preservers that, once out of the aircraft, they quickly inflated. Initially the group stayed together, but Birchard seemed to be having trouble in the cold water. At that time of year, the water temperature was most likely in the range of 50 to 60 degrees Fahrenheit, and unprotected people can only be expected to survive an hour or two in those conditions. Meanwhile, strong winds were now blowing against the survivors, about two miles out from shore.

Recognizing the danger of their slow progress, Cunningham struck out alone and managed to reach the shore, but was exhausted. Bellringer stayed with Birchard and Miller until they were within 200 yards of the shore. After an estimated hour-and-a-half in the cold water, and when it looked like the two officers could make it to shore, Bellringer separated from them and swam ashore. For some reason Birchard and Miller failed to follow.

Photos via John Lowery

The aircraft's floats and struts collapsed as the aircraft bounced on the turbulent surface of the water, sending it down into the icy lake.

As they lingered, the cold water slowly sapped their strength and consciousness. Birchard and Miller each tipped over face down in the cold water, one after another, and drowned.

TOO LATE

An hour later, the Rescue Coordination Center at Elmendorf AFB, Alaska, reported Birchard and his party as overdue and immediately launched a rescue team from King Salmon Air Force Station. When the rescue team reached the area, helicopter pilot Capt. Stuart J. Silvers reported high winds and limited visibility.

The team members immediately spotted the bodies of Birchard and Miller, floating face down in the turbulent water. After first retrieving Bellringer and Cunningham, Silvers returned to the bodies and hovered. Then, using the helicopter's winch, the helicopter crew members laboriously reeled the deceased officers aboard.

Several of the decisions that ultimately led to this accident were made under borderline conditions. The four- to seven-foot waves were clearly a no-go situation, but to his credit Miller's initial takeoff attempt was apparently started from a sheltered area. Then, upon encountering the immense waves and strong crosswind, he wisely aborted the attempt. Four- to seven-foot waves are intimidating to any seaplane pilot.

But on his second attempt, with the nose of the aircraft bobbing up and down at extreme angles, and with the pontoons heavily pounding the aircraft each time they dropped off the crest of a wave and hit the next swell, he stayed at full power and failed to abort.

The change in direction to a cross-tailwind heading in the extremely rough water only adds to the incredibility of the scene. It is unclear why Miller's initial good judgment to terminate the takeoff because of the wind and water conditions was followed by an apparent dogged effort to press on through incredibly rough water on his second attempt.

As for the two deaths from hypothermia and drowning, both men would have survived had they been wearing cold water immersion suits. Although not addressed in the accident report, at the time Air Force personnel flying over water 50 degrees Fahrenheit or colder were required to wear immersion suits. These insulated rubber suits were developed for aircrew late in the Korean War, to protect those forced to ditch or bail out into the sea during winter. In this case the crew was not far from land and were on leave. Nevertheless, they were flying in a USAF aircraft.

The life vests were only a part of the survival equation. Because of the cold water, oil companies operating on Alaska's North Slope require immersion suits for all employees who transit the lake country via helicopter or who work on rigs in the Arctic Ocean.

A question remains as to why Miller, the youngest member of the group, failed to save himself when Birchard was unable to finish the swim to shore. The findings of a 1960s safety study may apply. In studying fighter pilot fatalities occurring due to tardy ejections in pilot-induced loss of control accidents, safety officials found that if the loss of control was due to an obvious error by the pilot—such as an accidental spin—he tended to stick with the aircraft too long in an attempt to salvage the situation.

In the case of the Alaskan incident, there could have been little doubt in Miller's mind that he was responsible for the accident. As the general's pilot and aide he undoubtedly felt loyalty to Birchard. Thus, both his culpability and loyalty may have kept him by the general's side until hypothermia caught up with him.

The result was that the Air Force lost two very competent officers. ✪

John Lowery is a veteran Air Force fighter pilot and freelance writer. He is author of five books on aircraft performance and aviation safety. His most recent article for Air Force Magazine, *"Lady Be Good," appeared in the February issue. This article is adapted from his book* Life in the Wild Blue Yonder.

The float-equipped USAF U-6 de Havilland Beaver had no published rough water limitations in the pilot's manual.

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In World War II, Soviet women were air combat pioneers.

Not Just Night Witc

L-r: Russian pilots Lt. Galina Burdina, Lt. Tamara Pamiatnykh, Lt. Valeriya Homyakova, and Lt. Valentina Lisitsina discuss a recent sortie in front of one of the 586th Fighter Wing's Yak-1 aircraft.

By Reina Pennington

hes

Who was the first woman to fly in combat? Until 1993, American women were barred from flying combat missions. Army pilot Maj. Marie T. Rossi, however, flew support missions in Desert Storm and was killed in 1991 when her CH-47 helicopter crashed. Her headstone in Arlington National Cemetery reads, "First Female Combat Commander To Fly Into Battle."

Then-Lt. Col. Martha E. McSally, an Air Force A-10 pilot and later the first woman to command a USAF fighter squadron, flew combat patrols over Iraq and Kuwait in early 1995 and is often described as the first woman to fly combat missions. Col. Jeannie M. Leavitt became USAF's first female fighter pilot in 1993, as a first lieutenant, and was later the first woman to graduate from the Air Force Weapons School and the first female fighter wing commander. She flew combat missions during Operation Southern Watch in 1996.

But America is a latecomer when it comes to employing women in combat aviation.

Many sources list Turkish pilot Sabiha Gökçen, the adopted daughter of Mustafa Kemal Atatürk, with becoming the world's first female fighter pilot in 1936 and with flying combat missions in 1937. However, Gökçen was not the first female fighter pilot or even the first woman to fly in combat. Russian women pilots were the first in fighters, the first in combat, and the first to be honored with their nation's highest military honors.

Russian women first flew reconnaissance missions in World War I—two as civilian pilots and another whose male disguise was discovered when she was wounded—making them the first women pilots in combat.

In 1925, Zinaida Kokorina was heralded as the Soviet Union's first female military pilot—the first woman in the world to hold both military rank and fly military aircraft.

Thousands of young women learned to fly in the 1930s in paramilitary Osoaviakhim clubs that also taught parachute jumping and marksmanship skills. Some of these women entered the Soviet air force (Voenno-Vozdushnye Sily, or VVS). In 1938, three female aviators received the Hero of the Soviet Union medal from Stalin himself for their achievements in a long-distance flight they made from Moscow to Komsomolsk-on-Amur.

One, VVS navigator Lt. Marina M. Raskova, had bailed out of their iced-up aircraft, because her location in the nose was hazardous in a forced landing, then endured 10 days in a Siberian forest before being rescued. Raskova's subsequent memoir made her a Soviet celebrity on a par with Amelia Earhart in the West.

At least two women flew bombers in the Russo-Finnish War in 1939-40, including one who flew well into her pregnancy.

Women made their real mark in Soviet aviation during World War II, though. In what Russians call the Great Patriotic War, more than 1,000 women served as pilots, navigators, and ground crew, a small but important part of the 800,000 women in the Red Army. Training began in October 1941 for three all-female combat units: the 586th Fighter Regiment, the 587th Dive Bomber Regiment, and the 588th Night Bomber Regiment.

WHY THEY FOUGHT

Major Raskova began fighting for the creation of women's units from the day the Germans invaded Russia in June 1941. Like Jacqueline Cochran and Nancy Love in the US, Raskova was a tireless proponent for tapping the skills of female pilots to help the military in its time of need. Unlike the Americans, Raskova advocated women for combat roles. While British and American women pilots freed men to fight by taking over ferry duties on the home front, Soviet women fought on the front lines.

Raskova made the rounds at VVS headquarters with a petition and a suitcase full of letters from women who wanted to fly and fight. In September 1941, she got permission to form three all-female regiments, including aircrews, ground crews, and support staff.

Many think the Soviets allowed women to fight out of desperation, but this doesn't explain the decision. Germany had destroyed thousands of Soviet aircraft during Operation Barbarossa, but most of those aircraft were destroyed on the ground, and most of the pilots survived. In the autumn of 1941, when the women's aviation units were being formed, there was no shortage of pilots. Some men in the VVS resented the idea that untried women would be given late-model aircraft, while experienced male pilots had to wait for production to catch up.

By mid-October 1941, Raskova's team had interviewed and selected a thousand volunteers. As the Germans shelled Moscow, the group boarded a train for a training base 500 miles to the southeast.

The recruits were mainly university students in their late teens and early 20s. Some had thousands of hours of flight

The "Night Witches"

"Night witches" has become a popular moniker for all Soviet female pilots of World War II, but is properly applied only to the women who flew night bombers. Germans reportedly came up with the name, but how would German troops have known that women were flying the Po-2s that bombed them?

Only one of the dozens of Soviet night bomber regiments was staffed solely by women; the rest were primarily male. Moreover, only one group of women flew night bombers, while the rest were in other kinds of aviation. But the term has caught on, possibly because of the 1981 book *Night Witches* by Bruce Myles. Public interest was renewed in 2013 when Nadezhda V. Popova, a prominent political figure in the former Soviet Union and the former deputy regimental commander of the 46th Guards, died, prompting a number of newspaper and magazine articles.

"Night Witches" is used in the title of many Web pages, graphic novels, role-playing games, and various TV and film projects.

time: instructor pilots, air show pilots, civil aviation pilots, and some already in the VVS. Others had only Osoaviakhim training. There was such a large number that many had to settle for navigator slots.

Of the three regiments formed by Raskova, only one remained all-female throughout the war: the 588th Night Bomber Aviation Regiment, later redesignated the 46th Guards—the so-called "Night Witches."

An undetermined number of women served scattered throughout the VVS and air defense forces (PVO) in mostly male units; these included female pilots, navigators, and gunners who flew in transports, fighters, and the Il-2 Shturmovik. Some people mistakenly refer to all these women as "Night Witches," but fewer than a third of the women served in night bomber units.

The 46th Guards flew more than 24,000 combat missions. The regiment was continuously in combat from May 1942 until May 1945 and flew at Stalingrad, near the Black Sea, in Byelorussia, and at Warsaw and Berlin.

The 46th Guards flew the Polikarpov U-2, an outdated, open-cockpit two-seat biplane. The resourceful Soviets turned plowshares into swords by converting biplane crop dusters into bombers. The Po-2 (as the U-2 was renamed in 1944) was a ubiquitous trainer and short-distance transport—at least 30,000 were built—but poorly suited for combat.

