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Journal of the Air Force Association

AIR FORCE MAGAZINE

Robert Gutierrez Air Force Cross

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AIR FORCE MAGAZINE

October 2011, Vol. 94, No. 10

About the cover: SSgt. Robert Gutierrez in Afghanistan. See "Once More Unto the Breach, p. 26. USAF photo.

FEATURES

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DEPARTMENTS

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Editorial

By Adam J. Hebert, Editor in Chief

An Endgame in Iraq?

SOMETHING important and historic occurred in August. More accurately, something did not happen: For the first time since the US invasion of Iraq in March 2003, no US troops were killed in that country. This breakthrough came even though some 45,000 American troops were still in Iraq into September.

This milestone occurred because US forces have successfully shifted the security mission to Iraqi forces, with Americans now responsible for training, advising, and support missions. Iraq is still plagued by ethnic tensions, and its fragile peace is threatened by extremist elements. But the nation has seemingly stabilized and moved away from the chaos that engulfed it in 2006 and 2007.

The importance of Iraq's ability to keep itself secure can hardly be overstated. Stability will both ensure Iraq's viability as a nation and allow the US to bring home most of the forces still deployed to that country.

President Obama of course campaigned on a promise to end the Iraq war. The US presence has already declined nearly by three-quarters, relative to the 170,000 American troops deployed there near the beginning of the 2007 "surge" that painfully turned the tide toward peace in Iraq.

So what comes next? Under the terms of the 2008 US-Iraq agreement, all US forces are supposed to be out of the country by the end of 2011. In mid-September, with this deadline less than four months away, the US and Iraqi governments were heavily engaged in behind-the-scenes negotiations to determine what sort of follow-on force was needed and agreeable.

There are several competing interests here, but one thing most US and Iraqi officials agree on is that Iraq is not yet ready to defend itself. "Iraqi security forces have not reached a level that can provide security inside Iraq," said Masoud Barzani, president of northern Iraq's largely autonomous Kurdish region. "Neither can the Iraqi military forces protect Iraqi borders," said Barzani.

The US will abide by its 2008 agreement to completely withdraw from Iraq unless a new agreement is reached, so the US has been pressing Nouri al Maliki, Iraq's Prime Minister, to hurry up and negotiate a follow-on agreement before the American troops have all left. But the issue is complicated by politics and sentiment on both sides.

In the US, the public is weary of the Iraq war and has little desire to see a large force remain or to witness additional American casualties.

In Iraq, even officials who favor a continuing US presence are afraid to say so in public. (This is a region where the locations of several massive, essentially permanent US bases around the Persian Gulf are not officially acknowledged, at host nation request.)

Airpower can help keep the peace in Iraq, without a massive US footprint.

Perception is important. The larger the force we leave behind, explained Gen. Ray Odierno, the new Army Chief of Staff, the more easily Americans can be portrayed as an "occupation force" instead of being present to help ensure lasting peace in Iraq.

Odierno cautioned that the US must "be careful about leaving too many people in Iraq," because "there comes a time … when it becomes counterproductive."

The Administration is reportedly proposing a follow-on force of 3,000 to 5,000 US forces to continue the training and advisory mission. Some officials want every last American out immediately. Other military suggestions have gone as high as a request for 18,000 troops to remain.

Without a new agreement, however, by early 2012 only a handful of American forces will remain there to defend US diplomatic facilities in Iraq.

Iraq's security shortcomings are exactly the US Air Force's strengths, and for this reason Maj. Gen. Russell Handy recently stated that USAF's mission in Iraq will likely ramp up toward the end of the year.

"That is a growth area for the Air Force," said Handy, the senior USAF representative in Iraq. Regardless of the final disposition of US forces, the majority of personnel and most of their equipment are on the way out. "We will need a lot of airlift," he noted.

USAF air advisors are helping to build Iraq's air force from the ground up, and other core Air Force missions may be of direct interest to Iraq.

The Iraqi government has "no qualified military to defend its soil, airspace, and shores, [so Iraq's] security forces cannot protect its citizens," said Kurdish leader Barzani.

"There are some gaps in their military capability, security capability, that we believe we could offer some assistance with," said Navy Capt. John Kirby, a spokesman for the Joint Chiefs of Staff.

Until Iraq is able to take on a full range of airpower operations, the Air Force can offer enormous assistance through missions it is performing today. The US can continue to support Iraq through airpower at relatively low cost and with minimal risk to American lives.

Air Force intelligence-surveillance-reconnaissance resources currently keep an eye out for insurgents and impending terrorist attacks. This will help protect and defend US forces during the drawdown, and USAF could offer similar support for Iraqi security forces in 2012 and beyond.

Similarly, the Air Force has unique ISR capabilities that can monitor Iraq's borders far more effectively than Iraq's nascent air arm can today.

Strike missions have tailed off enormously in Iraq in recent years, a good thing. But as friendly forces move about the country, US fighters and remotely piloted aircraft still provide "armed overwatch"—another capability that could prove to be of enormous value to Iraq as its government continues to stabilize and ward off extremist elements.

The Air Force can do all of this without the sort of large US ground presence that could be portrayed as a permanent occupation. The last thing any American or Iraqi leader wants is for extremist elements to metastasize and try to push Iraq back into another period of violence and retribution.

Air Force-led airpower can go a long way toward defending Iraq while it builds up its domestic capabilities. This will be true whether 180 or 18,000 ground troops remain in Iraq.

All Iraq has to do is ask. ■

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Get On With It

"The False Death of Airpower" strikes a blow for sanity in the continuing national saga of what to do with airpower, indeed with the US Air Force *["Editorial," August, p. 4].*

An underappreciated component of airpower is the significantly increasing overlap between weapons/weapons targeting, intelligence, data link, command and control (C2), and the common operational picture (COP). Only USAF can bring this together at the operational level of war.

Many who write to your magazine decry the aging of Air Force aircraft and write about the critical need to recapitalize. No argument here. What is missing in open dialogue is the profound impact of command and control on USAF capability. Current and emerging US systems dramatically enhance Air Force and sister service capability far beyond that of our adversaries. A shopworn refrain is that our satellites are vulnerable; therefore the systems supported by satellites are at risk, which is partly true. Local tactical data link and tactical data system networks that do not rely on satellites negate that argument. It certainly is not your grandfather's B-52.

The Air Force is the ultimate joint force because it enables all other forms of tactical and operational missions to proceed. Back off, critics, our Air Force is the ultimate joint provider and will remain so. Let's get on with putting Air Force warheads on adversary foreheads.

Lt. Col. Tom Brannon,
USMC (Ret.)
Ridgecrest, Calif.

Cold War Scrapbook

When I opened my newest copy of *Air Force* Magazine (August) to the "Cold War Scrapbook," I got truly excited *[p.66].* We don't see much about the Cold War defense efforts these days. But I ended up very disappointed when I found that there was not one photo or even a word about the hundreds of aircraft control & warning and SAGE radar stations in North America that provided early warning and intercept control against attacking manned bombers. Indeed, on p. 72, there is a photo of a pair of F-102s with the caption "to replace F-89s in providing air defense and early warning." Interceptors did not provide "early warning." Defense, yes, but the "early warning" was provided by long-range radars and troops on the ground or in AEW&C constellation aircraft who directed the interceptors to their targets.

Gene McManus
Baltimore, Ohio

■ *"Cold War Scrapbook" featured photos submitted by readers. AC&W photos appeared in the print and Web version.—THE EDITORS*

Thank you so much for "Cold War Scrapbook." It brought back my youth again. What a thrill!

I was stationed at Plattsburgh Air Force Base (SAC) in Plattsburgh, N.Y., back in the '50s. While I was in, Elvis Presley joined the Army. I thought that was me next to a B-47 with a red 1956 Volkswagen. I had the same car and color. But mine had fog lights. Also, the picture of cadets at Plattsburgh Air Force Base in 1967 was nice.

Norman Nelsen
Tenafly, N.J.

Let's Not Divorce

Thank you for the informative status report on the F-35 fighter in the August issue of *Air Force* Magazine, and more broadly for your role as a voice of sanity in a debate that sometimes seems to be divorced from reality *["Make or Break Time For the F-35," p. 22].* It must say something about the conditions of our republic that so much nonsense gets uttered (and believed) about the cost and condition of the only program left that can assure America's global air dominance to midcentury.

Much of the information that reaches the political system and public about the F-35 is misleading, such as the astronomical unit costs attributed to the program and the supposed trillion-dollar bill for sustainment. The fact that each Air Force variant is likely to cost roughly what the latest version of an F-16 does, and that the bill for sustaining legacy fighters over a similar period would be several times higher, never seems to register with policymakers.

What's most distressing about the present public discussion is that many participants seem to have no idea what the stakes are—what it would mean for our security and our influence if America lost the edge it has enjoyed in airpower for generations. Your articles on the subject never lose sight of that overriding concern, and thus they are a public service for an audience that might otherwise miss the big picture. Thank you.

Loren Thompson
Arlington, Va.

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

Did We Really Lose Nukes?

"Accidents happened outside the US, too. One of the most mysterious was the disappearance of a B-47 over the Mediterranean in March 1956. The bomber penetrated a cloud deck to hit a refueling point at 14,000 feet and was never seen again. No trace was ever found of the airplane or its crew. Two nuclear capsules vanished" *["The Perils of Chrome Dome, August, p. 54].*

I just find this hard to accept. How can we leave nuclear weapons missing? In 1956, we certainly had the technical capability for accident black boxes. I did accident investigations on DC-8s in the mid-1960s, so I know we had survivable accident black boxes then. They had a rudimentary amount of data and a beacon and were survivable. I just find it hard to believe that they didn't have them in 1956 or that they weren't used.

Accidents happen and will always happen. This is all the more reason for having an accident black box and beacon for finding a lost nuke. As the article shows, 1956 wasn't the first accident involving nukes.

We know how to make black boxes and beacons. The recent example of the black box picked up from the downed French plane off Brazil is an example. The box survived. The beacon worked. I am sure that this type of technology has vastly improved since 1956, but surely we had something available then. We should have had a black box on every plane and also on every bomb.

William Thayer
San Diego

Enjoyed the article about the Chrome Dome missions. I flew a number of them in my Air Force career, which spanned some 32 years, all of which was in SAC. I eventually had 5,800 hours in B-52s as a tail gunner and flew on all models except the E.

I was interested in the Chrome Dome incidents you mentioned, especially the crash of the B-52D on its way back to Turner AFB, Ga. The tail gunner Melvin Wooten was a friend. He was flying in the EWO ejection seat instead of in the tail, and on ejection it was believed he lost his helmet and received injuries to his ankle on landing. He died in a creek, where his body was found. Our wing vice commander was on the accident board, and I asked him why Wooten was found in the creek, a short distance away from a farmhouse, which he was crawling away from. Members of the board had the same concern so they went out to the area at night and found that there was a light in the direction he was crawling, and the farmhouse was in darkness.

Additionally, the accident near Thule Air Base was one that could have been prevented. A few months earlier, I was on a Chrome Dome mission that had similar circumstances. I was evaluating another gunner on a B-52G and during the flight I went down to the lower deck to use the relief can, which was next to the instructor navigator's position. This was where the extra equipment was stored for the flight. When I got to the lower deck, I immediately felt an excessive amount of heat and started to pull A-3 bags and MA1 survival kits out of the pile, in doing so I burned my hand on a kit buckle, as it was so hot in the pile. The problem was the spray bar located underneath the instructor navigator's position. This spray bar had no shut off and was always putting out heat, as the area was cold under normal conditions. I let the crew know about what I had done and there was no further problem. Upon landing I notified my standardization chief and recommended a different storage plan be used.

CMSgt. Ray Shugrue,
USAF (Ret.)
Putnam, Conn.

It's About Time

It was very encouraging to read Aaron Church's article "Expeditionary Centerpiece" *[August, p. 40]* and learn that the Air Force's leadership has had the wisdom to establish combat training for all airmen deploying to war zones. It is quite a contrast to what I saw in Vietnam at Tan Son Nhut Air Base in 1968. Until the Tet Offensive revealed our amazing lack of preparedness, we were required to turn in our weapons when we landed, and we had flowers around the squadron building instead of sandbags. Even after our Vietnam experience, despite the threat to our bases in Europe from Soviet spetsnaz, we still failed to provide base personnel with combat training, weapons, or prepared defenses. Later, when I was on the Air Staff and suggested a program such as Combat Airmen Skills Training, I was told by one general that the cost of ammunition alone made such training unaffordable.

Lt. Col. Price T. Bingham,
USAF (Ret.)
Melbourne, Fla.

Lessons Not Learned

Walter Boyne's article *["Breaking the Dragon's Jaw," August, p. 58]* discusses the "revolutionary weapons" (LGBs) that finally dropped the Thanh Hoa bridge. The fact of the matter is that USAF had developed an early version of PGMs in the TV guided bombs used at the end of World War II. At the Air Force Museum at Wright-Patterson AFB, Ohio, a couple of these early models are on display.

That USAF had to reinvent PGMs is telling. In the 1940s and 1950s, this nascent technology was shelved for a variety of reasons, mainly the over-nuclearization of the force. This hamstrung the development of PGMs and other such equipment.

Also, there were the famous RAF earthquake bombs created by Barnes Wallis. These massive bombs were designed to weaken the supporting structures around bridges in the Low Countries and were quite effective. These, too, may have proven useful at Thanh Hoa. This was another technology that was previously known and either forgotten or disregarded, much to the determent of the Air Force.

Imagine if TV guided bombs had continued to be developed. Not only would the Vietnam War have been fought differently, so would the Korean War. One can only speculate.

The real lesson of the "Dragon's Jaw" is not the number of sorties flown or aircrew lost. The lesson is: What concept is the Air Force ignoring nowadays due to bureaucracy and a reluctance to change?

Col. Kevin J. Cole,
USAF (Ret.)
Mililani, Hawaii

Thank you, thank you, thank you, retired Col. Walter J. Boyne and *Air Force* Magazine for "Breaking the Dragon's Jaw." Now I know what happened to Maj. Thomas F. Case in Vietnam.

I met Captain Case shortly after he checked into Ernest Harmon AFB, Newfoundland, for our three-year tour in the Arctic world, flying KC-97 tankers over the polar ice cap, he as airplane commander and I as flight engineer crew member. He checked my record and found I had more flying time in KC-97s than he had total time. That was no problem. We worked together—and lived through it.

Virtually all landings at Harmon were GCA or ILs. As engineer, I powered the vertical glide path and he steered the horizontal maneuvers.

After our three-year tour was up, I opted to retire with 20 years, and Captain Case was scheduled for Vietnam. He begged me to go to Nam with him, but I declined, saying three wars were enough—WWII, Korea (B-29), and Cold War in the Arctic, refueling B-52s picketing the USSR border in 24/7 "Chrome Dome" operations.

I knew he was destined to fly C-130s, but other than that, aside from knowing he was killed in Nam, I had no idea concerning his death—til now.

And I, ironically, wound up overhauling C-130s at the then-Fairchild-Hiller depot at St. Petersburg Airport (Fla.). Thank you.

Loren T. Longman
Brooksville, Fla.

I read with more than passing interest Walter Boyne's excellent article about the unconventional attack on the Thanh Hoa Bridge, as I took part in it as navigator of the EB-66 that lent electronic countermeasures support for the strike.

When selected for this mission, which was so highly classified that only the commander and operations officer briefed, I was thrilled—finally, some imagination was actually creeping into the conduct of the air war! We took off from Takhli in the dead of night, climbing across Thailand and the Laos panhandle to coast out over the Gulf of Tonkin and take up our station just off the coast by Thanh Hoa, keeping our orbit just kissing the outlines of the surface-to-air missile (SAM) ring—B-66s had been shot down by SAMs.

The entire mission was of course done in total radio silence. At the time for the C-130 to drop its weapons—that crew must have had king-size male characteristics—the entire area around the target erupted in AAA gunfire of varying calibers. I was flying with a newly arrived pilot, and asked him to estimate the number of gun flashes he saw. He guessed about 80, and I thought that was about right. The whole area was lit up with the twinkling sparkles of gunfire, and I hoped that the C-130 was able to make it out of there.

When we landed at Takhli near dawn, we learned to our relief that everyone returned home safely, to include the two F-4s—Neon Flight, as I recall—that had made a diversionary attack on a barracks nearby. We went to sleep as our colleagues were getting up for the day.

A few hours later, I was awakened by someone shaking my foot. An officer told me to get up, get something to eat, and get to the squadron. He would not say why. When we arrived, we were told that we were going to repeat the Thanh Hoa mission, lock, stock, and barrel—same tactics, same ingress, same times, same diversionary attacks by two F-4s. I did not believe it, and genuinely thought that there was a mistake being made here. I reminded the squadron commander that we had done this same mission last night, and there had to be a mistake somewhere. Though I was a young captain, I flatly refused to fly this mission unless someone called Blue Chip (7th Air Force command post at Tan Son Nhut Air Base, Saigon) to personally verify that this was no error. This was duly done, in my presence, and I remember being stunned at what I considered the scandalous stupidity behind this decision. As I gathered the charts to begin planning the flight, I told my superiors that there would be a massacre tonight, and there was. The C-130—whose crew I was told had not volunteered for this mission—vanished off the face of the earth, and one of the F-4s was also shot down and its crew killed, and still the bridge stood unharmed. I still wonder what brain decided to send a C-130 into such terrible defenses manned by determined, motivated, capable, and now thoroughly alerted enemy who was not ignorant and who would be ready and waiting.