The 46th Guards was just one of many night bomber regiments. These were created during the defense of Moscow in 1941, with Osoaviakhim graduates flying various kinds of converted trainers to harass enemy troops and attack targets near the front lines. If they didn't hit much, at least they caused the enemy to lose sleep.

Due to their short range, these aircraft had to be based close to the front, often at the roughest fields. The wood-frame Po-2 was fragile and practically defenseless against attack, so it was flown primarily under cover of darkness. Slow, with a top speed of some 90 mph, they were retrofitted to carry 500 pounds of bombs and a machine gun. Crews didn't start wearing parachutes until late 1944, because parachutes were in short supply in the early years, they added weight, and every pound counted.

Photo via Reina Pennington

Marina Raskova in 1938. She fought tirelessly—and ultimately successfully—to put women pilots in the cockpits of Russian bombers during World War II.

GETTING HIT

A typical mission lasted 30 to 50 minutes, and crews flew as many as 14 or more missions a night. They flew single-ship; nighttime formations were dangerous. However, they often flew in sequence, with aircraft three to five minutes apart, ingressing at some 3,000 feet, and bombing at 1,300 feet or higher, throwing out a few flares to light up the target, then egressing at very low altitudes. When possible, crews would cut their engines and bomb from a glide, to improve surprise and survivability. When enemy searchlights came on, the next aircraft in line would try to take them out.

In late 1942, pilot Nina Raspopova and her navigator Larisa Radchikova, while flying a night bombing sortie against a German bridgehead on the Terek River, were hit by anti-aircraft fire. Raspopova recalled, "My left foot slipped down into an empty space below me; the bottom of the cockpit had been shot away. I felt something hot streaming down my left arm and leg—I was wounded." Raspopova managed to get the airplane down. Both women were injured—Raspopova was peppered with wooden shards from the shot-up aircraft—but got back to friendly lines. After a few weeks of recuperation, they were flying again.

After initial recruitment by Raskova in 1941, the VVS didn't create a pipeline

A lineup of "Night Witches" from the 46th Guards.

to bring more women into aviation. The innovative 46th, however, remained all-female by creating its own pilot-training program. 46th Guards chief of staff Irina Rakobolskaia explained, "We turned navigators into pilots, trained new navigators from among the mechanics, and made armorers of the girl-volunteers who were just arriving at the front. ... The regiment flew combat missions at night, and the training groups worked during the day." Several pilots and navigators in the 46th Guards completed more than 800 combat sorties during the war.

The 587th Bomber Aviation Regiment, later designated as the 125th Guards, is the least known of the three units. The 125th Guards completed 1,134 combat missions. The unit flew at Stalingrad, on the Don Front, and in the North Caucasus, Byelorussia, Lithuania, and Poland. Twenty-two flying personnel died during the war.

The 125th Guards become operational in January 1943, seven months after the first two units. The delay resulted from an upgrade from the Su-2 to the more sophisticated Pe-2 bomber, regarded as one of the best dive bombers of the war. The twin-engine Pe-2 was tricky to fly, however, and required an additional crew member over the Su-2. Training time was extended and Raskova had to scramble to get gunners and additional support personnel. To speed things up, she agreed to accept male personnel for most of these new slots.

Raskova herself took command of the 125th Guards. The unit was ordered to Stalingrad in December of 1942, but winter storms caused two of its squadrons to split up along the way. In early January 1943, Raskova tried to take a three-ship formation to its new base, but the weather quickly turned bad. While the other two aircraft successfully crash-landed, Raskova's airplane crashed, killing her and three others on board. Her death devastated not just the 125th, but the women she had trained.

Stalin published a tribute to Raskova, and her remains were interred at the Kremlin.

The 125th Guards regrouped and began combat operations in late January. A new commander was brought in: Maj. Valentin Markov, who had already commanded a bomber regiment. The transition was rocky; many of the women resented that Raskova was replaced by a man, and Markov, recently recovered from war wounds, wasn't happy about his new assignment. He warned the women, "There will be no sort of allowances made because you are women, so don't expect them." But he became a respected leader, and soon the women started calling him batya, or "dad."

Markov later noted, "During the war there was no difference between this regiment and any male regiments. We lived in dugouts, as did the other regiments, and flew on the same missions, no more or less dangerous." He concluded, "If I compare my experience of commanding male and female regiments, to some extent at the end of the war it was easier for me to command this female regiment. They had the strong spirit of a collective unit."

The 586th Fighter Aviation Regiment was the first group to begin combat operations, but it was sent to air defense (PVO) rather than to the VVS. Its fighter pilots, flying Yak-series aircraft, were assigned to patrol rear areas rather than frontline battles. When the unit grew from two squadrons to three, the 586th was assigned male pilots to make up the difference. The regiment flew in Russia and Ukraine and ended the war in Hungary. The 586th completed 4,419 combat missions and destroyed 38 enemy aircraft in 125 air battles.

While relations within the 46th were generally harmonious, there were conflicts and controversies in the 586th. The first commander, Maj. Tamara Kazarinova, wasn't well respected. The 586th had been given the cream of the crop—the best aerobatic pilots and more of the experienced pilots than the other units. These experienced pilots complained about being assigned a commander who

What Happened to Liliia Litviak?

Smart, attractive, charismatic, and missing in action—it's no wonder that Liliia V. Litviak has become the source of so much speculation. Born Lidiia Litviak, she preferred to call herself "Liliia" and is called the top female ace of all time. She became the focus of popular books and websites in several languages.

Litviak was shot down in air combat on Aug. 1, 1943, three weeks before her 22nd birthday. Because her crash site and body were not found during the war, she was listed as missing in action. After extensive searches, in 1979 the body of an unidentified female pilot who had crash-landed on the right date in the right area was located. Based on the physical attributes of the remains and by cross-referencing with personnel records the body was identified as Litviak's. In 1988 her official records were changed to "killed in action," and in 1990, Mikhail Gorbachev awarded her Hero of the Soviet Union.

Nevertheless, stories abound speculating that Litviak was not killed in the war but defected to the Germans and ended up living in Switzerland. There is little substance to these stories.

Night Witches Rufina Gasheva (l) and Natalia Meklin, both awarded Heroes of the Soviet Union, near a Po-2 bomber. Gasheva made 848 sorties as copilot, Meklin flew 980 combat sorties.

wouldn't or couldn't fly the unit's aircraft and petitioned the division commander to replace her.

In September 1942, Kazarinova effectively silenced the complainers, transferring eight pilots to duty with units at Stalingrad.

Soon after, pilot Lt. Valeriia Khomiakova—another of those who complained about Kazarinova's leadership—became the first woman in the world to shoot down an enemy aircraft at night.

On Sept. 24, 1942, she destroyed a Ju-88 bomber, the first kill credited to the 586th. Less than two weeks later, Khomiakova died in a night takeoff under questionable conditions. Many blamed Kazarinova, who was removed from command and reassigned to PVO headquarters, where some believe she made it her mission to exact revenge on the 586th.

Kazarinova was then replaced by a male commander, Maj. Aleksandr Gridnev, who was also controversial. He'd been arrested for political reasons. Returned to duty, his "punishment" was to take command of the 586th. However, like Markov, Gridnev quickly gained the respect and affection of his subordinates.

The 586th pilots weren't in the thick of things, but achieved some notable victories. Raisa Surnachevskaia and Tamara Pamiatnykh were scrambled against a group of 42 German bombers and shot down four. The 586th regularly escorted important transport flights, including one taking political officer Nikita Khrushchev to inspect a POW camp at Stalingrad.

WHAT HAPPENED TO THEM

Several more of the most skilled pilots in the 586th died under mysterious circumstances. Except for those who remained in the VVS after the Stalingrad deployment, all the pilots who had petitioned for Kazarinova's dismissal were dead within a year. We may never know the truth about whether these deaths were engineered by Kazarinova or simply the toll of war. PVO headquarters assigned them unnecessary missions in dangerous weather conditions that caused the death of at least one pilot, and another was killed while test-flying a defectively repaired aircraft, according to Gridnev.

The 586th was nominated to receive Guards designation, but after photos, films, and documents were prepared, and commissions made their recommendations, the documents disappeared and the unit never got the title. Kazarinova was one of the PVO staffers who had access to those files. Gridnev believes she simply destroyed them.

No pilots in the 586th achieved ace status—five enemy aircraft shot down—but several who left the unit for the VVS did.

The first women to shoot down enemy aircraft were Liliia V. Litviak and Raisa V. Beliaeva, who scored kills on Sept. 13, 1942, at Stalingrad—11 days before Khomiakova achieved her night shootdown. Litviak and Beliaeva were among the eight female pilots transferred from the 586th, along with their ground crews, and assigned to two different VVS regiments.

Litviak and Katia Budanova are the most famous of the female fighter pilots. Both preferred frontline flying to air defense. They petitioned to stay with the VVS after Stalingrad and were transferred first to the 9th Guards, then the 73rd Guards regiment. These units were in intense combat in 1942-43. Budanova was killed in July 1943.

Litviak too became a casualty of war on Aug. 1, 1943, when she was shot down during an intense air battle. Her remains were identified decades later, and she was finally awarded the Hero of the Soviet Union by Mikhail Gorbachev in 1990. Litviak racked up as many as 12 personal kills (including an artillery spotting balloon) and three shared kills, making her the top-scoring female ace of all time.

Budanova attained at least six personal and four shared kills and was named a Hero of the Russian Federation in 1993. Litviak's achievements, and even her death, have become the subject of much speculation and controversy.

There were many other noteworthy Soviet female pilots who didn't fly in "Raskova's regiments." Ekaterina I. Zelenko, a veteran of the Russo-Finnish War, was killed when she rammed a German fighter in 1941. Valentina S. Grizodubova, who flew with Raskova on that 1938 long-distance flight, commanded the 31st Guards Bomber Aviation Regiment, which flew thousands of partisan resupply missions. Anna Timofeeva-Egorova flew the Il-2 Shturmovik ground attack aircraft. She was shot down and badly wounded and survived being a POW.

Women aviators in the Soviet Union flew the same missions as men, in the same kinds of aircraft. Although they encountered some discrimination, on the whole they were well-accepted and respected by their peers. There was little difference in the performance or morale of integrated units compared to all-female units.

Despite their achievements, most women were discharged from the Red Army after the war, including the aviators. A few female pilots kept flying but the VVS did not continue to recruit and train women. Although some books and memoirs appeared, the experiences of the "Night Witches" and other female pilots were largely forgotten in the Soviet Union and are little-known in modern Russia.

Few women fly in the Russian air force today. The Soviet Union was the pathfinder in the 20th century, but the United States has set the standard for women in military aviation in the early 21st century. ✪

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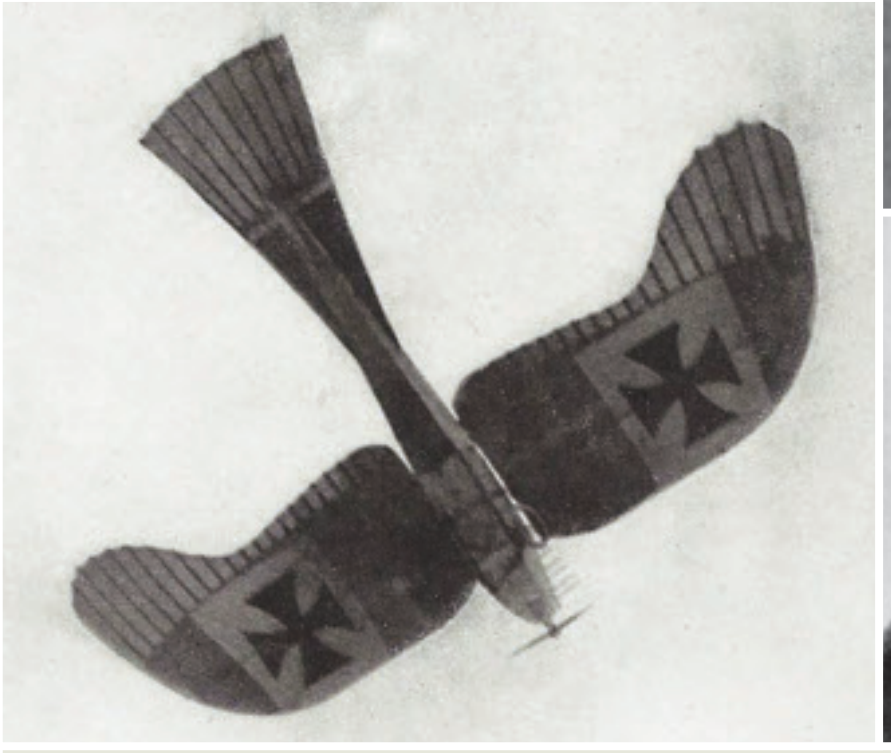
Dove of War



It had a unique, highly memorable design. It was the first airplane to engage in an act of war. It was Germany's first mass-produced military aircraft. All of these describe the "Taube," German for "dove," a pre-World War I monoplane. The Taube was conceived by Austrian designer Igo Etrich in 1910. He licensed it to Edmund Rumpler in Germany, but Rumpler reneged on royalties and Etrich abandoned the patent, generating broad production. Italy became a big user. In 1911, the pilot of an Italian Taube dropped the first bomb—grenades—in anger. The Taube was flown by the Austro-Hungarian and Ottoman empires. It was most prominent in Germany, which used it as fighter, bomber, spotter, and trainer. In the first months of the Great War, German Taubes dropped bomblets on Paris, dispensed propaganda leaflets, and tracked Russian movements at the Battle of Tannenberg. However, the slow-turning Taube proved vulnerable to more-agile Allied aircraft and it was relegated to the trainer role. Many future German aces learned to fly on the graceful Rumpler Taube.

Images, clockwise from top left: Parisians in 1915 gawk at a captured Taube in Les Invalides complex; designer Igo Etrich; German manufacturer Edmund Rumpler; and a German Taube in flight.

The Long RETREAT

By John T. Correll

The United States gave up on Vietnam in 1968. Getting out was harder than getting in.

American involvement in Vietnam split sharply into two parts. Up to 1968, the United States was trying to win the war and believed that it could do so. After 1968, the driving objective was to get out.

The withdrawal stretched out for another five years. Active US involvement finally ended with the Linebacker II "Christmas bombing" of North Vietnam in December 1972, which led to the Paris Peace Accords and a cease-fire in January 1973. More than a third of the 58,000 US war dead in Vietnam were killed after 1968.

The turning point was Tet. On the night of Jan. 30-31, 1968, at the beginning of the Lunar New Year holiday, the North Vietnamese Army and the Viet Cong struck at more than 100 locations all over South Vietnam, including the US Embassy in Saigon. The offensive was soundly defeated but the political damage was overwhelming.

Tet revealed the untruth of assurances by the White House and Military Assistance Command Vietnam that the war was almost won. Two months previously, MACV commander Gen. William C. Westmoreland said in a speech at the National Press Club that the enemy was "certainly losing" and that their hopes were "bankrupt."

Now Westmoreland wanted 206,756 more troops (in addition to almost 500,000 he had already) and another 17 fighter squadrons. On March 31, President Lyndon B. Johnson announced a unilateral bombing halt in Vietnam and said he would not run for re-election. He said the US was "prepared to move immediately toward peace through negotiations."

Richard M. Nixon inherited the commitment when he took office in January 1969. "We were clearly on the way out of Vietnam by negotiation if possible, by unilateral withdrawal if necessary," said Nixon's national security advisor, Henry Kissinger.

Nixon refused to simply cut and run. That would dishonor the sacrifice of US casualties in Vietnam and undermine the credibility of the United States as a superpower. "The first defeat in our nation's history would result in a collapse of confidence in American leadership, not

only in Asia but throughout the world," Nixon said.

Instead, the United States would prepare the South Vietnamese to take over in a process called "Vietnamization." US force levels peaked at 543,000 in April 1969 and troop withdrawals began in July. US participation shifted steadily toward airpower.

After the Paris Peace Accords in 1973, Nixon said the US had achieved "peace with honor." In actuality, it was a barely concealed defeat for the United States, and even worse for the South Vietnamese. Without US help, they could not withstand a main force invasion by North Vietnam. Saigon fell in 1975.

All sorts of explanations are offered for what happened. Military historian Lewis Sorely—a leading exponent of the theory that the war could have been won with a better strategy and approach—assigns the principal blame for the defeat to Westmoreland. In *Westmoreland: The General Who Lost Vietnam,* Sorley accuses Westmoreland of failing in strategy and leadership and neglecting the development of South Vietnamese military capabilities.

That puts too much of the responsibility on Westmoreland. Any prospect of victory had been foreclosed by earlier decisions. The broader question is whether the Vietnam War was ever America's to win or lose.

THE STRATEGY THAT FAILED

The US experience in Vietnam was a classic case of unplanned mission creep. It started as training and advice but slipped into counterinsurgency and then into conventional war.

Operation Rolling Thunder, the air campaign against North Vietnam, began in a half-hearted way in March 1965. Ambassador Maxwell D. Taylor warned that the North Vietnamese would not be impressed by one mission a week against minor targets. "I fear that to date, Rolling Thunder in their eyes has been merely a few isolated thunderclaps," he said in a message to Washington.

A month later, Secretary of Defense Robert S. McNamara decided that Rolling Thunder was not working and shifted the strategy and emphasis to a ground war in the south. McNamara's view was "that the place to destroy the enemy was

USAF photo

B-52s await bomb loading before a mission over Vietnam. Response to Hanoi's Easter offensive made it clear that North Vietnam could not successfully invade the south so long as it was defended by US airpower.

LBJ Library photo by Yoichi Okamoto

AP photo by Michael Lipchitz

LBJ Library photo by Yoichi Okamoto

Clockwise from above: A month after Rolling Thunder began, Secretary of Defense Robert McNamara (at right, with President Johnson at the White House) decided it was not working and switched to a ground war strategy in the south; Le Duc Tho (l) and Henry Kissinger, the chief negotiators, in Paris during the peace talks of 1973; Johnson (l) visits MACV commander Gen. William Westmoreland at Cam Ranh Bay in South Vietnam in 1967. They considered the war almost won. Tet demonstrated that it was not so.

in South Vietnam," said Gen. William W. Momyer, commander of 7th Air Force. "According to his strategy, the mission of in-country support took priority over all other missions in Laos or North Vietnam."

"This fateful decision contributed to our ultimate loss of South Vietnam as much as any other action we took during our involvement," said Adm. U. S. Grant Sharp Jr., commander of US Pacific Command.

Two Marine Corps battalions had been sent to Da Nang in March to protect the air base there. In July, the White House agreed to Westmoreland's request for 44 ground force battalions, about 194,000 troops. Westmoreland, focused fully on South Vietnam, adopted a strategy of attrition and "search-and-destroy" missions into the countryside. The United States had stumbled into a land war in Asia.

There were several things wrong with this, the main one being that the war was instigated, commanded, and sustained by the infiltration of troops, equipment, and supplies from North Vietnam. The United States and South Vietnam could not win it with operations in the south. Nevertheless,

fearful of drawing the Soviet Union and China actively into the war, the Johnson Administration ruled out a combined arms offensive against North Vietnam.

Rolling Thunder continued for another three years but with crippling constraints and prohibitions. US troop levels rose toward half a million and the United States effectively took over the ground war from the South Vietnamese.

After Tet, the predictions of imminent victory lost all credibility, especially when the *New York Times* discovered and reported Westmoreland's request for 206,000 additional troops. Johnson halted the bombing north of the 20th parallel, then moved the line to the 19th parallel, and in November stopped the bombing of North Vietnam altogether.

BOGGED DOWN IN PARIS

Negotiations with North Vietnam began in Paris in May 1968 with longtime Democratic Party stalwart Averell Harriman leading the US delegation. In the first of many concessions, the United States agreed to admit the Viet Cong—which had been created by the North Vietnamese—to the peace talks if Hanoi would permit the government of South Vietnam to be there as well. The Viet Cong took their seat in Paris as the "Provisional Revolutionary Government," which was likewise invented in Hanoi.

According to Harriman, there was an "understanding" that if the bombing stopped, Hanoi would not "take advantage" of it by increasing its attacks and infiltration of the south. Such an understanding existed only in Harriman's wishful thinking, based on North Vietnamese "assent by silence" to American statements.