There is a sidebar to this account, and it might bear on what happened. This was my second tour in this war, a "back-to-back" consecutive tour. Prior to the B-66 assignment, I had run the controller team at Brigham Control in Udorn, the only rated officer heading the team of about 10 first and second lieutenants. When the EB-66s arrived in Southeast Asia, they came under our control, and many of their crews recognized my voice over the radio—I had gone to navigator training with several of them—and they invited me to visit them in Takhli, which I did. I then started flying missions with them on my R&R breaks, sitting in the vacant gunner seat, and was actually checked out locally while still assigned to Brigham Control. I occasionally scrambled the F-102s on alert at Don Muang Airfield, Bangkok, that were often looking for useful work. Here are the results of these impromptu exercises. The EB-66s could not jam our search radar; not even a hint of interference ever occurred. Since radar is radar and PRFs (pulse recurrence frequencies) are PRFs no matter who owns the radars, when I was later flying the EB-66, I assumed that we could not jam the North Vietnamese search radars, either. The 66s could jam our Brigham height finders, and I am pretty sure that we could jam the enemy Fire Can and Fire Wheel gun laying radars. I was not sure about our effectiveness against the Fan Song radar of the SAMs, but I had my doubts.

The point here is that the enemy could probably see us coming in and going out, and since the C-130's ingress was from the water, it had no ground clutter in which it could hide. It had apparently never occurred to anyone to actually try jamming our own systems to see how effective our ECM was, and these tests were done unofficially by me sitting at a scope in Brigham Control.

I can well understand how we limped out of Vietnam, given what I saw in three tours there (I returned later in F-111s).

Peter M. Dunn
Columbia, Mo.

Here's the Beef

With all due respect, General Yeager, most people in the world are like you and have not seen a UFO, and many of those who did report such sightings were in dreamland somewhere *["Letters: Where's the Beef?" September, p. 6]*.

However, there are also those, including professional military and security personnel, who have actually experienced the real thing and have shown substantial evidence to verify what they saw. There is also proof that many governmental agencies throughout the world have denied, hidden, and even destroyed UFO scientific data for reasons unknown.

My wife and I actually saw UFOs over Connecticut in the 1960s and 1990s which stirred up our great interest in this subject. Also a few of the reports that I investigated as a Project Blue Book officer back in the early 60s were very believable. Just keep your eyes open, General; you might see one yet.

Maj. Tony Zilinsky,
USAF (Ret.)
Navarre, Fla.

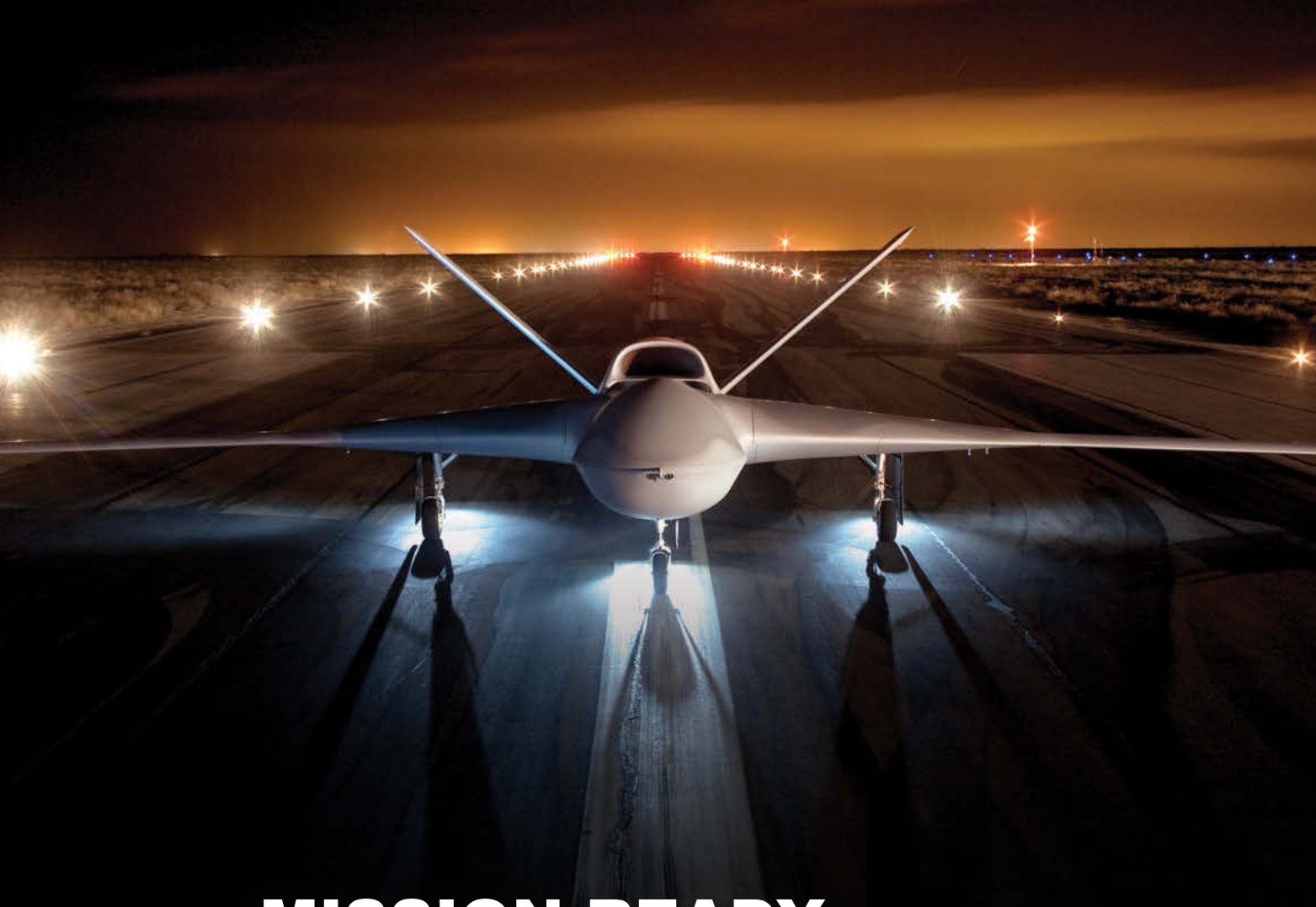
I read in the September "Letters" section about the Air Force and the UFOs. I was one of the first USAAF jet aircraft mechanics. It was in the mid-1940s at Muroc Air Force Base. I was a crew member on the XP-84, YP-84, and crew chief on a P-84B. Our assigned pilots were Maj. Jowell C. Wise, who later became Wright-Patterson Air Force Base commander, and Captains Rusty Roth, James Fitzgerald, Bob Hoover, and Charles Yeager (the last three were backup pilots on the XS-1). On Oct. 14, 1947, I witnessed the XS-1 break the speed of sound.

In July of 1947, the story was a UFO crashed at Roswell, N.M. This caused the people in California to see UFOs. Thus, [UFOs became] a very popular subject and a demand came from the US Air Force to do something. During this time I worked with three other flight test mechanics. We were familiar with all types of strange aircraft. We were placed on standby and when a UFO call came in, we would get into a C-47 with cameras to get a picture of any UFOs. These missions seemed to occur at night after we worked all day. One time we chased an object all night and had to land at McClellan Air Force Base in Sacramento for fuel.

We later found we were chasing an Air National Guard P-51 with a drunken pilot onboard.

We did get to visit Roswell and were told it was a weather balloon. With all the things we did at Muroc and the strange things we [had] seen, we were told, "Don't tell anyone what you have seen." So all my life, I never told anyone about Roswell till now. We never got a picture of a UFO.

In 1961, I was offered a job as an air traffic controller specialist in Wright-



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Patterson base operations. There I got involved with Blue Book. We had parts and pictures of what were supposed to be UFOs on display in base operations since we were open 24 hours a day. We took many of the UFO calls. I ended my time with USAF on the 28th of October, 1987, as chief of base operations at Wright-Patterson. I was part of the UFO story from the start to the finish.

I can say there are no UFOs.

Donald K. Rizer
Springfield, Ohio

Get Real

Author Rebecca Grant has expertly included hints of solutions to the Air Force's budget and missions challenges within her article, "Not Just Another Post-Cold War Budget Drill" (September 2011, p. 84). Underlying the entire article are quotes from various defense officials of the necessity to realign force structure and missions, and therein lies the solutions.

The problem not addressed in the article is how to do that. One suggestion to meet budgetary and mission requirements while still meeting reduced budget goals is a two-step process. First, a realistic threat analysis covering the next 50 years should be prepared. Planning to fight a war with a major nation such as China or Russia, the only two with the resources to challenge the American military, may excite K Street defense industry advocates, but is not supported by reality. It is still a dangerous world, but not one that will be safer by buying an overabundance of expensive hardware to fight the wrong war.

Secondly, restructure DOD to meet the real threats. The basic organization and missions have changed little since the 1986 Goldwater-Nichols bill that created unified commands, the actual fighting arms of the military services. Extending that unified concept to the noncombat elements of the services will save billions of dollars and measurably increase the military capabilities by trimming the proverbial "fat" while preserving the "muscle." Some steps have been taken in that direction, such as a few joint bases, but only a major reorganization will accomplish budgetary and mission goals.

Lt. Col. C. W. "Bill" Getz,
USAF (Ret.)
Fairfield, Calif.

I'm Not Telling Him, You Tell Him

Senior Master Sergeant Pfenning's comment about Lieutenant General LeMay pictured with his hands in his pockets causes me to reply *["Letters: Coming In From the Cold War," September, p. 12]*.

I was a three-stripe A1C then-staff sergeant stationed at the Air Force Academy from 1961 to 1966, as a VIP driver at the "motor pool." I had occasions to drive then-Air Force Chief of Staff LeMay, his wife, and his daughter, who lived in base housing at the academy as she was married to an officer. Once, on landing his plane at Peterson Air Force Base, as always, he descended the ramp stairs with his cigar in mouth. Flight lines were always no smoking areas, but no one was going to tell LeMay he couldn't smoke, much less—even though he had only three stars in the photo—that he couldn't put his hand in his pocket.

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

But If LeMay Can Do It ...

Perhaps Col. Mark Camerer's hands were cold as he walked with the President *["Air Force World," September, p. 20]*. I, too, remember being told to never put our hands in our pockets when wearing the uniform. But if General LeMay could do it, I guess the colonel could follow his example.

Lt. Col. Richard J. Klingelsmith,
USAF (Ret.)
Herrin, Ill.

There is a picture ... that shows a full colonel walking alongside the President of the United States with his hands in his pockets! While I realize I served some years ago (early '80s) and many things have changed, tell me that members of the military are still not permitted to walk around with their hands in their pockets while in uniform. To see someone of this rank and experience walking alongside his boss's boss's boss shows a lack of respect for the authority of the Commander in Chief and a total disregard for the rules of proper military bearing.

John LaBua
Glendale, Ariz.

Faux Pas Deux

I'm certain this isn't the only notice you've gotten on this subject, but on p. 20 of the September issue, Col. Mark Camerer is on the President's right as they are walking. This is a faux pas a senior officer should know better than to commit, particularly with the Commander in Chief.

Col. William L. George,
USAF (Ret.)
Colorado Springs, Colo.

Snippy or Snappy?

I certainly hope you won't cave in to the criticism leveled at you by retired Lieutenant Colonel Mathis and retired Colonel Kinsella in their "Letters" comments *["No, Please, Continue," September, p. 12]*. Their feelings were apparently hurt by the 'Please Shut Up' heading you chose for your recent "Verbatim" blurb concerning some ridiculous quote by former President Carter.

While Colonels Mathis and Kinsella have every right to complain about your choice of words, you have every right to use words that you deem appropriate in your "Verbatim" column. If the good colonels are offended by your swipe at possibly the worst President in America's history, they are free to unsubscribe and look elsewhere for news about the Air Force (Perhaps the liberal *Air Force Times* newspaper would keep them happy).

Please hang on to that snappy "Please Shut Up" heading. I'm sure you'll be able to again use it as a "Verbatim" heading for some equally idiotic quote.

MSgt. James B. Walker,
USAF (Ret.)
Dayton, Ohio

Historians Not Dueling

Colonel Boyne is to be congratulated for surfacing that aspect of World War I *["The Influence of Airpower on the Marne," July, p. 68]*. I was unable to find any other mention of the influence of the airplane so early in that conflict .

A gap between the German 1st and 2nd Armies was spotted by Allied aerial reconnaissance that led to a reversal of the plans of Germany to conquer France in the first five weeks of the war. However, in trying to understand the development of that gap, I had to do some additional research to fill in the gaps (no joke intended) in the printed article.

When the German 1st Army turned from west to southeast to encircle the retreating French Army east of Paris, General von Gluck exposed his right flank. The French decided to take advantage of this opportunity and reversed their retreat to attack the German right flank. Von Gluck, recognizing this threat to his flank, turned from east to west to meet the French head on.

This opened a gap between himself and General von Buelow's German 2nd Army which had prior been alongside the left of von Gluck on their southeast course. It was a westerly turn of the German 1st Army that created the gap. British and French planes immediately spotted the gap that resulted in a French reaction that squashed Germany's ambition for a quick conquest. The rest is history.

Robert Dubman
Delray Beach, Fla.

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Washington Watch

By John A. Tirpak, Executive Editor

China surpasses—doubles—Russia's military spending; Taiwan in the crosshairs; Whither stealth? ....

CHINA'S TIMETABLE

China will be operational with its first stealth fighter in just seven years, will have an overall modern military in nine years, and continues to close the window on any possible defense of Taiwan should the mainland make a military move against the island.

These were among the conclusions of the Pentagon's most recent report on China's military power, officially known as "Military and Security Developments Involving the People's Republic of China." The annual report is required by Congress, which mandates that it be timely, factual, and broad-based in its assessment of China's military capabilities.

The Obama Administration usually takes a diplomatic tone with the report so as not to inflame relations with China, but the latest edition was required to take note of several milestone events: J-20 stealth fighter flight tests, the beginning of sea trials on China's first aircraft carrier, and successful flight testing of the DF-21D, a ballistic missile with a warhead that can be retargeted in-flight, giving China a means to attack US aircraft carriers more than 900 miles away.

The report also estimates that China has increased its military spending to $160 billion, or 13 percent more than last year, marking a continuing trend of annual double-digit growth. China, it said, sees a "window of opportunity" in this decade to catch up with the US, which is having trouble modernizing its military due to the prolonged economic downturn and continuing budget deficits. China's military spending is about double what France, Germany, the UK, or Russia individually spends on defense, and is second only to the US in the size of its military budget.

China disclosed its new J-20 fighter early this year; videos circulated on the Internet before a formal announcement of the aircraft was made. The Pentagon report says the J-20's appearance "underscores" China's investment in advanced defense systems, but the department doesn't expect operational capability prior to 2018. DOD said the J-20 still has a lot of development "hurdles" ahead of it, and that China still lacks "mastery of high-performance jet engine production." Though the report downplays how soon the J-20 will be operational, the estimate is years earlier than predicted by then-Defense Secretary Robert M. Gates when he stated his reasons for terminating the F-22 in 2009.

The J-20 program "highlights China's ambition to produce a fighter aircraft that incorporates stealth attributes, advanced avionics, and supercruise-capable engines over the next several years," the Pentagon asserted. Senior USAF officials have suggested publicly that the J-20 has benefited directly from China's cyber intrusions on the US and its contractors. The aircraft bears a strong resemblance to the F-22 and F-35 in some features, notably in the nose and air intakes.

China is not neglecting air defense, long-range strike, or command and control, either. The B-6 bomber fleet (adapted from the Soviet Tu-16 Badger design) is being expanded with longer range aircraft and a new cruise missile, also with longer reach. China is introducing its HQ-9 air defense system, a knockoff of the Russian S-400, and continues adding more battalions of SA-20s. In fact, the Pentagon said China has "one of the largest" air defense networks in the world, and is putting tremendous resources into its anti-access capabilities. There are "several types" of airborne warning and control systems in development or being deployed. China also continues to build tanker aircraft to extend the reach of its fighters and bombers, all of which are either being built with or retrofitted with aerial refueling gear.

J-20: Stealthily coming to a combat theater near you.

NOT JUST RED AIR

In all military sectors, China has "benefited from robust investment in modern hardware and technology," and will largely be a world-class military by the early 2020s, the report declares.

"The decade from 2011 through 2020 will prove critical to the [People's Liberation Army] as it attempts to integrate many new and complex platforms, and to adopt modern operational concepts, including joint operations and network-centric warfare," the report says. China continues to aggressively pursue "capabilities intended to deter, delay, or deny possible US support for [Taiwan] in the event of conflict," and across the Taiwan Strait, "the balance of … military forces and capabilities continues to shift in the mainland's favor."

The report said China's ballistic missiles can reach virtually all of the territory of the US now and may soon be fitted with multiple warheads. Defensively, China has invested heavily in deeply buried facilities and a tunnel network "which reportedly stretches for over 5,000 km [3,100 miles]."

In space, China's 2007 demonstration of a destructive anti-satellite system has been expanded to include a variety of systems aimed at crippling, jamming, or disrupting US satellites, the Pentagon said. These include "kinetic and directed energy (i.e., lasers, high-powered microwave, and particle beam weapons)," and along with other systems both

Photo: United States Air Force

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indigenous and foreign-supplied, they can "jam common satellite communications bands and GPS [Global Positioning System] receivers."

In a first, the Pentagon acknowledged that Israel has "previously supplied advanced military technology to China" but has since "reformed its export control regime." Though China has relied on technologies from Russia and elsewhere in the past, "this trend is changing as China becomes more self-sufficient in development and production."

China has identified 16 "major special items" on which it will focus its R&D resources, the Pentagon's report noted. These include "core electronic components, high-end universal chips and operating system software, very large-scale integrated circuit manufacturing, next generation broadband wireless mobile communications, high-grade numerically controlled machine tools, large aircraft, high-resolution satellites, manned spaceflight, and lunar exploration." A similar list of military-specific capabilities includes low observable technology, radar, counterspace capabilities, and command and control and intelligence-surveillance-reconnaissance systems.

House Armed Services Committee Chairman Rep. Howard P. McKeon (R-Calif.) issued a statement about the report, saying, "China clearly believes that it can capitalize on the global financial crisis," and its emphasis on systems aimed at denying access to the US in the Pacific region should be a cause for concern in Washington.