Harriman stuck to his story. In May 1969, he lectured the Nixon Administration that "50,000 American troops should be pulled out at once. It would be a signal to Saigon that they've got to get together politically. It would be a sign to Hanoi the President means what he says about seeking peace. It won't be taken as a sign of weakness. ... If we take some steps to reduce the violence, if we take the lead, I'm satisfied that they will follow."

Nixon appointed Henry Cabot Lodge, a former ambassador to South Vietnam, to replace Harriman in Paris, but the real negotiations were carried on behind closed doors by Kissinger and Le Duc Tho, a member of the North Vietnamese politburo. Nixon and Kissinger hoped that the private sessions might break the public deadlock, but that did not happen. "Hanoi was not prepared then or for the four years afterward to settle for anything other than total victory, including the unconditional withdrawal of all US forces and the overthrow of the Saigon political structure," Kissinger said.

Although the United States did not fully understand it yet, North Vietnamese policy had been directed for some time by Le Duan, first secretary of the Communist Party, who had marginalized both the aging legendary leader Ho Chi Minh and army chief Vo Nguyen Giap. Tet, which had been a military failure even though it rebounded to Hanoi's political success, had been Le Duan's doing. Le Duc Tho was Le Duan's right-hand man.

"We have ruled out attempting to impose a purely military solution on the battlefield," Nixon said. "We have also ruled out either a one-sided withdrawal from Vietnam, or the acceptance in Paris of terms that would amount to a disguised American retreat."

VIETNAMIZATION

The centerpiece of Nixon's plan was "Vietnamization," a term coined by Secretary of Defense Melvin R. Laird, who also became its foremost advocate. The South Vietnamese would be trained and equipped to take over the war, followed by a complete withdrawal of US combat forces.

In August 1969, Gen. Creighton W. Abrams Jr., who replaced Westmoreland at MACV, got new orders and a new mission statement. The emphasis for the United States, Kissinger said, changed to "providing 'maximum assistance' to the South Vietnamese to strengthen their forces, supporting pacification efforts, and reducing the flow of supplies to the enemy."

Abrams dumped Westmoreland's search-and-destroy strategy in favor of "clear and hold"—clearing an area of the enemy and keeping it clear. Abrams "abandoned the large-scale offensive operations against the Communist main forces and concentrated on protecting the population," Kissinger said. "American troops were deployed for defense in depth around major cities."

The South Vietnamese air force doubled in size and received its first jet fighters, Northrop F-5s and Cessna A-37 attack aircraft. These new airplanes, along with propeller-driven A-1s, AC-119 gunships, and helicopters, were a significant force but they did not give South Vietnam a capability to attack North Vietnam or effectively interdict the Ho Chi Minh Trail.

Laird told the service secretaries to guard against "pressures and temptations to hold onto the reins" in Southeast Asia and issued a reminder that "the chief mission of our forces in South Vietnam continues to be to insure the success of Vietnamization."

The problem, a classified USAF report said, was that "the South Vietnamese were not improving as fast as the US forces were withdrawing." They could not hope to match the capabilities and range of high-performance US fighter-bombers and B-52s. Some South Vietnamese generals were good leaders but others were chosen for their political reliability instead of their military talents.

Abrams and the South Vietnamese armed forces made considerable progress with pacification. Sorley—the harsh critic of Westmoreland and a great admirer of Abrams—notes that by 1970, "the South Vietnamese countryside had been widely pacified" and that about 90 percent of the population was under government control.

"The fighting wasn't over, but the war was won," Sorely said. Others thought so, too. In later years, Mackubin T. Owens, a prolific author and analyst who had been a Marine Corps platoon commander in Vietnam, had a bumper sticker on his car that read, "When I left, we were winning."

This notion of a victory ignored is still popular today. However, like McNamara's strategy decision in 1965, that proposition hangs on defining the war as an indigenous ground conflict in the south. As would be demonstrated yet again when an invasion force from North Vietnam captured Saigon in 1975, the critical challenge was always from the north.

US NEGOTIATING WITH ITSELF

North Vietnam did not wait in 1969 to see what the new Nixon Administration would do. Four weeks after Nixon took office, the communists launched a new offensive in the south, attacking 110 targets, including Saigon.

Nixon felt he had to retaliate in some way to preserve any chance of negotiating from a position of strength and ordered the bombing of North Vietnamese and Viet Cong sanctuaries in Cambodia.

The United States had been bombing the Ho Chi Minh Trail in the Laotian panhandle since 1965, but the southern extension through Cambodia had not been struck before. Cambodia was supposedly neutral and North Vietnam denied being there.

The Cambodian leader, Prince Norodom Sihanouk, had invited a US attack on the North Vietnamese invaders but was not willing to do so publicly. The bombing operations in Cambodia, which began in March 1969, were kept secret—at least for a while—both because of Sihanouk's

USAF photo

Above: A B-52 drops bombs on North Vietnam. Linebacker II convinced the North Vietnamese that their best option was to negotiate seriously. Right: Early in his presidency, Nixon ordered the bombing of sanctuaries for North Vietnamese soldiers in neighboring Cambodia. He announced it to the American people in a speech in the April 1970.

Photo via Nixon Presidential Library & Museum

sensitivities and to avoid an uproar of protest in the United States.

Concurrently, Nixon proposed a mutual withdrawal of US and North Vietnamese forces from South Vietnam. Hanoi refused. The first increment of US troops was pulled out unilaterally in June, which fatally undercut the whole concept of mutual withdrawal.

In the spring of 1970, the nominally neutral Sihanouk was ousted by a pro-Western coup headed by Premier Lon Nol. To shore up Lon Nol's government and to complete the destruction of the sanctuaries, a combined force of 15,000 US and South Vietnamese entered Cambodia, setting off a massive wave of protest by politicians, students, and the press in the United States.

In October 1970, Nixon offered a deeper concession, a "cease-fire in place." Unlike the previous proposal for mutual withdrawal, this would allow the North Vietnamese forces already in the south to stay there while a political settlement was explored. US forces, which were going home anyway, did not figure in it. North Vietnam refused.

In December, an amendment to the defense appropriations bill prohibited the use of US ground forces in Laos or Cambodia. "Hanoi stood at the sidelines, coldly observing how America was negotiating not with its adversary but with itself," Kissinger said.

By early 1972, most of the US ground forces were gone from Vietnam. Air-power had been reduced as well, but not by as much, and was carrying the main US part of the effort. The North Vietnamese had built warehouses in the demilitarized zone and petroleum pipelines into Laos. They had also based MiG fighters and other aircraft at bases near the DMZ, from which they could be across the border in minutes.

Le Duan, originator of the Tet attacks in 1968, was ready to try again. On March

30, 1972, in what became known as "the Easter Invasion," the North Vietnamese launched a three-pronged attack across the DMZ and eastward out of Laos and Cambodia.

The South Vietnamese fought well, but the critical factor in stopping the invasion was US airpower, which was rapidly augmented by additional fighters and bombers. Abrams at MACV wanted all of the available airpower targeted on battles in South Vietnam, but an appreciable portion was allocated to Operation Linebacker I, which began in May and bombed the logistics infrastructure in North Vietnam.

By June, Le Duan's venture had failed and the message was clear: North Vietnam could not successfully invade the south so long as it was defended by US airpower. Hanoi had sustained huge losses in the losing effort and its attitude was changing toward a negotiated settlement.

Nixon's Democratic Party opponent in the upcoming presidential election, Sen. George McGovern, took a peace-at-any-price position. The *New York Times* reported that, "if elected, Mr. McGovern has said, he will order a cease-fire on Inauguration Day, remove all troops from Indochina within three months, withdraw support from the South Vietnamese government, and remove American forces from Cambodia and Laos. He says he fully expects the North Vietnamese to release American prisoners of war once these various steps are taken."

The North Vietnamese figured that McGovern would lose and that they might get better terms from Nixon before his re-election rather than after. In September, Le Duc Tho told Kissinger that North Vietnam would agree to a cease-fire in place and release of the American POWs. Hanoi would drop its previous demand for the ouster of President Nguyen Van Thieu in South Vietnam as a precondition. This incorporated most of the elements of previous proposals by the US and South Vietnam.

Kissinger, in a burst of exuberance, announced in October that "peace is at hand." That, however, reckoned without Thieu, who balked. He had gone along with previous US proposals only because he thought there was no chance of Hanoi accepting them. Faced with the stark reality that the Americans might actually leave Vietnam, he rejected the breakthrough in negotiations.

North Vietnam, seeing that Nixon was in a bind, back-pedaled on its offer and hardened its demands. "Hanoi had in effect made a strategic decision to prolong the war, abort all negotiations, and at the last moment seek unconditional victory once again," Kissinger said.

THE WEIGHT OF LINEBACKER

The prospect for extricating the United States from the war was at a standstill, and Nixon was infuriated. When Congress convened in January, it might well impose new restrictions making it more difficult to get a favorable settlement.

Seeking to break the impasse, Nixon ordered a bombing campaign, Linebacker II, heavier than anything North Vietnam had ever seen before, centered on Hanoi and Haiphong but with many targets elsewhere, including railroads, power plants, supply depots, ports, and the principal military air bases.

Between Dec. 18 and Dec. 29, Linebacker II pounded North Vietnam with 729 sorties by B-52 bombers and 769 by Air Force and Navy fighters, destroying much of the remaining industrial and military infrastructure. Chinese Premier Zhou Enlai advised Hanoi to return to bargaining and "let the Americans leave as quickly as possible."

Linebacker II had achieved its purpose. On Dec. 26, North Vietnam agreed to resume the talks.

The agreement reached in Paris in January was similar to the one Hanoi had backed away from earlier, but this time North Vietnam promised to recognize and respect the DMZ. The political future of South Vietnam would be decided in free elections under international supervision. Neither side would use Laos and Cambodia for military purposes. US forces would withdraw. The agreement said nothing about the 160,000 North Vietnamese troops left in place in the South.

Nixon notified Thieu that he had "irrevocably decided" to sign the Paris agreement. "I will do so, if necessary, alone," Nixon said. "In that case, I shall have to explain publicly that your government obstructs peace. The result will be inevitable and immediate termination of US economic and military assistance which cannot be forestalled by a change of personnel in your government."

Thieu had little choice but to accept, and the deal was done. The accords were signed by the United States, North and South Vietnam, and "the Provisional Revolutionary Government of the Republic of South Vietnam."

THE PEACE THAT WASN'T

The cease-fire went into effect Jan. 28, 1973. The first American POWs returned Feb. 12, and the last American troops left Vietnam on March 29.

Nixon announced that "we have prevented the imposition of a communist government by force on South Vietnam." That overstated it by a long shot, but Vietnam had been given a chance. Its armed forces had been built up considerably. The air force had over 1,000 aircraft. US economic and military aid continued, and Nixon had guaranteed Thieu that if Hanoi failed to abide by the agreement, it was his intention for the United States "to take swift and retaliatory action."

However, Nixon would not be there to see it through. In May, the Senate began hearings on the Watergate scandal that would eventually drive Nixon from office. Well before that, Congress reneged on the assurances given to South Vietnam.

An amendment to the defense appropriations bill in July 1973 cut off funding to finance "directly or indirectly" combat operations by US forces "in or over or from off the shores of" North Vietnam, South Vietnam, Laos, or Cambodia.

Furthermore, Congress radically reduced aid to South Vietnam from $2.27 billion in 1973 to $700 million for 1975. In his memoirs, Nixon denounced the "tragic and irresponsible action" by Congress, which "denied, first to me, and then to President Ford, the means to enforce the Paris agreement."

By the beginning of 1975, North Vietnam was ready to try again. Its army, built up with Soviet assistance, was now the fifth largest in the world. There was no more pretense of a home-grown insurgency by the South Vietnamese. Nor was there any need to infiltrate indirectly by way of the Ho Chi Minh Trail.

Twenty North Vietnamese divisions came directly across the DMZ and joined other combat forces already in the south. The invasion force included tanks and was supported by modern air defense systems that substantially weakened the ability of the South Vietnamese to resist.

Saigon fell April 30. The Provisional Revolutionary Government was dissolved—without consulting the PRG—by party leaders in the North. South Vietnam ceased to exist. There was only one Vietnam, and its capital was Hanoi. ✪

John T. Correll was editor in chief of Air Force Magazine *for 18 years and is now a contributor. His most recent article, "Chasing Pancho Villa," appeared in the September issue.*

Escaping the Continent

By Rebecca Grant

American airmen shot down over Europe had a sophisticated web of supporters for attempts to avoid the Nazis and reach freedom.

USAF photo

A B-24 crash-lands near Eindhoven, Holland. Resistance networks in Nazi-occupied countries helped downed Allied airmen traverse hundreds of miles to safety.

"Remember: Do Nothing. Say Nothing. Write Nothing Which Could Betray Our Friends."

This notice, posted for aircrew during World War II, reminded them of a reassuring secret: If they were shot down over France, Resistance networks were ready and eager to hide them from the Germans.

There was good reason to be optimistic. The Resistance enabled more than 3,000 Allied airmen to disguise their identities and walk out of German-occupied Western Europe. Airmen shot down in France and Belgium had especially good chances of making it out.

Future American ace and test pilot legend Charles E. "Chuck" Yeager was shot down by Focke-Wulf 190s on a mission over France on March 5, 1944.

"Before I had gone 200 feet, half a dozen Frenchmen ran up to me," Yeager later reported. They brought him a change of clothes and hid him in a barn. Under the care of the Resistance, Yeager was transported to southern France, hiked into Spain on March 28, reached the British fortress at Gibraltar on May 15, and was in England by May 21, 1944.

Yeager's speedy trip was made possible by years of effort to build networks for moving airmen from the moment they landed in their parachutes to the moment they reached friendly or neutral territory.

The evading airman's journey always began with immediate concealment. Then they sheltered with families, often in several locations. Next they traveled in cars and trucks, bicycled, and even rode

THE LUDINGTON DAILY NEWS

FORCE ENEMY IN COFFIN CORNER TRAP

Allies Within Reach of Munda Base

150 Bombers Stage Biggest Pacific Raid

UMW Sign Work Bill in Illinois

Russians Are Within Nine Miles of Orel

Yanks Move 60 Miles West in Three Days

Cherry Harvest Requires Emergency Help at Once

Sgt. Harry Eastman Missing over Europe

trains through Paris right under the eyes of German soldiers. Sometimes they moved alone, but just as often the Resistance linked them into small groups at major assembly points such as Liège, Belgium.

BAIL OUT

For evaders the saga usually began with a struggle, often onboard a burning B-24 or B-17. Typically it was a German fighter that shot down the bomber over France or Belgium.

Through 1943, many of the bombers fell victim to the German tactic of nose-on attacks, introduced by Oberleutnant (1st Lt.) Egon Mayer. Skilled German fighter pilots used the tactic to break up formation accuracy during a bomb run. Frontal attacks at this time were "the chief defensive problem of the Eighth Air Force," found World War II historians Wesley F. Craven and James L. Cate.

Then-TSgt. Chester B. Hincewicz was a top-turret gunner in a B-24 shot down after bombing Germany on April 12, 1944. He remembered hanging over an open bomb bay, holding a fire extinguisher on the blue flames moving from the engine toward the wing of his B-24.

This attack left the "No. 3 engine out, aileron control shot away, [and] fire in [the] bomb bay and on [the] command deck," according to the B-24's pilot, 1st Lt. Joseph Pavelka.

Next came the parachute descent. Evading capture sometimes depended on landing near cover. Airmen who could manage it waited to pull the ripcord because having no open parachute canopy made them less visible targets for German forces. On this B-24, four of the crew fell into German hands and became POWs. The others evaded capture.

Sometimes pilots stayed with the airplane to crash-land it after the crew bailed out. Capt. Kee H. Harrison's B-17 of the 94th Bomb Group lost two engines to fighter attack near Le Bourget airfield outside Paris on July 14, 1943. A 20 mm shell explosion set the cockpit on fire. With a full bomb load, the aircraft was hopelessly dropping behind the formation.

A local Michigan newspaper announces SSgt. Harry Eastman to be missing in action in Europe, but by then the French Resistance had saved him from being captured.

Four crew members bailed out, leaving six on board for the crash landing. Harrison told the crew to scatter, pushed the destruction buttons in the cockpit, and ran to the nearby woods. "During the five hours I lay hidden in the [woods], I could hear the Germans searching," he later recalled in his escape and evasion report.

Those who evaded capture often found quick help from the Resistance movements.

French peasants spotted Harrison and soon a young boy approached him, offering food and clothing. The boy led Harrison home only to find German troops surrounding the house. The boy guided him to another house four miles away, where the pilot hid for six days.

A crew member from another airplane in the Le Bourget raid, a B-17 nicknamed *Good Time Cholly II,* also found sanctuary in the woods. SSgt. Harry L. Eastman, age 34, was the left waist gunner on the bomber. Focke-Wulfs and Me 109s in lines of six abreast came in "right after" Spitfire escorts turned back, recalled Eastman.

He parachuted into a wheat field. Then he saw a man on a bicycle wave him toward the woods. Four Frenchmen were waiting for him there, but Eastman gestured that his back was injured and he could go no farther.

A Frenchman moved him from the ditch where he had hidden under a thorn hedge into a nearby wood. Other Resistance members brought SSgt. Richard S. Davitt, the top turret gunner, to join him. Five days later, they drove the two airmen to a safe house.

Statistically, these airmen were now missing in action, and their families back home received telegrams giving that status.

WELL-PREPARED

The US Army Air Forces equipped aviators with special supplies and equipment in case they crash-landed or had to bail out. All this was the work of the Military Intelligence Service-X or MIS-X.

Silk maps were standard issue. Aviators also typically flew with a money purse. Red purses contained maps of France, Holland, Belgium, Germany, Spain, and Portugal. Tucked inside were 2,000 French francs, worth about $50—a significant amount at a time when average monthly rent was $40. Records indicate a total of 103,126 red money purses were distributed to US airmen through June of 1945. Yellow

money purses combined French francs with Belgian francs and Dutch guilders.

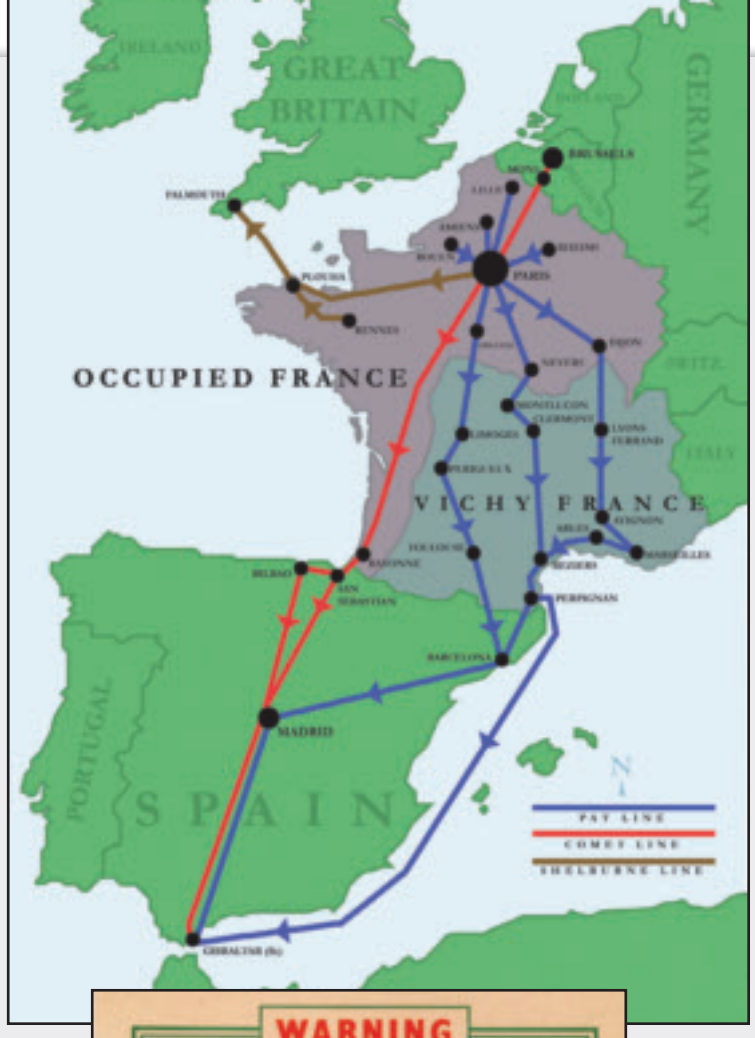
How was the money spent? Pavelka told debriefers he spent his mix of francs and guilders for "black market tobacco and train and bus fare" before leaving the surplus "as a gift for [the] family who helped us last."