The Pentagon reiterated the now-common refrain that it earnestly wishes for China to show "more transparency" in what it spends on its military and what forces it is developing, but that so far, there have only been "modest, but incremental improvements in the transparency of its military and security affairs. … There remains uncertainty about how China will use its growing capabilities."

Rep. Randy Forbes (R-Va.), chair of the HASC readiness panel, issued his own statement about the report, saying, "There is no question that China is rapidly closing the technology gap" with the US.

"There is a question, though, of whether the United States will simply cede its global and military leadership role to a nation with uncertain intentions, but known disregard for human rights, basic freedoms, and democratic institutions," Forbes asserted.

China made its usual prompt rebuttal to the report, this time in a speech by Gen. Chen Bingde, chief of the general staff of the PLA, during a visit to the National Defense University in Washington, D.C. Chen said China "never intends to challenge the US," and despite China's technological military gains, there remains "a gaping gap between you and us." Still, Chen warned of dire consequences if the US continues to sell advanced weapons to Taiwan, which China maintains is a breakaway province and a matter of internal Chinese politics. The severity of the impact on US-China relations "will depend on the nature of the weapons sold to Taiwan," he said.

TALKING 'BOUT NEXT GENERATION

It was inevitable that the Pentagon's hurried strategy review, meant to find $400 billion-plus in savings from the next 12 years of defense budgets, would pit program constituencies against each other in a less-than-zero-sum game. With one of the largest requirements for funding, air superiority has become a central battleground.

A recent shot was fired in an Aug. 31 letter from Sen. Saxby Chambliss (R-Ga.) to Defense Secretary Leon E. Panetta. Chambliss wrote to express his concern that the Pentagon is buying more fourth generation F/A-18s for the Navy instead of devoting those funds to the fifth generation F-35. Lockheed Martin builds a portion of the F-35 in Georgia.

Describing the F-35 as the "cornerstone" of future American air superiority, Chambliss urged Panetta not to let "arithmetic targets mandated by a draconian budget-cutting exercise" cause the Pentagon to lose sight of the need to control the air in any conflict.

Chambliss insisted that any aircraft-buying decisions "reflect actual threat-based warfighting requirements and real economies that can be achieved through modernization of selected assets." Without the F-35 in the specified numbers, he contended, "we run the certain risk of ceding tactical air superiority in future conflicts to foes who are developing and fielding fifth generation aircraft and defensive systems."

The F/A-18E/F, as a fourth generation fighter, "will be of limited to no value in any future threat scenario, and will only drain scarce budgetary resources from systems designed to keep us ahead of our adversaries," Chambliss wrote. He urged Panetta to "fully commit to the expeditious fielding of the F-35 and forego procuring any additional fourth generation fighter."

Chambliss' missive wasn't the first shot in this particular duel, however. Christopher M. Chadwick, Boeing military systems president, held a press conference at the Paris Air Show in June, partly to challenge the notion of the "generations" debate. He said the idea of fifth vs. fourth generation is "meaningless," and that the Super Hornet will be just as effective as the F-35 because it will be protected by sophisticated electronic warfare methods rather than all-up stealth. He also challenged Lockheed assertions that the F-35, because its price includes the radar, targeting systems, internal fuel, and other capabilities that are "sold separately" with the F/A-18, will actually cost less than the Super Hornet in the long run.

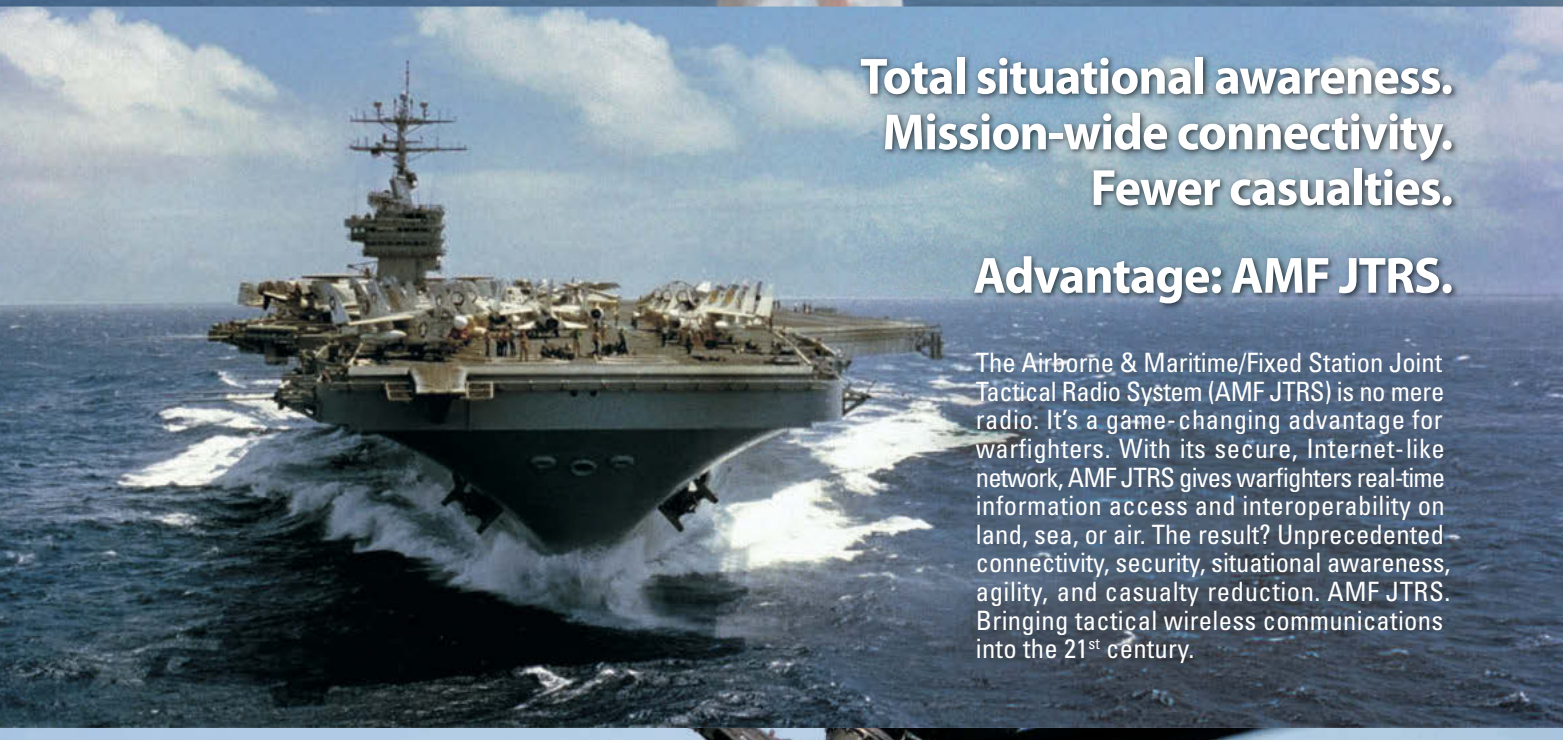
For its part, the Navy requested additional F/A-18s in order to have enough aircraft to fill out its carrier decks. It agreed to extend the service lives of some of its older F/A-18s but insisted that others have to be replaced because of the structural fatigue of too many carrier landings.

The Air Force has similar structural and age issues with its F-16s, but the current Chief of Staff, Gen. Norton A. Schwartz, and his two predecessors have all insisted on spending any available procurement money on the next generation of aircraft. Schwartz has pointed out that any newly bought nonstealthy aircraft will have a life of 30 or more years—well past the point where they will be able to survive against current and emerging air defense threats. The Air Force, Schwartz has said, would have to retire such newly purchased aircraft prematurely, wasting service life, or keep them in service in less demanding roles. If the latter, it would require extension of the logistics pipeline for those aircraft, an expensive proposition.

The Air Force approach has been to Band-Aid the F-16 force with structural stiffeners and a new suite of sensors to keep them credible until F-35s can be delivered to replace them.

Nevertheless, the budget cuts are unavoidable, and senior USAF leaders have talked unceasingly of "tough choices" ahead. Senior USAF officials have privately mentioned pressure within the Pentagon to consider buying some fourth generation F-15Es to make up inventory shortfalls until the F-35 arrives. Also, Sen. John McCain (R-Ariz.) has chafed at the notion that there seems to be "no alternative" to the F-35, which he has said gives Lockheed Martin little incentive to keep the program on track and on budget. McCain, ranking member of the Senate Armed Services Committee, signaled his willingness to fund such an alternative.

Chambliss closed his letter by saying he looked forward to discussing the issue with Ashton B. Carter (then undersecretary of defense for acquisition, technology, and logistics) at Senate confirmation hearings that would make Carter the No. 2 leader at the Pentagon. ■



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Air Force World

By Aaron Church, Associate Editor

Raptor Rescue

Air Combat Command temporarily lifted its F-22 fleetwide grounding to let the 28 aircraft based at JB Langley-Eustis, Va., escape Hurricane Irene, which hit the East Coast in late August.

Grounded due to a malfunction with the aircraft's onboard oxygen-generation system, the fighters flew to Grissom ARB, Ind., Aug. 26, taking shelter until the storm passed.

The aircraft were cleared for unrestricted flight for the return trip as well, before resuming the flight ban several days later, Langley officials said.

The clearance was a "one-time flight authority to get out of the area affected by Irene," said spokeswoman Monica Miller Rodgers. However, Gen. Norton A. Schwartz, Air Force Chief of Staff, said he expected the flight ban to be lifted "soon," pending a report from the service's Scientific Advisory Board due in mid-September.

Base officials evacuated aircraft and nonessential personnel from both Langley and Seymour Johnson AFB, N.C., ahead of the storm. Sixty F-15Es from the 4th Fighter Wing and eight KC-135Rs of the 916th Air Refueling Wing at Seymour Johnson sought refuge at Barksdale AFB, La., while many Air National Guard assets flew as far west as Wright-Patterson AFB, Ohio.

Despite early concerns, all active duty and reserve component bases in the storm's path escaped largely unscathed.

On the Offensive in Cyber

The Pentagon is looking to shift its cyber warfare strategy away from simply defending to going on the attack if necessary.

Unlike DOD's recent cyber strategy, focused primarily on defending against computer attacks, a new policy directs "a thorough and accurate legal review" of all potentially offensive cyber actions at the service's disposal.

The document clearly defines such capabilities as "any device or software payload intended to disrupt, deny, degrade, negate, impair, or destroy adversarial computer systems, data, activities, or capabilities."

The assistant secretary of the Air Force for acquisition is responsible for ensuring the legality of all cyber weapons and for monitoring "the lethal characteristics and accuracy of weapons under review."

This is no easy task for the Air Force, according to the Federation of American Scientists' *Secrecy News,* which notes that law and policy regarding cyberspace is often poorly defined. Where it exists, it is largely "inconsistent with the use of offensive cyber tools."

USAF Civilian Hiring Freeze

The Air Force in August halted civilian hiring, issuing a 90-day freeze to compensate for deeper-than-expected cuts to the Fiscal 2012 defense budget.

Officials had already put restrictions on hiring in May, but Fiscal 2012 funding levels still fell short of "onboard strength," according to a memo signed by Gen. Philip M. Breedlove, vice chief of staff, and Air Force Undersecretary Erin C. Conaton.

Effective Aug. 11, the Air Force implemented the freeze for all permanent, temporary, and term vacancies, with few exceptions.

"The Air Force recognizes the invaluable contributions of our civilian workforce; however, we must address the current fiscal environment affecting the nation, the Department of Defense, the services, and all federal agencies," stated the memorandum, circulated to all major commands.

McRaven Takes Command at SOCOM

Adm. William H. McRaven took command of US Special Operations Command from Adm. Eric T. Olson in a ceremony at MacDill AFB, Fla.

McRaven, a Navy SEAL, had led Joint Special Operations Command since June 2008. He planned and directed the raid that killed Osama bin Laden earlier this year.

Olson, who was the first Navy SEAL promoted to the rank of four-star admiral, retired following the handover Aug. 8. He had served as commander of SOCOM since July 2007.

KC-46A Clears First Milestone

Boeing's KC-46A tanker passed its interim baseline review after a week of consultation with the Air Force, Aug. 24.

USAF photo by TSgt. Tammie Moore

Working with Pentagon officials, the Boeing-led contract team drafted an outline of how the program will accomplish its goals, said Jennifer Cassidy, an Air Force spokeswoman.

Boeing is to deliver 18 new-build aerial refuelers by 2017 under the initial fixed-price-incentive contract for the tanker's engineering and manufacturing development phase.

The Air Force plans to purchase a total of 179 aircraft, replacing its oldest KC-135s at an estimated cost of $30 billion, depending on the options exercised.

HH-60 Recap Slips

A new fleet of combat rescue helicopters may be delayed up to three years, according to an updated request for information issued by the Air Force.

The initial RFI, filed last October, called for battle-ready helos to replace USAF's fleet of 112 HH-60G Pave Hawks by the end of 2015. The current HH-60 fleet has been in service since the early 1980s and suffers some of the lowest availability rates of any aircraft in USAF service.

The updated program, however, now requires initial operational capability (four training aircraft and four mission aircraft with training and support systems in place) by Fiscal 2018 "or sooner."

Under the "medium risk" plan, the service is seeking "an existing produc-

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A KC-135 refuels a C-17 Globemaster III over Kyrgyzstan. Airmen from the 22nd Expeditionary Air Refueling Squadron carried 20 guests from Kyrgyzstan—including the director of Manas Transit Center, Erik Shaidinov, and key personnel with the country's Ministry of Transportation—on an orientation flight aimed at strengthening the partnership between the US and the former Soviet bloc country.

tion helicopter with modifications using existing mature technology with only limited integration of existing subsystems as required," according to the RFI.

The helicopter should also include "multiple situational awareness/tactical data links."

Intel Center To Watch Civil Air Traffic

The Air Force has been tasked with organizing the creation of an inter-agency intelligence center specifically aimed at monitoring civilian air traffic.

Dubbed the Civil Aviation Intelligence Analysis Center, the facility's specific mission will be to monitor and analyze US airspace for "illicit activity or threats to the United States, its allies, or its interests involving civil aviation," according to a Department of Defense directive handed down by Michael G. Vickers, intelligence undersecretary.

To be staffed by the 29th Intelligence Squadron currently at Fort Meade, Md., or a "successor organization," the center will "coordinate and synchronize DOD support for the civil aviation intelligence mission," while keeping contact with "key civil aviation intelligence stakeholders."

DOD instructions mandate a strategy review and development of requirements to begin monitoring civil aviation for potential security threats by Fiscal 2013.

Order of the Sword To Fraser, North

Gen. William M. Fraser III, then commander of Air Combat Command, and Gen. Gary L. North, commander of Pacific Air Forces, were inducted into the Order of the Sword in separate ceremonies earlier this summer.

Fraser received the honor in a ceremony near JB Langley-Eustis, Va., Sept. 12, while North was inducted in a ceremony at the enlisted club on JB Pearl Harbor-Hickam, Hawaii, in August.

"Your dedicated service, your trust, your faith, and your confidence in me, and the privileges I have had, specifically to be afforded to serve along side of you, is the greatest privilege that an officer could ever have," said North. Established in 1967, the order is the highest honor USAF's enlisted cadre bestows on an individual.

"His concern for people and his ability to put people at ease is remarkable. We hope that all airmen would care for people this way," said CMSAF James A. Roy at the ceremony for North at Hickam, Aug. 26.

Last V-22 Production Contract Looms

Bell-Boeing recently submitted to the Navy a proposal to construct the final V-22 Osprey tilt-rotors planned for the Marine Corps and Air Force Special Operations Command. The company proposed building seven AFSOC CV-22s under the second five-year, fixed-price-incentive proposal, which would complete USAF's Osprey fleet at 50 aircraft between Fiscal 2013 to Fiscal 2017. Under the same contract, Bell-Boeing would build 115 additional MV-22s for the Marine Corps.

"In an era that demands greater fiscal responsibility, the MYP II [second multiyear procurement contract] would enable us to deliver this revolutionary capability to our customers in the most efficient way, while generating additional savings for the American taxpayer and bringing strength and stability to the industrial base," said John Rader, Bell-Boeing V-22 program executive director.

V-22 work was "on time and under budget" as of August, according to the companies.

Tactical air control party specialist and instructor MSgt. Edgar Rodriguez, 146th Air Support Operations Squadron, leads fellow Air National Guardsmen as they navigate to the next point on a three-day field exercise in Brunswick, Ga., as part of Project 275 (a reference to the TACP's old specialty code), a new effort to provide one-location upgrade training.

Laser Maverick Cleared for Testing

The Air Force recently finished developmental testing of the new generation

Second Hypersonic Test Vehicle Lost

DARPA's Falcon Hypersonic Test Vehicle-2 launched successfully only to suffer a telemetry failure approximately nine minutes into the flight.

A Minotaur IV rocket launched Aug. 11 from Vandenberg AFB, Calif., and "successfully inserted the aircraft" into the desired trajectory, according to DARPA. A rocket camera confirmed the unmanned glider achieved booster separation, attaining Mach 20 before its signal was lost over the Pacific Ocean.

"We know how to boost the aircraft to near-space; we know how to insert the aircraft into atmospheric hypersonic flight," said Air Force Maj. Chris Schulz, DARPA HTV-2 program manager. "We do not yet know how to achieve the desired control during the aerodynamic phase of flight." He added, "I'm confident there is a solution. We have to find it."

The Air Force is keenly interested in a global strike platform capable of reaching anywhere in the world in 60 minutes or less, but the technological challenges are formidable. The first test vehicle entered "higher-than-predicted yaw," causing the aircraft to depart controlled flight and cutting short its planned 30-minute flight last April.

DARPA officials believe HTV-2 fell into the Pacific along its intended flight path, though results could not be verified without telemetry data.