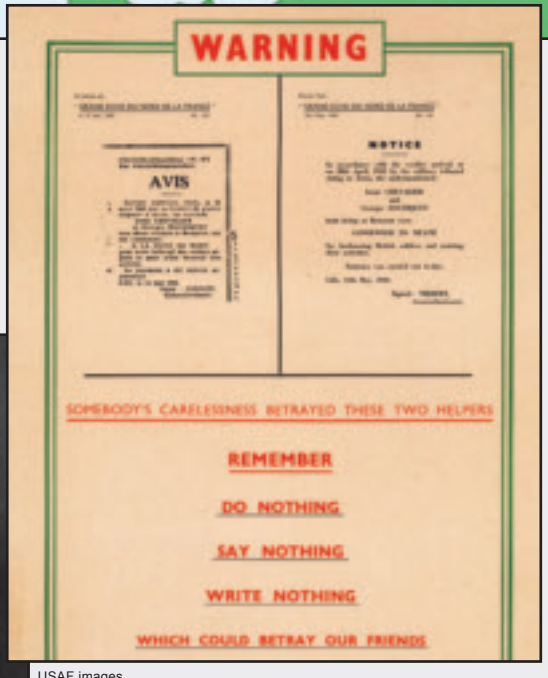
Each aircrew member carried an aid box. These contained a chocolate or peanut bar, milk in a tube, Benzedrine tablets to counter fatigue, halazone tablets to purify water, matches, adhesive tape, chewing gum, a water bottle, compass, and Horlicks tablets, a malted wheat candy thought to stave off hunger. Some of the American evaders wryly observed that the chewing gum was best for taking away the taste of the Horlicks.

Benzedrine was popular. "Very necessary," reported Capt. Douglas K. Hoverkamp of Staten Island, N.Y. "Used to keep awake and keep walking for three days while on way to Switzerland." Despite this, it was all too easy for aviator and supplies to become separated. Harrison lost his money purse and supply box on Day One of his evasion. Others lost them during the bail out. Hincewicz threw his money purse down on the floor of the burning B-24 in a fit of anger when he realized they couldn't control the spreading fire enough to make it back to England.

Passport photographs were perhaps the most valuable item carried. Typically, each aviator had three or four small head shots to be used for creating new identity papers. Hoverkamp was unlucky; he had four photographs, but they were cut to the wrong size and worthless. For the most part, the photographs were the crucial link enabling Resistance members to create new identity cards and work permits so that the airmen could move through occupied territory.

Uniforms conferred some protection if caught. Masquerading as civilians put airmen at special risk. "By donning civilian clothing," stated Air Force historians, airmen lost their Geneva Convention rights and ran the risk of "being shot as spies if captured."





USAF images

Clockwise from top: A map shows the three major lines of escape through Western Europe. The Comet Line alone moved some 800 people to safety. A placard warns of the consequences facing helpers who were betrayed. Albert-Marie Edmond Guérisse, aka "Patrick O'Leary," organized the Pat Line. Betrayed in 1943, he endured Gestapo torture and a concentration camp without revealing his comrades. He survived the war.

ROUTES HOME

The men, women, and children who made contact with the downed fliers were highly networked and organized. A special arm of British Intelligence, designated MI9, started work in late 1939 with the sole mission of feeding information to Resistance networks in occupied Europe. Returning downed airmen—and the intelligence they sometimes brought—was one of the main jobs of the Resistance movements.

Transporting the airmen out of occupied Europe involved hundreds of miles of travel. Three main routes, or lines, shepherded the airmen out.

The Comet Line started in Brussels and moved airmen through Paris and into Spain where they exited through Gibraltar or Portugal. The name was a translation of the French phrase "Le Réseau Comète," or Comet Network. The route was the brainchild of a 24-year-old Belgian woman named Andrée E. A. de Jongh. Her line moved some 800 people, many of them airmen of several nationalities, to safety.

USAF photo

Above: A poster reminds aircrews to bring their escape and evasion kits with them on missions and what might happen to them if they didn't. Right: With this fake passport supplied by the Resistance, US airman TSgt. Chester Hincewicz became a Polish journalist.

Image courtesy of the *Dillsburg Banner*

The Pat Line was known for the code name of its organizer. He was a Belgian cavalry doctor named Albert-Marie Edmond Guérisse, alias Patrick Albert O'Leary. Guérisse was evacuated at Dunkirk then returned to special operations work as a British naval officer. He took over the Marseille route after its originator Ian Garrow was caught by the Gestapo. The Pat Line's "great strength came from the fact that the people who formed its guiding core all knew, liked, and trusted each other. They understood each other quickly, without long explanations; they were all well aware of the risks they ran, individually and in common," wrote the authors of *MI9: The British Secret Service That Fostered Escape and Evasion.* "Pat" himself fell into German hands, too, but survived imprisonment at the Dachau concentration camp.

The Shelburne Line was an MI9 venture especially active in early 1944. In addition, numerous small lines and one-time operations also shepherded the airmen. Yeager came home via the Françoise Line, named for Marie-Louise "Françoise" Dissard of Toulouse, who ran the line from March 1943 until the liberation of France. Several times, small cutters sailed from the coast of France to return handfuls of airmen to England.

For many, the goal was Spain. The Comet Line favored an arduous western Pyrénées route, and for the evaders making their way home this way, success was a major victory. They climbed peaks to 15,000 feet on a journey that lasted about a week. "The weather changes as if someone has hit a fast-forward button," reported a BBC correspondent who hiked the path in 2011 with a commemorative group. "We experienced dank drizzle, boiling heat, freezing mists, snow underfoot, and then more heat in quick succession."

Harrison arrived in Spain on Aug. 28, 1943. His route, named the Bourgogne Line, moved across the central Pyrénées. Harrison made it to Gibraltar on Sept. 13 and was back in the UK by Sept. 16, 1943. Eastman also escaped via the Bourgogne Line.

Not all downed airmen made a quick return to Britain. TSgt. Dale G. Hulsey, a radio operator-gunner, spent 319 days with a band of partisans in German-occupied Yugoslavia after being shot down during the famous B-24 raid on Ploesti, Romania, on Aug. 1, 1943. Hulsey's B-24, nicknamed *The Witch,* was part of the 98th Bomb Group, based in Benghazi, Libya.

He wasn't alone. The raids on Ploesti in 1943 through 1944 saw hundreds of airmen bail out or crash-land in the Serbian provinces of Yugoslavia. By the summer of 1944, partisan leader Draza Mihailovich and his Chetnik army had collected hundreds of airmen. The US Office of Strategic Services—predecessor to the CIA—eventually arranged a mass airlift, with C-47s flying into rough-hewn airstrips. A total of 512 aviators were rescued by the time Operation Halyard ceased in December 1944.

Some exited Nazi territory by crossing into Switzerland. Hoverkamp landed in a pine tree in Belgium and walked along a deserted cart trail. Then, across the field, he saw someone run and sit down under a tree. It was TSgt. Orvin V. Taylor, the radio operator from his crew. Soon the two aviators met an old man who hid them in a corn crib. Later he gave them civilian clothes, a blanket, and dinner in a house before moving the pair to a lean-to in the woods.

They then received assistance from Belgium's "White Brigade," another Resistance group. Hoverkamp and Taylor spent seven days there, wet with snow on the ground. Then their benefactors moved them to a farmhouse where they found 1st Lt. Frank Paisano, the bombardier from his crew, and other airmen from the 379th Bomb Group. Four of them were next hidden under a bridge, then jumped onto a railroad baggage car where another White Brigade Resistance man guided them on. The train took them to Liège, where Hoverkamp estimated there were no less than 30 Americans.

For Hoverkamp the moment of crisis came as he boarded a bus to head east. The "Germans asked for my [identity] card and luggage. I had no luggage, [the German] spoke very bad French and had to have a woman interpret, so the guide told [the German] I only spoke Flemish," he said in his MIS-X report. Another woman on the bus "started an argument, which completely distracted" the German and got Hoverkamp off the hook.

By then, it was snowing hard, but guides pointed out the mountain route to Switzerland. However, the trail ended and, uncertain of the next step, a disagreement flared. Two other evaders "thought they knew better and left us," Hoverkamp stated in his escape and evasion report. Hoverkamp and his crew mate broke into a garage to rest. By now Hoverkamp had just two Benzedrine tablets left. He split

them in half and saw that each man had some before they set off at 2 a.m. Hours later they approached an illuminated farmhouse that turned out to be the Swiss frontier post. "We were given food and [a] lot [of] chocolate," recalled Hoverkamp.

ON THE MOVE

The bomber offensive intensified in 1944 as the planned date for the invasion of Normandy approached.

That's when Hincewicz bailed out over occupied Europe. "I kept my walking shoes, my GI shoes, tied to my parachute harness," he told a Pennsylvania newspaper, the *Dillsburg Banner,* in a 2009 interview. Unsure whether he was still over Germany, Hincewicz did not open the parachute until he was in cloud cover and near the ground. He was in Belgium. He landed near two women drawing water at a well. "One of them pulled up a bucket of water from the well and started washing the blood off me," he said. The women gave him old clothes and gestured for him to move away. Hincewicz found a wayside chapel overgrown with weeds and hid there. Hours later he heard noises. A teenager and three or four other children on bicycles had come to fetch him—bringing a spare bicycle.

Far worse was the situation of 1st Lt. Henry C. Woodrum, who bailed out over Paris on May 28, 1944.

Woodrum was flying his 35th mission as pilot of a B-26 Marauder. His mission was part of the last crucial step before D-Day: destroying Seine River bridges to prevent the Germans from easily reinforcing the Normandy beachhead areas. Confident of their precision bombing, the USAAF held off on these last attacks for the days leading up to the invasion in order to deprive the Germans of time to rebuild. However, executing the attacks demanded low-level bomb runs for the accuracy required to drop the bridges. Woodrum's B-26 was hit by anti-aircraft fire.

Woodrum parachuted onto the roof of a house in Paris. German soldiers began a door-to-door search for him, but he posed as a house painter and eluded them. Fortunately, he was then sheltered by the Resistance. Woodrum avoided capture until the Allies liberated Paris on Aug. 25, 1944.

Meanwhile, conditions for the evaders changed as Resistance members anticipated the June 6, 1944, invasion. Hincewicz became Pawel Hinewie, traveling Polish journalist, according to his forged passport. German troops were suddenly on high alert. Hincewicz had been with one Belgian family for several weeks. Then he was moved every few days by the Resistance. One of the last stops was a stately manor house where the Resistance was hiding other downed airmen. Hincewicz bunked in the stables with three young enlisted men.

USAF photo

Mademoiselle Sainson, a Resistance helper, took two Americans for a walk. When they ran into Italian soldiers, she asked them to pose for pictures with the group. They did, assuming the Americans were French.

"One morning I was awakened by noise—a lot of shouting. I glanced out the door and there was a German military unit that was in the process of routing out the Americans. The three kids looked at me and I told them to follow. Those kids stayed with me and then the shooting started."

The Germans were part of a retreating unit. Hincewicz and the three men managed to escape and rejoin the underground Resistance. Hincewicz finally made his way to British lines and then onward to American lines. Soon he was in newly liberated Paris.

DEBRIEFS

Returning aviators were debriefed by an attaché who met them. Evaders often brought back firsthand sightings of Germans, their vehicles, and installations.

In Britain, returning aircrew were under orders to report to locations such as the US Special Reception Center, then at 63 Brook Street in downtown London. They filled out lengthy forms describing how they used their aid boxes, reports on enemy forces, assistance from Resistance and so on. Evaders could share no details, even with other flying units.

"Information about your escape or your evasion from capture would be useful to the enemy and a danger to your friends. It is therefore secret," said the standard form they signed during the war. Today, thousands of the declassified reports remain on file with the National Archives in Washington, D.C.

Aviators also commented on how well their escape and evasion lectures both Stateside and in theater had prepared them. Harrison reported there was no point in hiding in fields during the daytime, because the Germans used slow-flying airplanes to search for downed aviators. "Do not hide in woods at night because Germans use dogs," Harrison also said.

Protecting the Resistance networks was paramount. Intense secrecy was necessary to preserve the escape routes enabled by thousands of French, Belgian, Dutch, Spanish, Greek, and other men and women who guided the airmen through Nazi-occupied Europe.

Even so, those civilians were often caught. Comet Line organizer de Jongh was arrested in January 1943 and sent to Ravensbrück concentration camp. She was liberated in April 1945. According to Britain's *Independent* newpaper, "Of the Comet Line helpers who fell into German hands, 23 were executed, while another 133 died in concentration camps or as a result of their incarceration."

Yet their success was impressive. More than 3,000 US and UK airmen were returned from occupied Europe alone. Although aircrew that had been helped by the Resistance were usually taken off flying status—if they were shot down again and captured, the Germans could exploit their knowledge of the escape network—some, like Yeager, went on to fight again.

Hincewicz rejoined the Air Force in 1948, serving on B-29s and then in intelligence until retiring in 1970. Decades later, he summed up the experience in a letter to Richard Hansen, a gunner on the same B-24.

"The next six months were stressful, but I learned a lot, which helped me in my personal and professional life," Hincewicz wrote. "I still owe a lot to the people in the underground, which I was never able to repay." ✪

Rebecca Grant is president of IRIS Independent Research. Her most recent article for Air Force Magazine *was "The Reagan Buildup" in the September issue.*

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By Frances McKenney, Assistant Managing Editor

Did You Serve in the Korean War?

Genesee Valley Chapter member Betty Perkins-Carpenter might have a photo of you.

A few years ago, a veterans organization in upstate New York received some 150 photos taken by DOD photographers during the Korean War. The photos were turned over to Perkins-Carpenter, who served as an Air Force sergeant in the war and understood their historical significance. She wanted to identify the service members in the photos and give them copies of the images, so she appeared on WUHF, a Fox television station in Rochester, and showed some of them to viewers.

Rochester city employee Tiana Stephens saw the TV segment and thought she recognized her late grandfather, Crawford Flynn, in one of the 8-by-10 black and white photos. She eventually visited Perkins-Carpenter and on seeing the original image knew right away that it was indeed her grandfather, shown doling out soft drinks to troops. By the caption in back of the photo, she learned that it had been taken in August 1950, making her grandfather only 16 years old at the time. Stephens told Perkins-Carpenter that the images needed to be posted on the web if she wanted to identify others in them.

Kodak Alaris, a document imaging company in Rochester, took on the task of reproducing the photos with a Picture Saver Scanning System. It scanned—and enhanced—the images, taking about a second for each one. It also captured the caption a ditto machine had printed on the back of some photos.

The *Democrat and Chronicle,* a Gannett-owned Rochester newspaper, placed all the photos on their website, entitling the project "Snapshots From the Korean War." The website shows the captions as well.

The photos depict action among all services, but at least 20 of them—not counting bird's eye views—have a clear Air Force tie.

Identifying the people in the wartime photos "can bring families together to learn things they never discussed before," Perkins-Carpenter told the TV show hosts in a return appearance this past August. "We are all in our 80s,so time is of essence."

See the photos at: http://koreanwar.democratandchronicle.com/.

Screen grab courtesy of Kodak Alaris

Genesee Valley Chapter member Betty Perkins-Carpenter (left) and Tiana Stephens read the caption for a Korean War-era photo of Stephens' grandfather. Perkins-Carpenter wants to identify people in 158 Korean War photos that have been posted on the web.

Convention in the Golden State

The **Robert H. Goddard Chapter** in California received Chapter of the Year honors at the California State Convention, centered around Vandenberg Air Force Base.

Aside from hosting the very convention where it collected the honor, the chapter's achievements include producing AFA state leaders this year: TSgt. Timothy J. Tichawa who served as aerospace education VP and MSgt. Jill Higgins who has been state secretary. It also carried out successful chapter activities, such as cohosting an awards reception where some 100 extra guests showed up (See "Party Crashers," in "AFA National Report," June, p. 72.).

The Golden State's AFA convention brought together leaders from 13 chapters. Events kicked off with a casual icebreaker on a Thursday evening. A charity golf tournament took place the next afternoon, to raise money for AFA scholarships. That Friday evening, conventioneers gathered at a country club for a tri-tip beef sirloin dinner.

During Saturday's business sessions, conventioneers elected Goddard Chapter President Juan E. Cruz as California State President; Martin W. Ledwitz of the **Gen. B. A. Schriever Los Angeles Chapter** as VP; Rhoda E. Weiss of the **General Doolittle Los Angeles Area Chapter,** as secretary; and Nancy J. Driscoll of the **Bob Hope Chapter** and Leigh Kelly of the **William J. "Pete" Knight Chapter** as co-treasurers.

Col. Max Lantz, commander of the 381st Training Group at Vandenberg, was guest speaker for the AFA Awards Luncheon that day.

CMSgt. Christopher L. Barnby, command chief for the AFRC 403rd Wing at Keesler AFB, Miss., addressed the convention's culmination Saturday night Military Awards Banquet. The chief is the brother of Lee Barnby, the state's immediate past president.

At the banquet, more than two dozen awards went to Total Force members, plus cadets and teachers of the year.

Wounded Airman Program Outreach in South Carolina

The **Swamp Fox Chapter's** July meeting in Sumter, S.C., featured Paula Roy, the Air Force Association Airmen and Family Programs director, who spoke about AFA's Wounded Airman Program.

"An Air Force wounded airman is any seriously or very seriously wounded, ill, or injured airman identified on a casualty report or recommended by the medical community as having complex medical conditions," Roy told the audience.

Continued on p. 78

How to Involve the Chapter Newcomers

Many hands make light work, as the saying goes.

In organizing and carrying out the California State Convention, the **Robert H. Goddard Chapter** made sure some of the help came from its ranks of newcomers.

Chapter President Juan E. Cruz listed how they were involved:

- **Mentored as future leaders.** In the photo at right, chapter member TSgt. Timothy J. Tichawa (at left) chats with SSgt. Timothy Lombardi before the Military Awards Banquet. Tichawa helped new member Lombardi write the script for the evening. Cruz said they hope to "grow" Lombardi into a leadership position.
- **Tapped as talent.** Chapter VP Norman A. Marous found A1C Leo Lanier, shown below left, through the local Air Force Sergeants Association group. Lanier played the keyboard for both the AFA Awards Luncheon, as well as the Military Awards Banquet. That's six hours of performing, Cruz pointed out. He secured an AFA membership for Lanier in September.
- **Matched to the job.** For the convention's guest relations task, "we needed someone who gets along easily with people, is hard working, and is always looking for a challenge," stated Cruz. MSgt. Craig Rispoli fit the bill. He went to work, ironing out base access and billeting for the convention-goers. At far right, new member Rispoli listens to longtime member Martin W. Ledwitz, the state's Area 3 president.

Involving new and potential members in this way can pay off: Tichawa didn't even belong to AFA when his commander asked him to help plan a state convention a few years ago. Tichawa went on to become an AFA Emerging Leader in 2013.

Photos by Juan E. Cruz

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In Colorado, a Wounded Airman athlete pours on the barbecue sauce, while Sijan Chapter members serve the side dishes. Left to right: Chapter VP Linda Aldrich, Lynn Dibben, and Kyle Shiller. Below: On the bleachers and on the gym floor, athletes and Wounded Airman Program staff members consider their next moves in training sessions.

Photo by P. Z. Przybyla

AFA Airman and Family Programs Director Paula Roy checks her notes as she speaks to the Swamp Fox Chapter in South Carolina.

In its coverage of Roy's address to the chapter, the 20th Fighter Wing public affairs office at Shaw AFB, S.C., reported that USAF has more than 3,300 wounded airmen.

Established in 2011, the AFA program receives requests to fill in gaps other sources can't cover, helping wounded USAF members by providing adapted equipment, lifestyle and accessibility items, financial aid, and caregiver support.

One focus of the Wounded Airman Program is the Warrior Games. This week-long sports competition for wounded military personnel was scheduled to take place Sept. 28 to Oct. 4 at the US Olympic Training Center and the Air Force Academy in Colorado Springs, Colo. Roy told the AFA chapter that the Wounded Airman Program estimates donating $20,000 to the sports event, this year, to be used for team and family support.

Airmen Athletes Prep in Colorado

Wounded Airman Program competitors descended on Colorado Springs in August to train for this fall's competitions, and the **Lance P. Sijan Chapter** helped host the athletes.