Data gleaned from the most recent flight is now undergoing analysis by an independent engineering review board to determine the program's next step.

Maverick laser guided missile, clearing the way for operational testing with the Navy.

"The joint testing community conducted a series of very demanding tests, including two where the missile contended with targets at 65 and 72 mph," said Harry Schulte, vice president of Raytheon Missile Systems' Air Warfare Systems product line, in a company release in August.

Raytheon's AGM-65 E2/L includes an enhanced laser seeker and new software to reduce collateral damage caused by the missile.

The Air Force and Navy conducted aircraft integration, laboratory, and flight tests on the A-10, F-16, AV-8B, and F/A-18 aircraft, including three live-fire shots against moving and static targets from an A-10 and F-16.

The Navy anticipated completion of flight testing this summer.

Hancock Gets Reaper Schoolhouse

The Air Force chose the New York Air National Guard's 174th Fighter Wing at Hancock Field near Syracuse to host ANG MQ-9 Reaper training for pilots and sensor operators.

The unit will train remote aircrews from all three service components using airspace over the Adirondack Military Operations Area in northeast New York for flight training.

Syracuse currently operates MQ-9s in combat over Afghanistan and already trains active duty, Air Guard, and Air Force Reserve maintainers on the airframe. "The addition of the pilot training mission is a natural extension of our MQ-9 Field Training Detachment which has been active since October 2009," said Col. Kevin Bradley, 174th FW commander.

The training unit will add 44 full-time personnel and five contractors at Hancock Field, announced officials in August.

Global Hawk Block 10 Retired

The Air Force retired the last of its Block 10 Global Hawk fleet earlier this year, handing down five of the seven airframes to the Navy and NASA.

"They were used in a lot of roles that the Air Force never thought about as they were fielding this system," said Bill Walker, Northrop Grumman's Global Hawk business development manager.

Deployed in support of US Central Command in 2006, the Block 10 fleet accrued nearly 35,000 flight hours gathering imagery and intelligence over the CENTCOM area of operations, Walker noted in an industry brief, Aug. 16.

With 75 percent of designed airframe life remaining, three Block 10s will enter Navy service as a stopgap until its MQ-4C Broad Area Maritime Surveillance aircraft arrive in 2015. The Navy has operated two Global Hawks over the Persian Gulf since 2006; three additional aircraft will allow it to expand operations. The two other aircraft joined NASA's research fleet.

Block 10s were replaced in theater by the more capable Block 30 in May.

Global Hawk 30's Whirlwind to IOC

With combat operations in Libya and Afghanistan long since under its belt, the RQ-4 Global Hawk Block 30 variant finally achieved initial operational capability this summer.

"The basic requirement for Block 30 IOC is to support one continuous Block 30 24-hour orbit for 30 days," announced Gen. William M. Fraser III, Air Combat Command boss Aug. 10. "There are enough assets and infrastructure in place to support the one continuous Block 30 orbit requirement for IOC."

A Block 30 Global Hawk led the opening air strikes in Libya this spring, using its moving target indicator capability for the first time to operationally detect, track, and identify targets.

"Global Hawk was the first aircraft on station … so as to provide targeting information for the coalition forces," stated Bill Walker, Northrop Grumman business manager for Global Hawk.

Block 30s from Andersen AFB, Guam, also provided nonstop imagery of Japan's severely damaged Fukushima Daiichi nuclear facility at the height of contamination fears following the earthquake and tsunami in March.

"Each mission was able to cover [the entire disaster area] with very high-resolution imagery … many times during a single sortie," continuously between March 26 and 29, said Walker.

The current Air Force plans call for a fleet of 31 Block 30s.

Maryland Guard Gets Its First C-27J

Maryland's Air National Guard recently received its first Alenia C-27J Spartan, christening the aircraft *Pride of Baltimore II* in a ceremony at Martin State Airport.

Delivered to the ANG's 135th Airlift Group, the Spartan is the first of four C-27Js slated to replace the unit's C-130J Hercules given up under BRAC 2005.

Lt. Gen. Harry M. Wyatt III, ANG director, and Brig. Gen. Allyson R. Soloman, Maryland ANG assistant air adjutant, welcomed the new airframe, along with Army Maj. Gen. James A. Adkins, the adjutant general, Aug. 13.

The final Super Herc was due to leave the base at the end of August, bringing the C-130J's short tenure with the Maryland Guard to an end.

"It is a cultural change for us. It is like going from a Cadillac to a Maserati," said Soloman. "We will see how the aircrews handle a sports car."

GPS Bird Back From Retirement

For only the second time in a quarter-century, the Air Force is reactivating a decommissioned Global Positioning System satellite.

The clock on the GPS IIA vehicle—SVN-30—began malfunctioning in May, dashing its "gold standard of performance" and prompting an on-orbit swap by the 2nd Space Operations Squadron, Schriever AFB, Colo.

"We keep on-orbit spares for exactly this purpose," said Lt. Col. Jennifer Grant, 2nd SOPS commander. "The robustness of our current constellation and the recent completion of the Expandable 24 architecture provide us with the flexibility to perform replacements like this with minimal impact to global users."

Boeing and Aerospace Corp. contractors working alongside 2nd SOPS

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engineers immediately launched preparations to bring SVN-35 back online, replacing the ailing satellite in August.

SVN-35 had been shifted in 2009 to make room for the latest GPS Block IIR in the constellation, but its navigation signal continued to function.

Senators Make Beale Appeal

California's senators urged leaders of the Senate Armed Services Committee to keep the MC-12 Liberty fleet in the Air Force, to avoid disrupting the beddown already under way at Beale Air Force Base.

Sen. Barbara Boxer (D) and Sen. Dianne Feinstein (D) oppose language in a draft version of the Senate's Fiscal 2012 defense authorization bill transferring the MC-12 fleet to the

Not Fade Away: ***An airman watches the Pentagon from the back of a V-22 Osprey moments after the aircraft took off with Secretary of Defense Leon Panetta onboard Sept. 6. Panetta was traveling to New York City to visit the Sept. 11 memorial site with Mayor Michael Bloomberg. Panetta participated in several events honoring the 9/11 victims during the week leading up to the 10-year anniversary of the terrorist attacks, including a memorial service at the Pentagon on Sept. 11.***

More BACN, Please

Pentagon officials have requested funds to modify two additional RQ-4 Global Hawks as battlefield airborne communications node (BACN) relay aircraft.

Fielded under an urgent operational need, BACN-equipped airplanes deployed last fall and have been providing "almost continuous coverage for Central Command" in Afghanistan, stated Bill Walker, Northrop Grumman Global Hawk business development manager.

Congress also is considering redirection of funding to expand the communications capability of the Air Force's BACN fleet, Walker said.

USAF currently operates two Global Hawk Block 20s, augmented by three Bombardier BD-700 Global Express jet aircraft equipped with Northrop Grumman's BACN suite.

In addition to upgrading and expanding the fleet, DOD also requested funding to purchase two of the Global Express jet aircraft which were previously leased.

The Air Force already purchased one of the three airplanes in June, designating the aircraft E-11A in USAF service.

Walker said the two types of aircraft have vastly improved communications on the ground in Southwest Asia.

He described them as "low-hanging satellites," allowing troops in the most challenging terrain to keep in contact.

"Ground troops that are in a convoy down in the middle of a valley can now talk through a Global Hawk. … They're always in touch."

BACN also improves ground forces' ability to coordinate close air support and is further able to "translate" voice and data streams, allowing communication between a broad range of air and ground assets.

Previously, a commander in the field had to wait for aircraft to arrive on scene to begin coordination. "Now he can talk to the pilot as soon as he takes off, so by the time he gets on station he doesn't have to loiter," Walker said.

DOD photo by TSgt. Jacobb N. Bailey

JOINT STARS

Capable. Proven. Successful. With over 5,300 missions since inception, the E-8C Joint STARS continues to provide our troops an operational advantage. And we're just getting started. As the only platform that conducts wide-area surveillance and battle management command and control, our Joint STARS platform has the proven ability to modernize and adapt to commander needs in a timely and efficient manner. Through modernization, the E-8C Joint STARS is the most affordable—and most flexible—path to a successful future.

Senior Staff Changes

RETIREMENTS: Lt. Gen. Ted F. **Bowlds,** Lt. Gen. Allen G. **Peck,** Lt. Gen. Mark D. **Shackelford,** Maj. Gen. Gary T. **McCoy,** Maj. Gen. James A. **Whitmore,** Brig. Gen. Michael W. **Callan. AFRC RETIREMENT:** Maj. Gen. David N. **Senty.**

CHANGES: Brig. Gen. Scott L. **Dennis,** from Vice Cmdr., 7th AF, PACAF, Osan AB, South Korea, to Cmdr., Kandahar Airfield, US Forces-Afghanistan, CENTCOM, Kandahar, Afghanistan ... Brig. Gen. Michael E. **Fortney,** from Chief, Nuclear Ops. Div., STRATCOM, Offutt AFB, Neb., to Dir., Nuclear Spt. Directorate, Defense Threat Reduction Agency, Fort Belvoir, Va. ... Brig. Gen. James E. **Haywood,** from Dir., Rqmts., AFSPC, Peterson AFB, Colo., to Dir., Strat Plans, Prgms & Analyses, AFMC, Wright-Patterson AFB, Ohio ... Brig. Gen. James F. **Martin Jr.,** from Dir., Financial Mgmt., AFMC, Wright-Patterson AFB, Ohio, to Dep. Asst. Secy., Budget, Office of the Asst. SECAF, Financial Mgmt. & Comptroller, Pentagon ... Brig. Gen. Kurt F. **Neubauer,** from Cmdr., 332nd AEW, ACC, JB Balad, Iraq, to Vice Cmdr., 7th AF, PACAF, Osan AB, South Korea ... Brig. Gen. Linda R. **Urrutia-Varhall,** from Sr. Mil. Asst. to the Dir., Natl. Intel., Pentagon, to Dir., Intel., SOUTHCOM, Miami ... Maj. Gen. (sel.) Martin **Whelan,** from Dir., Nuclear Spt. Directorate, Defense Threat Reduction Agency, Fort Belvoir, Va., to Dir., Rqmts., AFSPC, Peterson AFB, Colo.

COMMAND CHIEF MASTER SERGEANT CHANGE: CMSgt. Linus **Jordan Jr.,** to Command Chief Master Sergeant, AFSPC, Peterson AFB, Colo.

SENIOR EXECUTIVE SERVICE CHANGES: Stephen A. **Cantrell,** to Dir., Tech. Collection & Analysis, DUSD, Intel. & Security, Office of the USD, Intel., Pentagon ... James J. **Kren,** to Dep. Dir., Defense Security Svc., Quantico, Va. ... Robert M. **Maxwell,** to Dir., Resources, AFRICOM, Stuttgart, Germany ... David C. **Merker,** to Dir., Nuclear Treaty Monitoring Directorate, AF Tech. Applications Ctr., AF ISR Agency, Patrick AFB, Fla. ... Patricia J. **Zarodkiewicz,** to Dep. Administrative Asst. to the SECAF, OSAF, Pentagon. ▪

Army. "We urge you to support removing this provision when the legislation reaches the Senate floor," stated Boxer and Feinstein in a letter to committee chairman Sen. Carl Levin (D-Mich.) and ranking member Sen. John McCain (R-Ariz.).

"We can think of no reason why the Air Force cannot continue to support the intelligence needs of [its] sister services with the Liberty," they argued.

The House bill contains no similar language to divest the Air Force of its MC-12 fleet.

Antarctic Night Drop

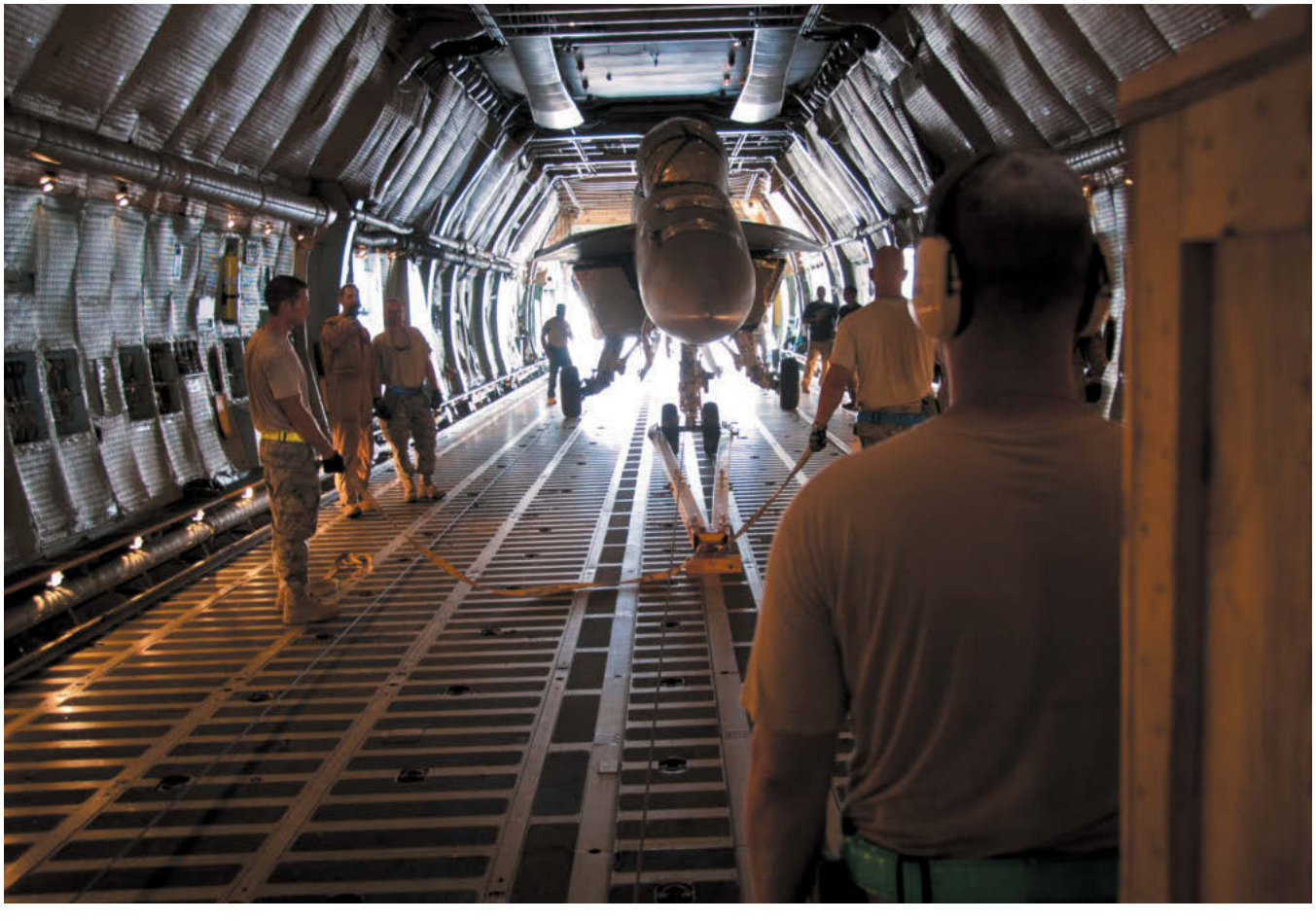
A C-17 recently accomplished the first-ever winter airdrop in complete darkness over the South Pole, on an extended mission from Christchurch, New Zealand, to deliver critical medical supplies.

The supplies were needed at Amundsen-Scott South Pole Station to treat a gravely ill National Science Foundation researcher, wintering-over at the austere outpost.

After a routine stop at McMurdo Station, the crew lifted off for the Amundsen-Scott station, more than two hours distant, safely delivering two mini-pallets despite high winds.

In summer, ski-equipped LC-130s can land directly on the ice to evacuate critical patients. However, "during the winter, the only option was to air-drop supplies

***Nose First:** Airmen at Kandahar Airfield, Afghanistan, load a Navy F/A-18 Super Hornet onto a C-5 Galaxy Aug. 8, in preparation for ferrying the damaged aircraft back to its home station, NAS North Island, Calif. Months were spent in the coordination and planning of the mission, which marks the first time a cargo jet airplane has hauled an American fighter back to the US for repairs. Charles Miller, F/A-18 deputy program manager, said the aircraft was damaged in a brake fire on landing at Kandahar, rendering it stranded in "unflyable" condition in Afghanistan.*



USAF photo by SrA. David Carbajal

Operation Enduring Freedom—Afghanistan

Casualties

By Sept. 15, a total of 1,760 Americans had died in Operation Enduring Freedom. The total includes 1,757 troops and three Department of Defense civilians. Of these deaths, 1,396 were killed in action with the enemy, while 364 died in noncombat incidents.

There have been 13,896 troops wounded in action during OEF.

Herc, Drone Collide Over Afghanistan

A C-130 cargo airplane assigned to the 914th Airlift Wing, Niagara Falls Arpt./ARS, N.Y., collided with an Army RQ-7 Shadow remotely piloted aircraft over Afghanistan on Aug. 15. While the aircrew was unharmed, the Hercules was forced to make an emergency landing at a forward operating base in eastern Afghanistan, USAF Capt. Justin Brockhoff, a NATO spokesman, told the *Wall Street Journal.*

"The C-130 received light damage during the incident," Brockhoff told the paper. He added that there are "no reports at this time to indicate any injuries or damages were caused when [the Shadow] impacted the ground."

The Shadow, a short-range tactical drone operated by the Army and Marine Corps, was on a surveillance mission and carrying no weapons when the incident occurred.

Firefighters Forward

USAF firefighters from US Air Forces Central's quick strike team recently deployed with three crash tenders to an austere airstrip at Forward Operating Base Apache in Qalat, Afghanistan.

The crash and fire rescue team is now supporting Ohio Air National Guard C-27J Spartans, which provide forward resupply to Army forces there.