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USAF photo by SrA. Kentavist P. Brackin

Daphne Nelson displays her Mike and Gail Donley Spouse Scholarship. The wife of a 1st Special Operations Security Forces Squadron member, Nelson is studying nursing. Formerly called the AFA Spouse Scholarship, the $2,500 award was renamed a year ago for the 22nd Air Force Secretary and his wife. Twelve scholarships were awarded in July. Hurlburt Chapter President Fred Gross made this presentation at Hurlburt Field, Fla.

In Vermont, Green Mountain Chapter President Ray Tanguay, ANG Brig. Gen. Joel Clark, wife Chris Clark, Chapter VP Dick Lorenz, and Secretary John Roach (left to right) were among the half-dozen chapter members attending the promotion ceremony for the new general in July. Clark is a former chapter president and was VP until recently.

Representing the Chuck Yeager Chapter in West Virginia, Paul Hamrick (far right) presented a Civil Air Patrol Outstanding Squadron Cadet of the Year award to Jonah Lopez. At left is Gerald Wedemeyer, commander of Lopez's CAP unit, the Clarksburg Composite Squadron.

The airmen first attended a reception and dinner at the Antler's Hotel, where chapter leaders gathered to welcome them, said Chapter VP Linda S. Aldrich. She reported that John Register was the evening's motivational speaker. Register had been a member of the Army's World Class Athlete Program as a hurdler and long jumper until a training injury led to amputation of his left leg. He went on to become a Paralympic sprinter and silver medalist in the long jump.

The Sijan Chapter later hosted a lunch at the academy during a training break for the athletes. Aldrich said the chance to mingle with the wounded airmen was "a wonderful opportunity."

West Virginia's Leadership School

Chuck Yeager Chapter and other AFA leaders always come away impressed after watching the graduation ceremonies for the annual Mountaineer Cadet Officer Leadership School, held at Concord University in Athens, W.Va.

And it's not just because the chapter provides so many trophies and plaques for the outstanding AFJROTC cadets.

Search "MCOLS 2014" on YouTube to see why the students make even casual observers proud. A trio of videos on that website document how more than 250 AFJROTC cadets from six states, including South Dakota, worked on leadership skills during a week of training this past June. One YouTube compilation of images shows the students at physical training, undergoing inspection, and during classroom instruction. Another video shows them heading to their dorm—flight after flight of cadets from 19 high schools, marching in formation, paced by cadence calls and jody songs. Another video shows the youngsters practicing for their graduation ceremony's pass-in-review.

At the Saturday graduation, cadet Jacob Newman from Hixson High School in Tennessee took home the overall Outstanding Cadet trophy.

MCOLS got its start in 2001, organized by David F. Slaughter, then the chapter's aerospace education VP and now a member of the **Gen. Bruce K. Holloway Chapter (Tenn).** Some 40 cadets attended that inaugural session. Retired Col. Randall Cantrell, then of North Carolina's **Tarheel Chapter,** and retired Lt. Col. Steven H. Boyd, a **Roanoake Chapter (Va.)** member, have served in turn as MCOLS commandants. This year retired Col. Catherine Bacon of the **Donald W. Steele Sr. Memorial Chapter (Va.)** led the school.

The Difference: Friedauer in Florida

In August, the *Northwest Florida Daily News* highlighted **Hurlburt Chapter's** Community Partner director as part of its series on "people who make a difference in their communities."

The short profile on E. Max Friedauer included his background as a retired lieutenant colonel and recent recognition as AFA Florida State Member of the Year and also Chapter Member of the Year, but it focused specifically on his chapter aerospace education work.

The newspaper said Friedauer most enjoys AFA's outreach to teachers, hosting workshops, and arranging tours of Hurlburt Field.

"They take that back to the classroom, and they are just so excited," he told the reporter. ✪

Have AFA Chapter News?

Email "AFA National Report" at: natrep@afa.org. Email digital images at highest resolution, as separate jpg attachments, not embedded in other documents.

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Reunions

USAF Military Training Instructor Assn. Oct. 20-24 at Lackland AFB, TX. **Contact:** John Pavey (828-226-2409) (j.pavey@pdlawnc.com).

2nd RSM (USAF Security Svc). March 2015 in Houston and Caribbean Cruise with precruise ground tour. **Contact:** Richard Campbell (281-245-4927) (rpc12333@gmail.com).

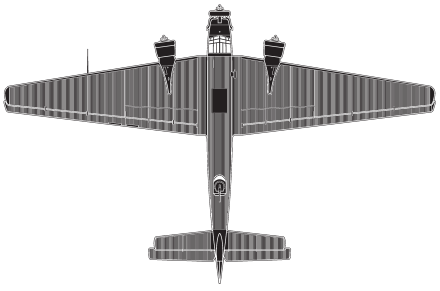
Super Sabre Society. April 9-12, 2015, at the Crowne Plaza Hotel in Dayton, OH. **Contact:** Bob Hopkins (540-460-4718) (harmonyhse@yahoo.com).

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.

Airpower Classics

Artwork by Zaur Eylanbekov

Ju 52



The German Luftwaffe Ju 52 was one of World War II's most prominent combat aircraft. It served with Axis military forces on every major front and in many different roles, flying mostly as a transport but also, briefly, as a medium bomber. Before and after the war, this Junkers airplane also was in wide commercial use, flown by many airlines. The Ju 52 is indelibly associated with Adolf Hitler. He used one for transport in his 1932 campaign and, after election as German Chancellor, as his personal aircraft.

The Ju 52 design sprang from the Junkers J.1 of 1915. It had a rugged, easy-to-maintain-and-repair corrugated aluminum structure and one engine. The single-engine type was underpowered, however, and lasted for seven models. Junkers switched to a three-engine design. In the trimotor configuration, the two wing engines were angled to provide more control effectiveness if an engine were shut down. It combined flaps and ailerons to create a virtual "second wing" along the trailing edge. Over the years, it was outfitted with wheel, ski, and pontoon landing gear.

The Ju 52 was in combat before the September 1939 outbreak of World War II. In the early and mid-1930s, it flew in two wars in Latin America, ferried Francoist troops from North Africa to Spain, and participated in the notorious bombing of Guernica. In World War II, Ju 52s participated in the invasion of Poland, bombed Warsaw, and dropped parachute troops into Denmark, Norway, Holland, and Crete. It was highly vulnerable to Allied fighters and flak, however, and suffered horrendous losses over North Africa, the Mediterranean, and Soviet Union.

—Walter J. Boyne

This aircraft: German Luftwaffe Ju 52/3M—*Serial #1Z+LL*—as it looked in spring 1941 when assigned to Unit 3./KGzbV 1 and operated from several Balkan countries.

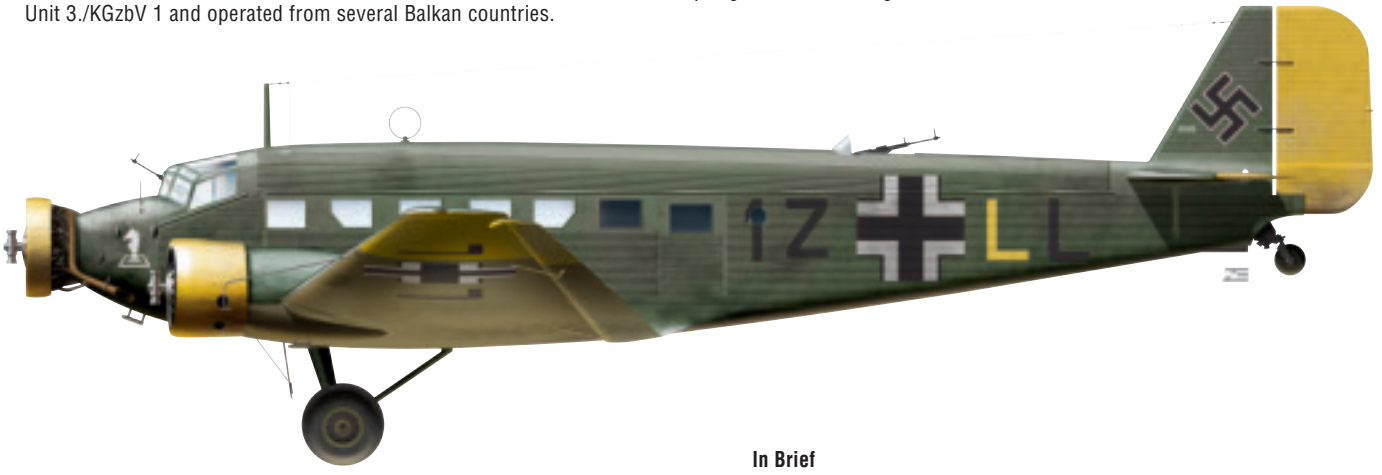


Photo via Deutsches Bundesarchiv

A Luftwaffe Ju 52 being serviced in Crete in 1943.

In Brief

Designed by Junkers ★ built by Junkers in Germany and by others in Spain, France ★ first flight Oct. 13, 1930 (single engine) and March 7, 1932 (three engines) ★ number built 4,845 ★ crew of two or three (one to two pilots, plus radio operator). **Specific to Ju 52/3M:** three BMW nine-cylinder radial engines ★ armament up to five machine guns ★ load 1,000 lbs of bombs or 17 passengers ★ max speed 178 mph ★ cruise speed 130 mph ★ max range 683 mi ★ weight (loaded) 24,500 lb ★ span 95 ft 11 in ★ length 62 ft ★ height 18 ft.

Famous Fliers

Notables: Hans Bauer, Carl August Gablenz, Ulrich Grauert, Robert Ritter von Greim, Albert Kesselring, Erhard Milch, Erwin Rommel, Ernst Udet, Kurt Student. **Dictators:** Francisco Franco, Adolf Hitler, Benito Mussolini.

Interesting Facts

Logged 13,000 hours for Condor Legion in Spanish Civil War ★ transported 10,000 Moorish troops from Morocco to fight for Franco in Spain ★ nicknamed "Iron Annie" and "Auntie Ju" by Germans and "Turkey" by Spanish ★ used in 1932 in support of Colombia in war with Peru ★ flown in Bolivia's Gran Chaco War, 1932-35 ★ deployed by Lufthansa on Berlin-Rome and Berlin-London routes ★ used by a total of 29 airlines for commercial flights ★ fitted with wide variety of cargo doors suited to specific missions ★ flew with French forces in Vietnam 1949-50 ★ carried mail in China ★ hauled lumber in remote parts of Canada.

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