Safety regulations "only [allow] for us to fly four flights in 14 days here without crash, fire, rescue on scene," said Maj. Jason Helton, regional command south air mobility liaison. "Now that CFR has arrived, we can land as many planes as we want" at Forward Operating Base Apache.

Having the firefighters and equipment at the FOB not only cuts risk for aircrew, but saves lives on the ground as well. "The fact that we can now fly supplies in means less supply convoys my men will have to run," said Army First Sergeant Mark Dasch, 24th Infantry Division, adding that fewer convoys "mean less casualties; it's that simple."

Ohio ANG C-27Js flew their first combat mission in theater Aug. 4.

in," said Lt. Col. Edward Vaughan. He is acting joint operations director for Operation Deep Freeze, the annual support mission for NSF researchers.

Forward deployed to Christchurch, the 304th Expeditionary Airlift Squadron crew from JB Lewis-McChord, Wash., made the drop a mere 10 days into Deep Freeze's winter support mission.

US, Russia Practice Hijack Intercepts

The US, Canada, and Russia flew a second Vigilant Eagle hijack-response exercise this summer, testing international cooperation.

"This exercise provides the opportunity for Russia, Canada, and the United States to enhance our coordination and partnership to cooperatively identify, intercept, and follow a suspect aircraft as it proceeds across international boundaries," said Canadian Air Force Col. Todd Balfe, deputy commander of the Alaskan NORAD Region.

The five-day exercise tested handoff, between a USAF E-3 AWACS and a Russian counterpart, of a simulated hijacked US airliner. Communication between air operations centers at JB Elmendorf-Richardson, Alaska, and Petropavlovsk-Kamchatski Arpt., Russia, were also tested.

"Vigilant Eagle 2011 builds upon the remarkable success of last year's exercise, when we conducted the first live-flying event between Russia and the United States since the Second World War," added Balfe.

China Carrier in Sea Trials

China's first aircraft carrier put to sea for trials on a maiden voyage Aug. 10, highlighting once again the country's rapid military buildup.

China purchased the unfinished Soviet Kuznetsov-class ski-jump carrier *Varyag*—stripped of electronics, weapons, and propulsion systems—from Ukraine in 1998.

Military sources note the sea trials fall in line with China's ongoing refit project, adding that refinement and test work will likely resume on the ship's return to port.

The Chinese began restoration of the ship in 2004, after towing her from Ukraine to Dalian shipyard in northeast China.

Adm. Gary Roughead, then Chief of Naval Operations, said in March that the US and regional partners are increasingly concerned by China's recent stealth aircraft and anti-shipping missile development programs. China's growing assertiveness over territorial issues, specifically the South China Sea, has further heightened concern in recent months.

In June, a Chinese Su-27 fighter pursued a U-2 reconnaissance flight over the Taiwan Strait until intercepted by a pair of Taiwanese F-16s.

RPAs to Beat IEDs

Northrop Grumman won an Air Force contract Aug. 12 to develop its Sand Dragon remotely piloted aircraft for the counter-improvised explosive device role.

The Air Force Research Laboratory at Wright-Patterson AFB, Ohio, signed a $26.2 million contract modification for the Sand Dragon B program, Pentagon officials announced.

The Air Force has been working with California-based ChandlerMay, Inc., since early 2010 on the medium-altitude, long-endurance RPA designed for route surveillance missions lasting upward of 24 hours, *Military and Aerospace Electronics* reported.

Under the cost-plus-fixed-fee arrangement, Northrop Grumman's San Diego-based Integrated Systems Air Combat division will work to develop and field the system, which doesn't need a runway.

Senator Seeks Minnesota Associate

Minnesota Sen. Amy Klobuchar (D) called on Air Force Secretary Michael B. Donley to designate the 148th Fighter Wing, Minnesota Air National Guard, at Duluth Airport, as an active associate unit for the operation and stewardship of its F-16 Block 50s.

"I respectfully urge you to consider active association at Duluth as a means to reduce costs while improving the mission readiness of active duty airmen," Klobuchar wrote in a letter to Donley, Aug. 3.

An active associate unit would benefit from both the "experienced personnel" of the 148th FW and the "excellent training opportunities" available in Duluth, wrote Klobuchar. The area also offers "access to affordable housing, transportation, education, and recreation," she continued. The wing converted from F-16 Block 25 aircraft to more capable Block 50s just last year.

Nuclear Security Group at Kirtland

In the interest of unifying security at the Air Force Nuclear Weapons Center at Kirtland AFB, N.M., Air Force officials

recently activated the 377th Security Forces Group.

The unit's standup will "not only strengthen nuclear and non-nuclear security, but also triple the leadership of the Air Force's largest nuclear security tasking," said Col. Robert L. Maness, 377th Air Base Wing commander, unfurling the unit flag Aug. 15.

The group now oversees protection of the AFNWC weapons, personnel, and facilities, and is tasked with the critical mission of ensuring the reliability, sustainment, and modernization of USAF's deterrent arsenal.

The Air Force activated the 377th Weapons System Security Squadron and realigned the 377th Security Forces Squadron under the new group, now comprising more than 600 personnel.

The 377th SFG first stood up at Ramstein AB, Germany, in 1985, inactivating in May 1991.

F-35 Grounding Lifted

The F-35 joint program office lifted a fleetwide grounding, allowing F-35 development aircraft at Edwards AFB, Calif., and NAS Patuxent River, Md., to return to flight, according to JPO spokesman Joe DellaVedova.

Officials also lifted the ban for ferry and acceptance flights, allowing delivery of F-35As AF- 10 and AF-11 from Lockheed Martin's Fort Worth, Tex., facility to Eglin AFB, Fla., Aug. 31.

The JPO grounded the entire F-35 fleet—test and production aircraft—Aug. 3 after the integrated power package, responsible for starting the engine and cooling, malfunctioned on an F-35A test aircraft. Ground operations resumed Aug. 10 and monitored flight operations were authorized Aug. 18.

Initial indications pointed to a valve malfunction, though an Air Force Safety Investigation Board was still reviewing the issue in September.

"Completion of the root cause investigation and any corrective actions are required to return to unmonitored operations," JPO officials stated.

While it is unclear how the grounding affects the system development timetable, officials say there is built-in margin in the schedule to absorb setbacks.

DellaVedova said AF-8 and AF-9, Eglin's first two F-35A production aircraft, are still undergoing maintenance testing and awaiting flight clearance, which is expected this fall.

Hurlburt Preferred for Reserve MQ-1s

The Air Force prefers Hurlburt Field, Fla., as the future site of an Air Force Reserve Command MQ-1 Predator remotely piloted aircraft squadron, officials announced Aug. 4.

Operating the reconnaissance drone from Hurlburt would add 140 personnel and associated equipment to the base, though no MQ-1s would be physically located there.

Reservists working from ground control stations in Florida would operate the Predators via satellite data link—termed "remote-split operations"—in combat zones worldwide.

Officials announced in May that they would choose from among bases located within USAF's Eglin Complex, including Hurlburt, Eglin Air Force Base, Duke Field, Camp Rudder, and Choctaw Field.

"The Air Force looks forward to working with the communities surrounding this base to ensure any concerns are addressed" through the pending assessment process, said Kathleen I. Ferguson, USAF's deputy assistant secretary for installations.

Clean Coal

Service technicians recently began using a mild abrasive solution made with black coal to clean the engines of KC-10s in depot maintenance.

"Desert climates cause buildup of silica and sand on engines blades, which heat up and melt to the blades during operation," said Steven Slatter of Air Mobility Command's fuel efficiency office. This can "cause engine performance to degrade more rapidly ... and result in engines needing maintenance at a quicker interval," he added.

Testing of six KC-10 CF6-50 engines found that cleaning them with the mixture significantly reduced gas temperature as well as fuel burn by an average of 335 pounds per hour, said Slatter.

The method reduces fuel consumption, extends service life, and may save thousands of pounds of aviation fuel, while decreasing the number of maintenance failures, according to AMC estimates.

Getting RPAs Into National Airspace

Despite a profusion of remotely piloted aircraft operating in Afghanistan, the Air Force's RPA fleets still face restrictive rules at home.

As operations in Afghanistan wind down over the next three to four years, the Air Force anticipates shifting many RPAs home to US airspace, said Steven Pennington, USAF's director for airspace issues on the Air Staff.

"When you bring them home, you've got to be able to operate and train with them here," he said at an RPA conference in August.

The large number of MQ-1s, MQ-9s, and RQ-4s coming home to active duty, Guard, and Reserve stations around the country for the first time poses a real challenge.

Today, the Department of Defense uses "certificates of authorization" to fly RPAs domestically, but Pentagon officials are working to build a highway for RPA civil operations in the national airspace by demonstrating concepts, experimentation, and developing new tools, said Pennington.

The short-term transition plan calls for shifting from restricted operations in segregated airspace, to what's called "routine access"—flying into and out of national airspace using ground-based sense-and-avoid technology.

Long term, the department wants to expand the use of air-based sense-and-avoid tools on RPAs, in addition to air traffic control, and sensors.

With a vast increase in RPA activity on the horizon, these concepts must first be tested in regular airspace, noted Pennington, making Federal Aviation Administration support and funding for these initiatives critically important.

Valorous Moody Pilots

Two pilots from Moody AFB, Ga., were recently awarded the Distinguished Flying Cross with Valor Device.

Capt. Aaron Palan, a 75th Fighter Squadron A-10C pilot and Capt. Thaddeus Ronnau, a 41st Rescue Squadron HH-60G pilot, were decorated for heroism in Afghanistan.

Palan was sent to defend a Special Forces team ambushed by Taliban fighters on Oct. 1, 2010. His "superior leadership, exemplary airmanship, and skilled weapons employment saved a Special Forces team from certain defeat," contributing to the death of 20 to 30 insurgents, according to his citation. The sortie was Palan's fourth since initial mission qualification.

Ronnau flew eight nonstop casualty evacuation missions over the span of several hours on June 27, 2010, saving the lives of 13 US and coalition troops.

Two of the evacuations required unconventional and hazardous maneuvers. Extracting a soldier injured from a 200-foot fall, "we started hovering

USAF photo

MSgt. Ben Fitzgerald and MSgt. Timothy Brizedine teach members of the Afghan Air Force how to install a sway brace to keep rocket pods from shifting during flight, at Shindand AB, Afghanistan. US airmen are serving as instructors and mentors to Afghan airmen as part of a NATO training mission to teach the Afghan maintainers how to prepare and install Mi-17 weapons pylons and rocket pods.

down until we could get to him. The back half of the HH-60 was hanging over a 500-foot cliff the entire time," recalled Ronnau.

Airman Gets Bronze Star Medal

MSgt. Christopher Banks was awarded the Bronze Star Medal with Valor Device in August for defensive action during the fatal shooting of US air advisors in Kabul, Afghanistan.

On April 27, Banks, a medic from Offutt AFB, Neb., was deployed as an advisor with the 438th Air Expeditionary Wing when a disgruntled Afghan Air Force officer opened fire at the Kabul Airport, killing eight airmen and one US contractor.

Risking his own life, Banks conducted triage on the airmen wounded at the scene, helping to transport victims to a nearby Afghan facility where he continued to render aid.

"This is a very bittersweet moment for me, both personally and professionally, and I am very much honored," said Banks. "I feel I did what any other airmen in the same situation would have done and did my best to help my fallen comrades."

Five other members of the same unit were awarded the Joint Service Commendation Medal, including four with Valor Device, for their response to the tragedy.

Missing B-24 Crew Identified

The Defense Department announced that forensics experts identified the remains of a B-24D crew missing in the Pacific theater since World War II.

Assigned to a reconnaissance mission on Oct. 27, 1943, the Liberator crew took off from an airfield near Port Moresby, New Guinea, never to be seen again. A DOD team located the New Guinea crash site in 2003, recovering the remains in 2007.

Remains representing the entire crew were buried together with full military honors at Arlington National Cemetery, Aug. 4.

Members of the crew were:

- 1st Lt. Jack E. Volz, 21, of Indianapolis
- 2nd Lt. Regis E. Dietz, 28, Pittsburgh
- 2nd Lt. Edward J. Lake, 25, Brooklyn, N.Y.
- 2nd Lt. Martin P. Murray, 21, Lowell, Mass.
- 2nd Lt. William J. Shryock, 23, Gary, Ind.
- TSgt. Robert S. Wren, 25, Seattle
- TSgt. Hollis R. Smith, 22, Cove, Ark.
- SSgt. Berthold A. Chastain, 27, Dalton, Ga.
- SSgt. Clyde L. Green, 24, Erie, Pa.
- SSgt. Frederick E. Harris, 23, Medford, Mass.
- SSgt. Claude A. Ray, 24, Coffeyville, Kan.
- SSgt. Claude G. Tyler, 24, Landover, Md. ■

News Notes

■ A B-2 Spirit damaged in a fire at Andersen AFB, Guam, returned to the US following 18 months of intense preparation. *Spirit of Washington* landed at Northrop Grumman's Palmdale, Calif., facility Aug. 16 to begin a complete overhaul and repair.

■ Walter Reed Army Medical Center in Washington, D.C., closed its doors after more than a century of service, Aug. 27. Merged with the National Naval Medical Center under the 2005 BRAC, the combined Walter Reed National Military Medical Center will be located on the Navy site in Bethesda, Md.

■ A remotely piloted MQ-9 Reaper was damaged on landing following a training sortie from Holloman AFB, N.M., Aug 24. Assigned to the 29th Attack Squadron, the mishap is the unit's third such incident since stand-up in 2009.

■ Morocco officially joined the F-16 club, receiving the first four of 24 F-16 Block 52s ordered from Lockheed Martin under a 2008 foreign military sale. Moroccan officials welcomed the aircraft in a ceremony at Ben Guerrir AB, Morocco, Aug. 4.

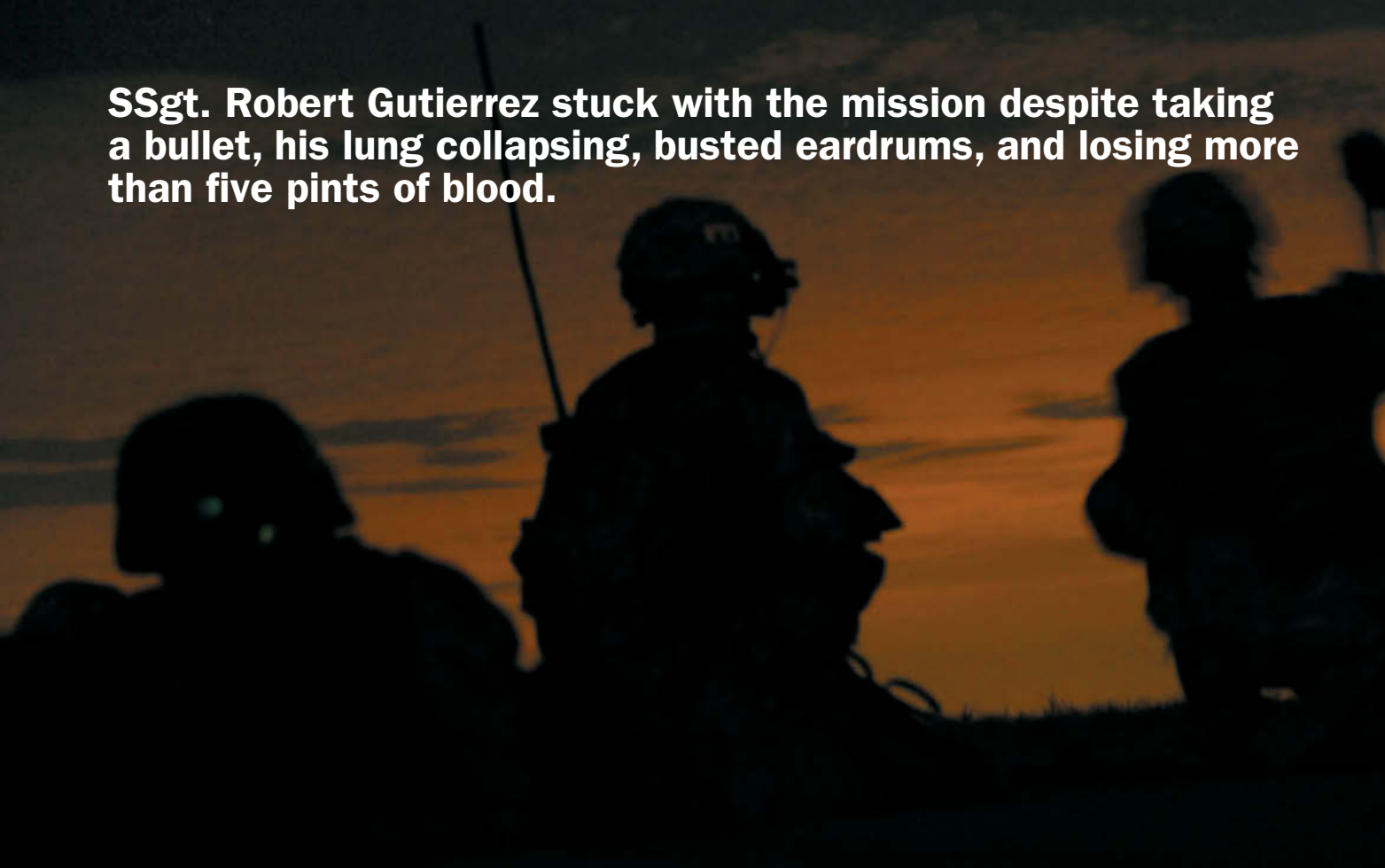
■ Canada restored "Royal Canadian Air Force" as the official title of its air service Aug. 16. Merged into a single service in 1968, the change does not affect the Canadian military's structure, but aims to reconnect airmen with their "proud history and traditions," said defense minister Peter G. MacKay.

■ An Arkansas Air National Guard C-130E joined the National Museum of the US Air Force Aug. 18, filling a notable gap there. Severely damaged in Vietnam, two of Spare 617's crew members received the Air Force Cross for resupplying forces in the 1972 An Loc siege.

■ The 494th Expeditionary Fighter Squadron seized a rare opportunity Aug. 5 to train with Army AH-64 Apache attack helicopters during a deployment to South Korea. F-15E crews from RAF Lakenheath, UK, located and marked targets for the helicopters over the Jikdo Island training range, near Kunsan Air Base.

■ A French Mirage 2000 fighter deployed as part of NATO's Baltic air policing mission collided in midair with a Lithuanian L-39 attack aircraft Aug. 30. Though neither crew suffered severe injury, the Lithuanian crew was forced to eject. The aircraft was destroyed.

■ The Air Force inactivated the last unit at Brooks City-Base, Tex., casing the colors of the 311th Air Base Group. The base officially closed Sept. 15, along with 22 additional bases closed by the 2005 BRAC. ■



SSgt. Robert Gutierrez stuck with the mission despite taking a bullet, his lung collapsing, busted eardrums, and losing more than five pints of blood.

Once More Unto the Breach

By Amy McCullough

Chief of Staff Gen. Norton A. Schwartz announced in September that SSgt. Robert Gutierrez Jr. will be awarded the Air Force Cross for his "extraordinary heroism" against an armed enemy in Herat province, Afghanistan, on Oct. 5, 2009.

Gutierrez, who now serves as an instructor at the Air Force Special Operations Training Center at Hurlburt Field, Fla., is the fourth Air Force special operator to receive the service's highest honor for actions in combat since Sept. 11, 2001. He is only the second living recipient to receive the award since 9/11.

Gutierrez joins an elite group of airmen to receive the decoration, second only to the Medal of Honor for valor in combat. Only 24 other enlisted airmen have been awarded the Air Force Cross, and only seven airmen of any rank have earned the honor since 1975.

On Oct. 5, 2009, Gutierrez and the Army Special Forces team he was attached to set out in the middle of the night to capture, detain, or kill a "high-value target" coalition forces had been chasing for the previous six years.

The target was a "brutal" man living outside Herat city in a "highly sympathetic village" in the western portion of Afghanistan, said Gutierrez. The Taliban forces were well aware they were being hunted and were well protected. Armed insurgents manned the rooftops inside their compound, surrounded by a 20-foot wall. The narrow, improvised explosive device-laden roads made it almost impossible to enter the village by vehicle,

USAF photo by A1C Alexandra Hoachlander

The 21st Special Tactics Squadron is primarily tasked with search and rescue and recovery operations.

USAF photo

Gutierrez on the ground in Afghanistan.

forcing the US team and about a dozen Afghan soldiers to finish the last two-and-a-half miles on foot.

The team moved fast, "because speed in the night is what favors you there," said Gutierrez, the lone combat controller on the ground that day. At the time, he was assigned to the 21st Special Tactics Squadron at Pope AFB, N.C. Two F-16s and an MQ-1 Predator remotely piloted aircraft orbited the area high above, giving those on the ground a heads up on the insurgents' locations.

The two teams started taking fire almost immediately after breaching the wall surrounding the target compound. The first team pushed through. Gutierrez, who was in the second stack, paused to take out a group of insurgents who were laying down heavy fire from behind an adjacent alley before he took cover inside the targeted building. Once inside, he radioed the aircraft to let them know they were in contact with the enemy. The team leader already had been shot in the calf and was having trouble walking, and the medics were busy tending to other members of the team struck by fragmentation.

He's Hit

As the battle raged inside the compound, an additional support team was moving in from the west, but insurgents unleashed more heavy fire on them before they could breach the wall, rendering their own firepower useless. The additional support team was forced to break contact, leaving those inside to rely on airpower to keep them from being overrun—a real possibility considering they were outnumbered and some of the Afghan national forces had already fled.

Gutierrez hovered in a doorway dodging bullets and returning fire when the soldier next to him had his gun jam, then was struck by fragmentation. Gutierrez called a medic and took over his buddy's position, where he had a better line of sight on two insurgents shooting at them from the rooftop next door.

Just as one of the insurgents fell, Gutierrez was hit.

"I knew something was wrong, but you don't really have time to sit there and think about things," he told *Air Force* Magazine during a July interview from Hurlburt Field. "You just do what you need to do. You return fire and eliminate the threat."

He did return fire until the pain in his side and arms overwhelmed him. Gutierrez fell to the ground gasping for air, realizing for the first time that he had been shot. "I know I'm wounded

USAF photo by MSgt. Andy Dunaway

Gravely wounded, Gutierrez calmly relayed instructions to an A-10, like this one, providing close air support.

USAF photo by MSgt. William Greer

As the lone combat controller on the ground that day, Gutierrez called in F-16s such as this one for a show of force, but the insurgents kept firing.

[and] I'm trying to think of how severe it is," he said.

"Time has virtually stopped. ... I'm on my hands and knees ... trying to talk, but every time I tried to talk, I had blood coming out of my mouth and out of my nose, so I knew that I had been wounded pretty bad." Gutierrez was an experienced air commando and he had seen similar wounds before. He knew he was probably going to die, but he was determined not to let his guys down.

He needed to get back on the radio, so he called for the medic. Gutierrez had no idea where the bullet entered his body.

Gutierrez believes he is lucky that the bullet took an odd turn and missed his heart.

USAF photo

No Time For the Pain

Although he was suffering from a sucking chest wound, he tried to shout commands to his comrades to cover the door and attempted to connect with the aircraft overhead to tell them he had been shot. But as the medic stripped off his gear, he was quickly losing his breath, making that impossible. The round had entered through his upper shoulder, traveled down his scapula, pierced his lung, and then exited out his back. "The whole trajectory of it and the way it came through just ripped apart everything all the way down," he said. Gutierrez would later acknowledge just how lucky he was, because the bullet took a "weird" turn and narrowly missed his heart.

High above, the pilots assumed Gutierrez had been injured when they couldn't get him on the radio. They weren't sure how bad it was so they continued to relay insurgent locations and requested permission to strike. "I couldn't talk. I could hear it, but it was so unfortunate [because] I couldn't talk," he said. The enemy was no more than 50 feet away, and air support was debating whether the aircraft should fire a Hellfire missile.

"I had to get back on the net, call it off, abort the pass," recalled Gutierrez. The sheer power of the Hellfire would probably have killed them all, he said.

But he still couldn't breathe. The medic held up a needle—"a good seven inches long," Gutierrez recalled—and told him his lung had collapsed. He needed to jam the needle into his chest so his lungs could reinflate. It was going to hurt, but "GZ" just nodded. He wanted to get it over with so he could get back to his job. He didn't have time to focus on pain.

He was "in the middle of the fight and we are starting to take heavy grenades. … An RPG has gone off on the side of the wall, and he gives me the needle decompression," said Gutierrez.

Seconds later, he was back on the radio. He called off the Hellfire strike and requested the F-16s conduct a show of force.

The deafening roar of the jet fighters as they passed by partially caused the buildings to crumble, yet the insurgents

kept firing. Gutierrez requested another flyby, this time with flares. The insurgents didn't back down, and now the F-16s were running low on fuel.

By the time Capt. Ethan Sabin, an A-10 pilot based at Kandahar Airfield, arrived the situation was grim. Gutierrez was wounded and Sabin "could hear the severity of the situation in his voice." However, Sabin said Gutierrez's words remained crystal clear.

"He saved the lives of all of his men," Sabin said. "As dire as the situation was, had he not been there to talk me on to the target and provide controls for strikes, the team would have likely suffered more casualties."

Lt. Col. Parks Hughes, at the time Gutierrez's commander, called his performance on the battlefield that day "extraordinary," but said "his actions were completely consistent with his character as warrior and an airman."

When Sabin arrived, only the Predator and one F-16 remained on the scene; the other fighter had run out of fuel and had flown back. Sabin sent his wingman to fetch the tanker, which was roughly 170 miles away. He didn't want to leave the guys stranded and no one knew how long the battle would last. It was critical for aircraft to get back into the fight as quickly as possible.

Sabin descended below the Predator's altitude and asked the F-16 pilot to mark the target with the laser on his targeting pod. This enabled him to "instantly get eyes and sensors on the target," said Sabin, who now serves as the chief of weapons and tactics with the 354th Fighter Squadron from Davis-Monthan AFB, Ariz.

Two years after he was severely injured in Afghanistan, Gutierrez considers himself "good to go" and "fully deployable."

Down below, Gutierrez and his team leader, both suffering from gunshot wounds, discussed their options. The shows of force had not worked, and the insurgents had them covered on three sides. They needed a gun run, even if it was "danger close."

Gutierrez requested the first strafing shortly after the Hogs arrived, while the medics were still packing his side with combat gauze and trying to stitch up his wounds. Sabin said he had some reservations about strafing less than 65 feet from friendly forces, but his attack proved to be "spot on." The attack was so close, Gutierrez's right eardrum burst and his left eardrum was severely damaged from the noise.

"Perhaps [what is] most impressive was the exceptionally high degree of technical proficiency with which he directed the air strikes, despite such dire circumstances and great physical pain," said Hughes, the former commander of the 21st STS. "Ultimately, his actions helped to suppress the enemy force and enabled his team to escape the kill zone with no additional casualties." In fact,

Extraordinary Valor In the Face of a Determined Enemy

Air Force Secretary Michael B. Donley has approved the Air Force Cross—the nation's second highest honor for combat valor—for SSgt. Robert Gutierrez Jr., for his "extraordinary" actions in Afghanistan.

"I had the privilege of serving as Rob Gutierrez's commander … from July 2009 to April 2011," said Lt. Col. Parks Hughes, commander of the 21st Special Tactics Squadron at Pope AFB, N.C., where Gutierrez was assigned when he was deployed to Afghanistan for the October 2009 mission.

"As his commander, I cannot say enough about Rob's professionalism and competence as a combat controller and special operations airman. ... His actions are in keeping with the proud heritage of Air Force Special Operations Command, and Rob is representative of the many special tactics airmen who confront our nation's enemies on a daily basis around the world," said Hughes.

Chief of Staff Gen. Norton A. Schwartz announced the award during the Air Force Association's Air & Space Conference at National Harbor, Md., in September.

"Suzie [Schwartz] and I are truly grateful for our airmen and their families, and their role in preserving our liberty—made possible through the highest order of noble service," said Schwartz. "SSgt. Robert Gutierrez Jr.'s extraordinary valor in the face of a determined enemy is a superb example of noble service, and he is clearly deserving of our Air Force's highest military honor."

Gutierrez was the lone combat controller on the ground that day. He was attached to an Army Special Forces detachment that conducted "a high-risk nighttime raid" tasked with capturing "the No. 2 Taliban leader in the region," according to his Air Force Cross citation.

"During the initial assault, the team was attacked with a barrage of rifle and heavy machine-gun fire from a numerically superior and determined enemy force. Sergeant Gutierrez was shot in the chest, his team leader was shot in the leg, and the 10-man element was pinned down in a building with no escape route," reads the citation. "In great pain, and confronting the very real possibility that he would die, Sergeant Gutierrez seized the initiative and refused to relinquish his duties as joint terminal attack controller."

He controlled three "danger close" A-10 strafing runs at less than 30 feet away, while a medic bandaged his wounds.

"After the first A-10 attack, the team medic performed a needle decompression to reinflate Sergeant Gutierrez's collapsed lung, allowing him to direct the next two strafe runs, which decimated the enemy force and allowed the team to escape the kill zone without additional casualties," according to the citation.

"Throughout the four-hour battle, Sergeant Gutierrez's valorous actions, at great risk to his own life, helped save the lives of his teammates and dealt a crushing blow to the regional Taliban network. Through his extraordinary heroism, superb airmanship, and aggressiveness in the face of the enemy, Sergeant Gutierrez reflected the highest credit upon himself and the United States Air Force," states the citation.

White House photo by Pete Souza

President Obama and (below, right) Defense Secretary Leon Panetta thank Gutierrez for his service.

DOD photo by TSgt. Jacob N. Bailey

despite the intensity of the close-quarters battle, there were no US fatalities in the engagement.

The shooting halted for a short time, then picked back up again. Gutierrez called in another strafing run.

"It came through, was on target, also danger close," he said. Time was running out. Buildings were catching fire and the soldiers were standing inside a ticking time bomb. The target building was filled with a "high amount of ammonium nitrate," a highly flammable fertilizer used to make improvised explosive devices, he said.

Bleeding Out

"We decided that we were combat air effective," and the high-value target was dead, so "we were going to use one more pass as a cover for us to exit," Gutierrez said. "I put my kit back on, put my helmet back on, ... [and] gave instructions to the A-10 pilot. He fully obliged [and] came back through. As [he] struck, we pushed out and left the compound."

Determined not to be a burden on his team, Gutierrez got to his feet, with the medic holding his bag and supporting his shoulder.

"Since my ears were out, my balance was completely off. I couldn't really stand up straight," he said. "I kind of would veer off everywhere." Gutierrez called in a medical evacuation for himself, the captain, and two other wounded troops, but he was initially denied. It was too dangerous; they had to leave the area, he was told.

Sporadic gunfire followed them as they stumbled away from the village. After struggling for about two miles, Gutierrez's lung collapsed for a second time. The medic did another needle decompression by the side of a four-way intersection as the A-10s continued to provide close air support and ISR assets fed them vital information from above. When he got his breath back, Gutierrez requested an immediate medevac.

The troops found a muddy, square vegetation field, roughly 300 feet by 300 feet, which had just enough room for one helicopter to land. They secured the site and waited for the medevac, a joint Spanish and Italian team from Herat Airfield, to arrive.

Wet and weak from the loss of blood, Gutierrez waited for an hour-and-a-half. His uniform became soaked and stuck to his arm. At first he thought it was sweat from the difficult trek to the landing zone, or maybe muddy water from the canal he stumbled in as they pushed out.

He had no idea he had lost five-and-a-half pints of blood.

"You just go. I don't have time to be a hindrance," he said. "If I'm dead, I'm just dead weight. Everybody has their own push, their own internal fortitude, and I don't have time to let anyone down." When the medevac bird finally arrived, Gutierrez asked the pilot to follow the rest of the team as they hiked back to their vehicles, where an International Security Assistance Force convoy was waiting to escort them back. Then he passed out.

Over the next day-and-a-half he would be treated at Herat Airfield, at the Craig Joint Theater Hospital at Bagram Airfield—both in Afghanistan—then Landstuhl Regional Medical Center in Germany, before finally arriving at Walter Reed Army Medical Center in Washington, D.C.

It took him about 19 months to recover. Today Gutierrez is back on duty and now serves as an instructor at the Air Force Special Operations Training Center at Hurlburt. He is about 98 percent recovered, although he still has limited movement in his arm. That's "just the nature of the beast," said Gutierrez. "I probably won't get it back, but it's fine. I'm full up. I'm fully deployable. I'm good to go."

And, if a bullet wound, a collapsed lung, and busted eardrums didn't make him quit, a minor loss of mobility won't keep him from deploying again.

"Oh, I assure you I will," said Gutierrez with the same dogged determination that helped save his life and the lives of his team members two years ago. ■

AirSea Battle's Turbulent Year

By Marc V. Schanz, Senior Editor

USAF photo by SSgt Christopher Bush

The anti-access, area-denial threat, vast distances in the western Pacific, and unrelenting budget pressures have forced the largest push for USAF and naval integration since the end of the Cold War.

A B-2 traverses the western Pacific during a strategic presence mission. Long-range airpower is a key component of AirSea Battle.

AirSea Battle, the operational concept recently assembled by the Air Force and Navy, is an ambitious effort with great implications for how the air and sea services plan for, equip, and prepare to fight future high-intensity conflicts.

Months ago, its anticipated rollout seemed imminent. But today, AirSea Battle's relevance, as currently constructed, is uncertain. Daunting budget challenges now call the US military's modernization efforts and technology pursuits into question. Critics have targeted the Air Force's next bomber, and concerns about the health of the Navy's fleet have emerged. AirSea Battle, in whatever form it finally emerges, will rely heavily on warships and long-range airpower.

ASB is born out of a need for the US military to address perceived threats and strategic concerns across the globe, in environments far different from the two largely "low intensity" wars fought over the last decade.

At its core, a finalized AirSea Battle concept will protect America's ability to project power and secure areas of the "global commons"—the sea and air lanes vital to the nation's

USAF photo by SSgt. Gina Chiaverotti-Paige

USAF Capt. Cole Davenport performs a preflight check on a Navy EA-18G Growler. Davenport is the first Air Force electronic warfare officer to graduate from Growler training.

interests—while relying heavily on air and sea superiority.

"Over the last several decades, the US military has developed and maintained an unrivaled ability to establish and maintain air superiority and sea control," said Air Force Chief of Staff Gen. Norton A. Schwartz in an address at the National Defense University in December 2010. The US has been so successful in projecting expeditionary power, both from long distances and from forward bases, that its ability to do so has been largely unchallenged, Schwartz added.

Marry Up

Today, this is no longer the case, senior USAF, Navy, and DOD officials contend. Potential adversaries, such as China, have made broad investments in technology specifically designed to challenge US access in areas such as the western Pacific. New tools such as advanced fighter aircraft, ballistic missiles, a growing blue water Navy, and advanced space capabilities are all designed to thwart traditional American military advantages.

The expansion and proliferation of anti-access, area-denial (A2/AD) technology, and the strategies these tools support, force some serious thinking about how the US invests in its national defense, Schwartz contended. "We face a reality requiring more disciplined spending, efficiency, innovation, and interservice integration and interoperability," he said. AirSea Battle is the first step in facing these concerns, and eventually the idea must be "inculcated" into the military's joint culture. This will be done by addressing institutional changes in service culture. The goal is to normalize collaboration, reach a conceptual agreement on how air and sea forces integrate and operate together, and seek compatible systems.

AirSea Battle emerged from a memorandum between the air and sea services in 2009. The Air Force and Navy realized sophisticated threats involving high technology, networked air defenses, modern ballistic missile, and sea and air capabilities, and anti-space weapons required the services to marry up many of their respective strengths. The plan, which has received a great amount of attention since the 2010 Quadrennial Defense Review, mandated the creation of an operations concept to protect US and allied access to certain areas in the world while also protecting forward-based assets and bases. This type of operating environment would be drastically different from the largely permissive one seen in Iraq and Afghanistan, and necessitates overcoming anti-access and area-denial capabilities.

Both services are said to be fully on board with the plan, and to weed out duplication, officers from each branch have been cleared to see "all the black programs," or classified projects, of the other service as the ASB plan has matured.

Adm. Michael G. Mullen, outgoing Chairman of the Joint Chiefs of Staff, cited the ASB effort as an example of a new approach to an emerging threat environment, made all the more important because of the new budgeting realities the military will face in the coming years.

"No one can do it alone," he said during the disestablishment ceremony for US Joint Forces Command in Suffolk, Va., Aug. 4. "And quite frankly, no one can afford to do it alone, either," Mullen said. AirSea Battle has led the Air Force and Navy to set aside parochial interests to overcome a serious 21st century threat scenario. "This and many other joint approaches would have been almost unthinkable a mere generation ago," he said.

The plan had been vetted by both services by June, and is awaiting bless-

USN photo by Petty Officer 2nd Class Kevin S. O'Brien

USAF Col. Paul Sheppard (r) greets the Secretary of the Navy, Ray Mabus (l), and USAF Lt. Gen. Herbert Carlisle in Antarctica. Joint operations are already the norm, but AirSea Battle would bring the Air Force and Navy even closer together.

ing from the Office of the Secretary of Defense (see box). Service officials have been predicting a formal release of more information on the doctrine for months as well.

As early as Feb. 17, Lt. Gen. Herbert J. Carlisle, the Air Force's deputy chief of staff for operations, plans, and requirements, had said a public document explaining the outlines of ASB in detail would occur "possibly within two weeks." The now-retired Chief of Naval Operations Adm. Gary Roughead told reporters in Washington in March he expected to release details on ASB in "a few weeks," as the service Chiefs of the Marines Corps, USAF, and Navy were "basically done" with their work on the concept. The majority of the plan will remain classified, he added, "as it should be."

Fiscal Constraints

As time has dragged on, and the fiscal picture darkens, budget considerations have increasingly colored public discussion of AirSea Battle (and the frequency of the public pronouncements on the topic have dropped off as well).

The Air Force is facing a situation similar to the post-Cold War budget drawdown of the early 1990s, said Air Force Vice Chief of Staff Gen. Philip M. Breedlove during a July 20 speech in Arlington, Va. Then, the service had just emerged from a strong period of Reagan-buildup weapons modernization. Today, the military is coming out of a decade of war and operating aged platforms.

"We're in a tough spot," Breedlove said. "We see near-peers or peer competitors beginning to build similar capabilities [to USAF] in stealth, … long-range strike, [and] missile technology. ... These countries have money and they have a very deliberate plan which they are good at executing, and they will bring pressure to our advantages across the world, all at the same time."

The long-term fiscal constraints faced by USAF will challenge the service's ability to remain ahead of the technology curve. In some cases, the Air Force will not be able to "buy its way through" its difficulties, Breedlove said.

Funding profiles in DOD's research and development accounts—a key indicator in developing new USAF and naval platforms to meet requirements—are already showing the strain. According to a July analysis of the Pentagon's 2012 budget proposal by the Washington-based Center for Strategic and Budgetary Assessments, the budget is shifting research, development, test and evaluation dollars away from early research activities into pursuits that develop and demonstrate more mature capabilities. As a share of

An ASB Summer

The AirSea Battle rollout was repeatedly delayed over the course of 2011. According to Office of the Secretary of Defense and Air Force officials, new Secretary of Defense Leon E. Panetta is reviewing the ASB plan—a sort of executive summary of the overall operations concept (which, as of early September, remains classified).

However, then-Vice Chief of Naval Operations Adm. Jonathan W. Greenert, now the CNO, told the House Armed Services Committee in late July he expected a release of unclassified portions of the plan soon.

The AirSea Battle concept was signed by the USAF, Navy, and Marine Corps service Chiefs, and the Air Force and Navy Secretaries on June 2 and "forwarded to the [Secretary of Defense] for approval," the Air Force said in a brief official statement Aug. 2.

Previous Defense Secretary Robert M. Gates, who departed July 1, had the document in his possession and had told senior Air Force officials he would sign it before his departure. In late July, however, Air Force and DOD officials privately indicated the concept was held up in OSD's policy shop, and Gates did not sign the document before leaving the Pentagon.

Air Force and defense officials have indicated both publicly and privately that there are strong international political considerations at play. Spin "concern" has likely contributed to the delay in officially rolling out the AirSea Battle concept. In late July, USAF officials privately indicated that there is a great deal of concern within OSD about how China will perceive and react to the concept.

On Aug. 24, OSD released its annual "Military and Security Developments Involving the People's Republic of China" report, which promptly drew a rebuke from the Chinese Defense Ministry. It derided the document for "groundless suspicion."

Senior officials frequently couch their comments about AirSea Battle's main aim—to blunt the Chinese military's increased capabilities in the Pacific—by noting other scenarios where ASB could be employed. These include potential threats such as Iranian action in the Strait of Hormuz and a variety of scenarios involving a war with North Korea.

"When you talk about AirSea Battle, it's not all China. It really is about the anti-access capabilities that tend to proliferate in many areas" and making sure the US military can operate in those areas, said Adm. Gary Roughead, then Chief of Naval Operations.

USN photo by Mass Comm. Spc. 1st Class Nathanael Miller

A Navy landing signalman guides an Air Force HH-60G Pave Hawk as it takes off from the deck of USS* Ponce *during operations off the coast of Libya.

USN photo by Oyaol Ngirairikl

Sailors tour a B-2 stealth bomber at Andersen AFB, Guam. USAF and the Navy are already coordinating exercises to follow ASB concepts.

the RDT&E budget, early research has fallen from 21 percent in Fiscal 2001 to 16 percent in 2012. Overall RDT&E funds are slated to further decline to $65 billion in 2016, down from a peak of $83 billion in 2009.

Despite the lack of information, there is some evidence USAF and the Navy are already coordinating their exercise and experimentation plans to match up with ASB concepts. The Air Force's Joint Expeditionary Force Experiment franchise, a series of live, virtual, and constructed experiments run by the Air Force Command and Control Integration Center, plans on focusing on AirSea Battle concepts with the Navy in Fiscal 2012.

The Marine Corps is also planning on beefing up exercising for amphibious operations in the near future. Lt. Gen. Dennis J. Hejlik, commander of Marine Corps Forces Command in Norfolk, Va., told reporters in Washington in June the Navy and USMC plan to conduct exercise Bold Alligator 2012 early next year to build and exercise fundamentals of amphibious operations. This will be one of the first opportunities for marines to familiarize themselves with concepts laid out in ASB, he said.

"We will do some of the experimentation there and see if we can take that concept ... and practicalize [it]," Hejlik said, noting the Marine Corps didn't get fully involved in the process of building the plan until January 2011. "What we're really looking at ... is the assured access part, and that's a big part of AirSea [Battle]," he said, adding that it will take time to incorporate new concepts into Marine Corps operations.

Growing budget worries, and the impact on force structure to carry out future training and cooperation activities, are leaving many questions about future capabilities. The Air Force's budget troubles, and hiccups in the development and fielding of both the F-22 and F-35, have forced the service to adjust force structure plans—particularly in its fighter fleet. As such, there are implications for how much combat power could be brought to bear in any near-term A2/AD fight, USAF officials contend.

Core USAF Contributions

"The high end fight has a necessity to it, and there is a 'contested' environment that has a necessity to it," said Col. Timothy Forsythe, the chief of the combat aircraft division at Air Combat Command's requirements shop, in a June interview. Differences between a permissive, a contested, and an A2/AD fight are driving some careful decisions for ACC, Forsythe noted, as there is about a 300-airframe fighter gap between its planned force structure and requirements now on the books. These requirements are sure to change as AirSea Battle is refined.

"We are flying these aircraft beyond their service life," Forsythe said of USAF's legacy—or "proven," as he calls them—fleet. The health and future viability of additional F-15s and F-16s are getting a harder look, as USAF considers modifications ranging from

Xinhua photo

China is refitting this aircraft carrier, bought from Ukraine, for research, experiments, and training, including pilot carrier-landing qualifications.

structural reinforcements to sensor and radar upgrades to help fighters stay relevant to future conflicts.

While modernization plans are under way, many of the assets in the fleet won't get USAF where it needs to be vis-a-vis anti-access threats, Forsythe noted. This is what makes the state of the F-35 and F-22 fleet so important to future threat planning.

The Air Force is not alone in budget woes, as concerns about the F-35 and various combat ships could affect naval force structure as well. Development troubles with the Navy's Littoral Combat Ship program have aroused the ire of Congress, with Sen. John McCain (R-Ariz.) noting in July that the Navy could be the service "most adversely affected" by anticipated budget cuts, due to its handling of LCS. Cuts could also affect the sea service's plans for modernization of its ballistic missile submarine fleet and future carriers.

But a core Air Force contribution to the AirSea Battle plan is the next generation long-range strike platform—what is now known as the long-range bomber. One of the Pentagon's critical needs in pursuit of its ASB concept is for credible, enduring, long-range strike capability. A May 2010 study by the CSBA, citing the need for an AirSea Battle plan to counter the deteriorating military balance in the western Pacific, charged that the Pentagon had until then underfunded LRS development.

Some senior Pentagon officials have continued to deride the necessity for such a platform, with the then-vice chairman of the Joint Chiefs, Marine Corps Gen. James E. Cartwright, saying he was known as a "bomber hater" in a July conversation with reporters in Washington. He questioned the need for a manned bomber in a future force structure and admitted throwing the gauntlet down to get the Air Force to prove a bomber is necessary. The Air Force plans on fielding a fleet of between 80 to 100 of the bombers, and while some requirements are finalized, a program office is not up and running yet—and much of the program remains classified, the Air Force has stated.

The renewed focus on the mission—the global projection of strategic combat power from the air—comes at a difficult time. Senior leaders admitted this even as the ASB concept was still under assembly last year. Leaders frequently talked of it as a "family of systems" rather than any one program, foreshadowing the impetus behind the marriage of naval and USAF long-range strike capabilities in the ASB plan.

USN photo by Mass COmm. Spc 3rd Class Benjamin Crossley

An F/A-18 Super Hornet launches from the deck of USS* John C. Stennis. *Super Hornets will participate in Bold Alligator 2012, slated to build and exercise the fundamentals of amphibious operations laid out in AirSea Battle.

Resources are not keeping up with requirements growth in the long-range strike portfolio, said Lt. Gen. Christopher D. Miller during a November 2010 speech in Shreveport, La. Having spent several years emphasizing the nuclear mission, the Air Force now needed to once again approach LRS from a "mainly conventional perspective."

ASB Drivers

"Getting the balance right, … so we end up with a competent, fully resourced family of systems, is something my team is focused on," said Miller, the Air Staff's head of strategic plans and programs. The "family" concept would marry together Air Force capabilities, across many systems, and airmen will have to think critically about how to put all of these elements together to generate the "maximum effect." The LRS family must possess enough range and payload to overcome tough anti-access environments.

In July, Carlisle said the new bomber will be able to prosecute tasks from electronic attack to intelligence-surveillance-reconnaissance in addition to performing a wide spectrum of strike missions. "I don't necessarily think you're going to make four different airframes," he said in an interview with *Air Force Times*. "There is either the ability to plug and play, or the same platform with different capabilities being ISR, EA, or kinetic attack." The bomber would not be modular exactly, but could carry specific payloads, depending on the profile of the strike mission.

In more recent statements, senior service leaders have stressed affordability of the new bomber, especially since the services scrubbed their budgets before submitting them to OSD this fall. The bomber must be built with "proven technology," Breedlove said, and development must start today to be fielded when needed (by the early 2020s, by most estimates).

Still, in July, Breedlove did not mince words about the need for a new penetrating bomber—calling it a service "core capability," and its development and deployment into the operational force a necessity. The Air Force must maintain the ability to strike targets across the globe from the air, he said in a July 20 speech. He called it a valuable deterrent and a capability the nation depends on in a range of scenarios, from Iraq to Afghanistan to Libya. "We will continue to need its capability into the future," he said, especially in anti-access and area-denial situations.

The "pacing threat" from China is real, and a real driver for AirSea Battle concept, said Carlisle during AFA's Air Warfare Symposium. The anti-access, area-denial threat, the vast distances involved in the western Pacific, and unrelenting budget pressures have forced the largest push for USAF and naval integration since the end of the Cold War. ■

Verbatim

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By Robert S. Dudney

Air Guard Worries

"I'm very concerned that, just because of the age of our fleet, some people might discard our Air Guard as out-of-date and incapable of being recapitalized. I'm not willing to accept that. But I know intuitively that that's going to be a tremendous challenge for our Air Guard."***—USAF Gen. Craig R. McKinley, Chief of National Guard Bureau, in*** **National Defense,** ***September.***

Presidential Impulse

"In due course, President Obama will declare a victory of sorts for his Libyan strategy—just before he starts cutting the US military. Last year's cuts and the recent Budget Control Act have already reduced defense spending more than half-a-trillion dollars. The Pentagon is preparing for even deeper cuts at the direction of a White House seeking money in the budget for added domestic spending. The President's impulse to slash the military goes against the principal lesson from our engagement over Libya—that our military cannot do more with less."***—Rep. Howard P. McKeon (R-Calif.), chairman of House Armed Services Committee, RealClearPolitics.com, Sept. 3.***

Some Choice

"Without adequate funding, we are destined to go down one of three paths: We get smaller, we get weaker, or we get smaller and weaker."***—Retired Lt. Gen. David A. Deptula, former Air Force intelligence chief,*** **Air Force Times,** ***Aug. 15.***

Specter of the 1970s

"The approach that we have taken is to preserve the readiness of our Air Force as a prime imperative—that whatever size we end up, that we are going to be a ready, well-trained, highly motivated, and supremely capable force. ... It is preferable to have a smaller superb force than a larger hollow one. Those of us who have been around a while remember what it was like to schedule three airplanes to make one, or walk down the line and see airplanes with no engines, or fewer engines than they were supposed to have. We do not want to go back to those days."***—Gen. Norton A. Schwartz, USAF Chief of Staff,*** **Defense News,** ***Aug. 29.***

Bad News for the Taliban

"I will tell you 2010 was a very bad year for our enemy, and 2011 is going to be even worse for them."***—USMC Gen. James N. Mattis, head of US Central Command, remarks at Quantico, Va., Aug. 30.***

Get on the F-35 Train

"I am concerned that the DOD's failure to sufficiently defend and advocate for the F-35 program has enabled and even invited unwarranted criticisms from many corners, including calls for partial or complete cancellation of the program. It is my hope that, as deputy secretary of defense, you would be a champion of the F-35 program, using your voice to remind Congress that this weapon system is one our nation cannot do without. I strongly encourage you to step up your defense of this key program."***—Sen. John Cornyn (R-Tex.), letter to deputy secretary of defense nominee Ashton B. Carter, Aug. 24.***

How Was Club Med, Mike?

"I was burned out from months of tough battles, but I underestimated the resistance of reactionary forces. I should have postponed my vacation."***—Last Soviet President Mikhail Gorbachev, who was out of town when foes in August 1991 staged a coup d'etat attempt,*** **Washington Post,** ***Aug. 21.***

The Hollywood Boost

"The White House is ... counting on the Kathryn Bigelow and Mark Boal big-screen version of the killing of bin Laden to counter Obama's growing reputation as ineffectual. The Sony film by the Oscar-winning pair who made 'The Hurt Locker' will no doubt reflect the President's cool, gutsy decision against shaky odds. Just as Obamaland was hoping, the movie is scheduled to open on Oct. 12, 2012—perfectly timed to give a home-stretch boost to a campaign that has grown tougher."***—Columnist Maureen Dowd,*** **New York Times,** ***Aug. 6.***

Keeping the Faith

"There are a lot of [budget-cutting] ideas on the table, ranging from retirement changes to health care and allowance for housing. The challenge for the Chiefs is trying to get a sense of which things can you change without breaking the faith of those who decided to serve and which things [you can] change without negatively impacting retention in the next decades."***—Erin C. Conaton, undersecretary of the Air Force. GovExec.com dispatch, Aug. 16.***

Next Up: The Hollow Force?

"I don't think you have to choose between our national security and fiscal responsibility. ... The President and Bob Gates before me basically decided pretty much the parameters that we would have to be looking at, and we're within that ballpark with what the Congress just did. If they go beyond that, if they do the sequester, this kind of massive cut across the board which would literally double the number of cuts that we're confronting, that would have devastating effects on our national defense. ... Very simply, it would result in hollowing out the force."***—Secretary of Defense Leon E. Panetta, remarks at National Defense University, Washington, D.C., Aug. 16.***

I Broke No Law

"Well, you know, in someone's eyes, maybe I broke the chain of command. But from the standpoint of the law, no. And so I'm very comfortable with where I was. My job is not to come up with a strategy and say, 'This is the answer.' My job is to give the President and the Administration a broad enough range of choices."***—Retired USMC Gen. James E. Cartwright, former JCS vice chairman, on claims he circumvented superiors by working Afghan war options with Vice President Joseph Biden, "The Cable," Sept. 2.***

Tell Me Another One

"I don't think the supercommittee will be [looking at] defense. Defense cuts are the fallback."***—Former White House budget director Alice Rivlin, remarks at Brookings Institution forum in Washington, D.C., Aug. 12.***

Stand and Deliver

"If we want an all-volunteer force, the bottom line is that we're going to have to take care of these people who were willing to do what the bulk of people weren't willing to do. Going to war is dangerous—you can get killed doing it. And the question is, are the American people willing to recognize the sacrifices of these young people?"***—Retired Gen. Gordon R. Sullivan, former Army Chief of Staff. Associated Press dispatch, Aug. 19.***

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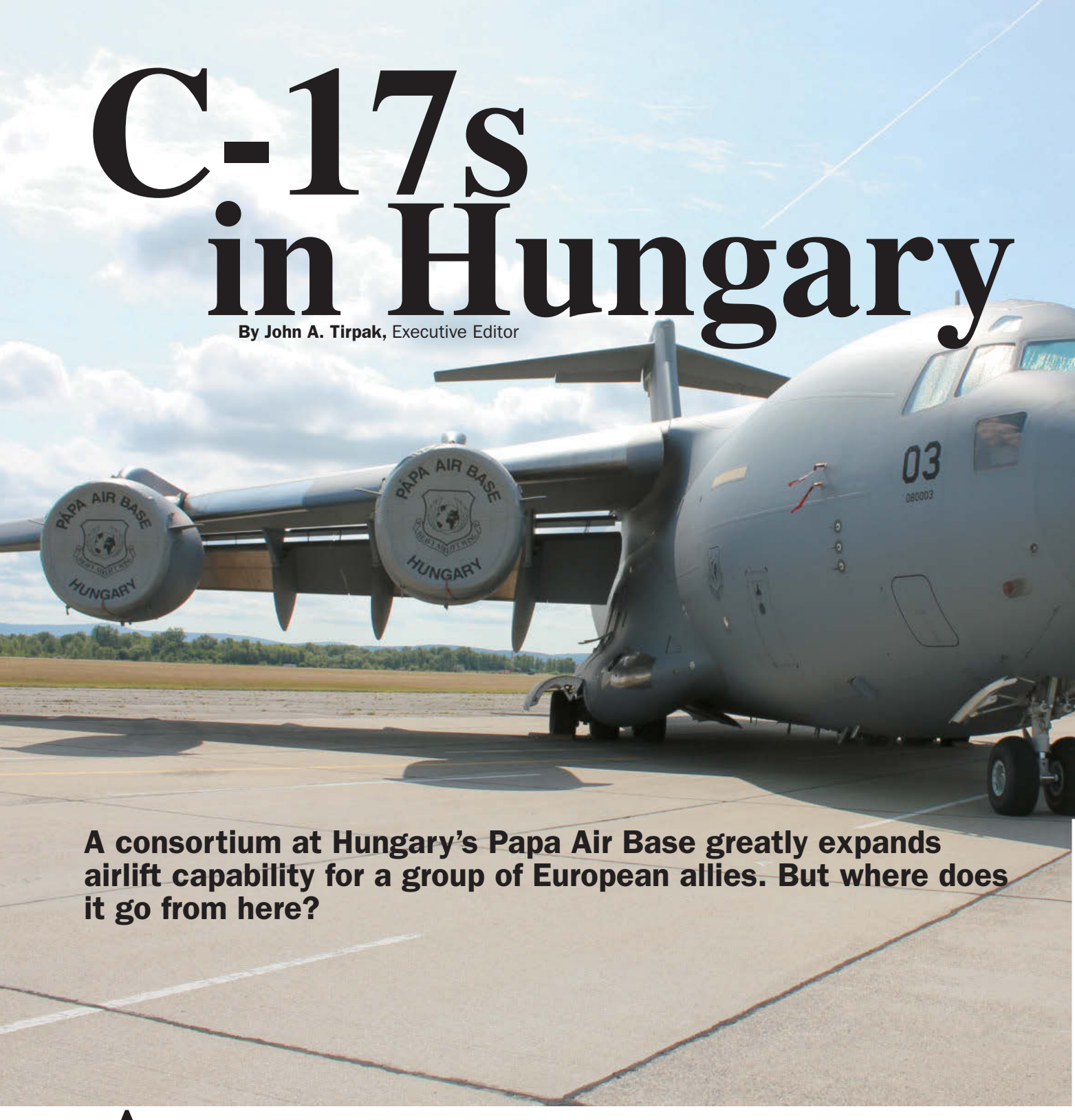
C-17s in Hungary

By John A. Tirpak, Executive Editor



A consortium at Hungary's Papa Air Base greatly expands airlift capability for a group of European allies. But where does it go from here?

An experiment in military airlift, playing out at a former Warsaw Pact base in central Hungary, is being watched with great interest by many members of NATO.

Twelve nations have come together to jointly own and operate a trio of C-17 heavy cargo aircraft, sharing flying hours and costs according to their various needs. If the experiment succeeds, it could be a model for how NATO members, pressed by withering defense budgets, can buy military capabilities they must have, at a price they can bear.

So far—and to the surprise of many—the experiment seems to be a success. The arrangement, called the Strategic Airlift Capability (SAC), is unique. The consortium comprises 10 NATO members and two other countries.

Though it has a military hierarchy, it is not under NATO command, nor is it an entity of the European Union or the United Nations. The SAC is controlled by a steering committee (chaired by a US Air Force general officer, currently Maj. Gen. Mark O. Schissler) that allocates flying time based on participant requests and contributions. Its operational organization, called the Heavy Airlift Wing (HAW), has been led by USAF officers, currently Col. Keith P. Boone. His successor is scheduled to be a Dutch Air Force officer.

Staff photo by John A. Tirpak

A C-17 on the ramp at Papa AB, Hungary.

USAF photo by SrA. Tabitha M. Lee

USAF photo by TSgt. Wayne Clark

Top: A HAW C-17 approaches the boom of a 100th Air Refueling Wing KC-135 during a training mission over Germany. Here: TSgt. Joseph Johns, a USAF crew chief deployed to Papa, talks with a SAC C-17 flight crew on an airfield in Lithuania. Many HAW missions fly with no USAF crew aboard.

Staff photos by John A. Tirpak

Facilities at Papa range from Cold War-era derelicts (top) to a recently updated control tower (above), maintenance hangar, and administrative building.

"I suspect there were a lot of skeptics" that the consortium approach would work, said Schissler, head of plans and policy for US European Command.

Speaking during the HAW's first change-of-command ceremony in June at Papa AB, Hungary, where SAC is headquartered, Schissler—the chair of the SAC steering committee—ran down a list of the HAW's achievements. He noted that the wing went from concept to the start of base operations "in just two-and-a-half years" and has since amassed more than 4,500 flying hours without a safety mishap. "Way too many" of those hours were in combat situations in Afghanistan, Schissler said.

This achievement is recognized as "truly amazing" by diplomats and military professionals who thought the details of running a military entity by international committee—each member having its own foreign policy and security objectives—would be impossibly complicated, he added. "It's only been five years" since the concept was first broached, Schissler said. He paid tribute to the members for their commitment to make the concept work in spite of "the political upheaval of the last few years," chalking it up to each country contributing "some very talented people" to the enterprise.

The SAC consortium was conceived in 2006, when a number of NATO nations identified a need for long-range, outsize cargo capacity beyond the performance of tactical airlifters, such as the C-130. Sweden, a neutral nation belonging to the EU but not NATO, was deep in negotiations to buy C-17s from Boeing. It needed a capability to move people and large equipment directly to forward locations half a world away to meet its UN peacekeeping commitments. However, the cost of buying and supporting the aircraft on its own was a serious financial challenge for Sweden.

Other nations facing a similar requirement wondered whether a group buy was feasible. NATO looked at an Alliance purchase of heavy lift aircraft, taking as precedent its common acquisition, manning, and operation of the E-3 AWACS. However, because Sweden—and later Finland—were likely participants but not NATO members, the arrangement moved outside the Alliance.

Cultural, Language Barriers

There was some urgency to do a deal. Boeing had announced that, without further orders from the Air Force or foreign buyers, it would begin shutting down the C-17 production line. It was the last chance to "get in on" the C-17 before the line closed.

Eventually, a deal was struck. The charter members in the SAC were the NATO members Bulgaria, Estonia, Hungary, Lithuania, the Netherlands, Norway, Poland, Romania, Slovenia, and the United States, plus non-NATO Partnership for Peace countries Sweden and Finland.

The US contributed one of three C-17s, a third of the personnel, and a third of the cost. Hungary offered Papa—an underused base fairly central to member countries in Eastern Europe—as the unit headquarters and operating location. Most participants provide aircrews; some of the less affluent countries provide security forces and other personnel for the base. The three C-17s bear the markings of Hungary and the minimalist identifier "SAC."

Since going operational, the HAW has routinely moved personnel and supplies from Europe to NATO bases in Afghanistan, but has also taken relief supplies to Pakistani flood victims and flown to Haiti in the aftermath of the powerful 2010 earthquake. The ability of countries such as Hungary to make a gesture like that to Haiti or Pakistan is a source of great national pride, said HAW officials.

The HAW is "a great arrangement for every country that belongs to it," Schissler observed, "because we gain something that none of us have enough of, which is strategic airlift."

For the smaller countries, he said, "it brings them access to a whole group of nations on a regular basis." There is also "some prestige being associated with this multinational effort. … It's absolutely historic. You can't find another unit that stood up and flew combat a month after getting their first airplane. It just doesn't happen."

The US provides the consortium with crew training at its C-17 schoolhouse—Altus AFB, Okla.—through the Foreign Military Sales program. Because the C-17 is an American aircraft and crews are schooled at an American base, initial regulations and procedures were grafted from USAF wholesale. That is gradually changing, said Lt. Col. Christian Langfeldt, the HAW's director of operations.

Langfeldt, of the Norwegian Air Force, said the principal challenges facing the

unit are "the culture [and] the language barrier. We have to translate everything two times."

There are other cultural hurdles. Norway's air force, for example, has no enlisted personnel, only officers. Some countries' personnel are forbidden to work more than 40 hours a week, and there are different rules regarding crew days and crew rest periods, for example. "The regulations are different for all the varying countries," Langfeldt said. "You have to understand [that] things are different, [and] how you receive words is important."

USAF regulations are gradually being shifted to account for the HAW's unique mix of people and national styles. "We're making it our own," he said. "We try to show the Americans that it is possible to do it in different ways."

Langfeldt said the various participants have sent quality people to the unit. They want to "put their best foot forward," he said. Pilots, though, come with varied backgrounds; some with more experience, some with less. "Some of us have never flown a brand-new airplane," Langfeldt noted. However, "the job is new and has international importance. It's an opportunity for all of us. …We're all learning together."

Routine is important, and the runs to Afghanistan represent the most common mission flown by the HAW, Langfeldt noted. "Once or twice a week, we go to Afghanistan. We go to all the key places in the [area of responsibility]."

He pointed out that "crossing into Afghanistan is crossing into combat," and not all participants are in that fight. "All the nations have the prerogative to opt out of participating in a mission," he explained. "In some instances, yes, some partners won't do a mission. Some crew members can't be assigned to some missions because of a national sensitivity. Some nations have a list of places their people can't go."

Schissler said such national sensitivities and prohibitions are things that must be worked out at the committee level. While no member can veto a mission, they can refrain from participating. Flying hours allocated to each member have to take these sensitivities into account.

The HAW only has about 140 personnel, drawn in various numbers from the participants. At Papa, a wide variety of uniforms are worn. There is no HAW uniform, and salutes are usually reserved for a higher-ranking person from one's own air force. Boone can direct personnel in the unit, but he cannot impose discipline on anyone who is not in the US Air Force, nor can he order anyone to support a mission that person's country has not approved.

The steering committee meets four times a year for a heavy series of meetings to plan the use of the aircraft, which are budgeted for 3,165 hours a year, or roughly 1,000 hours per airplane, although the actual hours flown in 2010 was about 2,800 hours across the fleet. It tries to plan the use of the aircraft as far ahead as possible, but some wiggle room is built in to accommodate pop-up requirements. In the event of a conflict that can't be resolved, the nations have agreed to let the HAW commander make the final call.

So far, he has not had to serve as tie-breaker.

Papa's Shortcomings

A rail line runs adjacent to the base, and much heavy gear can be brought to the airplanes for transport, although one senior officer described the condition of the rail trans-shipment capability as "suboptimal," because the train freight ramp can't bear the weight of some heavier cargo. An upgrade is on the list of "things to do."

There is plenty of room at Papa for the C-17 operation. The base was sized to receive large contingents of Soviet and Warsaw Pact aircraft in the event the Cold War turned hot. There are many camouflaged hardened aircraft shelters at the base; these are now used for storage. The other main base tenant carries out a helicopter mission using only a fraction of the space, and a few old MiG-21s are parked on the apron.

Some of the buildings at Papa are derelict and covered with graffiti, but the principal maintenance building is shiny white and blue, bearing the corporate logo of Boeing, which provides contractor logistics support for the HAW's C-17s. About 50 Boeing personnel work at the base and perform nearly all of the aircraft maintenance, although HAW personnel serve as crew chiefs. Several other buildings have been renovated for living, dining, and office support functions.

HAW personnel privately acknowledge Papa's main shortcoming is the lack of a hangar that can enclose an entire C-17. The wind and cold of the Hungarian cornfields surrounding Papa can make maintenance on the big airplanes a trial in winter.

"Think Minot," one USAF member of the HAW said, referring to the Air Force base in North Dakota. "Imagine Minot in winter without a hangar to work in." The issue has the attention of the steering committee, and is stimulating a debate about whether to stay at Papa, due to a financial windfall coming to the SAC.

The HAW's three aircraft were bought in a hurry because Boeing was getting ready to shut down the C-17 production line. Since then, however, Boeing has gone on to build dozens more of the cargo airplanes, both for the Air Force and foreign customers. India, for example, recently signed on to buy 10, and the backlog will take a few years to work off. Since the price was based in part on the amortized cost of C-17 development and production run, the SAC could get a refund from Boeing and the FMS program of anywhere from $90 million to $130 million.

A C-17-sized hangar on the base is estimated to cost about $44 million to build. It would be worth the investment since the SAC was structured as a 30-year, $5 billion operation, and at present, the aircraft must make the journey to Jackson, Miss., to have major checks performed. Another nice-to-have capability would

USAF photo by TSgt. Wayne Clark

Airmen unload supplies from Poland, delivered by a HAW C-17 to Bagram, Afghanistan. With other stops in Hungary and Lithuania, this mission spanned 7,000 miles in three days.

Staff photo by John A. Tirpak

The SAC could well serve as a model for other jointly owned and operated assets. Tails of the three aircraft wear Hungary's colors to recognize the unit's host.

be a simulator at the base. Flight crews must go to Jackson for upgrades and full-motion emergency procedures training and refreshers.

However, the windfall could also get the consortium halfway to buying a fourth airplane, which all the members agree they could certainly use.

Another consideration is Italy. Italy nearly signed on to be a SAC participant, and its strategic lift needs have not diminished. "There is talk," said one SAC member, "that Italy might want to come in [to the group] and offer us a base to operate out of."

If Italy joins—and if a sufficiently large hangar is available at a new base, or if the climate is suitably more forgiving there—the steering group might lean closer to buying the fourth airplane than a hangar at Papa. "We are thinking about this slowly and carefully," one steering group member said. "Building a hangar here [at Papa] would make us 'married' to this base."

A fourth airplane would smooth some of the bumps of operating with such a small contingent of aircraft.

Col. John D. Zazworsky Jr., former HAW commander, said in a speech at the change-of-command ceremony that he was leaving incoming commander Boone "one aircraft hard broke in Afghanistan, one aircraft hard broke behind me, and six priority missions that have to go by Tuesday."

"Good luck," he joked. Zazworsky reassured his relief that the situation was abnormal, however.

The SAC charter does not exclude new members from joining, and another steering group member said that there are a number of nations, already "sold" on the idea of the consortium, that may ask to join. Though the committee member declined to name any nations that have asked formally for information, he noted that Germany and France will have to wait an extended period to get their EADS A400s in service. The A400—the European prop-driven heavy lifter sized between the C-17 and the C-130—is to add strategic airlift capability and replace C-160 Transalls, which will retire before their replacements arrive.

A Valid Model

Schissler said joining the SAC could "bridge" those countries until they get their new aircraft.

"I think it's likely" that more nations will join the SAC, he said.

"There [are] indicators out there that other nations that aren't currently members are considering the benefits of the consortium, a shared airlift capability. And that's good for the HAW. They could absorb some new members."

Adding more members would complicate the division of flying hours, but the group has shown it's up to the challenge, he said.

"Because this is an operational reality," the steering committee finds ways "to make things work and do them safely, and [finds] ways to agree. They are all equally invested at different values, depending on the size of their contribution, … but they're fully invested to the degree they can be, ... in money, people, and the operation itself."

Schissler said the fact that the HAW works is "remarkable."

"It's hard enough to fly an airline. They're flying military airplanes and they're doing it every day." He added that, despite the NATO joint program on E-3 AWACS and another in the works for airborne ground-mapping radar and moving target indication, "there is no exact analogy for this. It is one of a kind."

Even though the HAW has had its full complement of three aircraft for some time now, the unit has not been declared at full operational capability. That determination will be made by the commander only when a series of criteria that go well beyond having all its airplanes has been fulfilled. Papa has no certified de-icing capability, for example, which means the base can't serve as a transient alert facility. Eventually, such deficiencies will be corrected.

If more nations in Europe wanted to get in on strategic airlift, they would probably join the SAC, Schissler said. However, if European countries hard-pressed by shrinking defense budgets wanted to create a similar shared-use arrangement for another kind of capability—fighters or remotely piloted aircraft, for example—they would probably have to create separate consortia.

"There wouldn't be any direct relationship to the SAC because it's a one-of-a-kind entity. It serves as a model."

A tactical airlift consortium could follow the Papa pattern almost exactly, he said; the only difference would be the size of the manifests and duration of the missions.

Creating a fighter consortium would be harder, Schissler admits, because the members would have to work out who can give attack orders, and under what conditions; the rulebook would be far more elaborate than it is just for moving cargo.

Gen. Mark A. Welsh III, commander of US Air Forces in Europe, said in a June interview that other countries are watching the Papa experiment closely.

"Most of the countries [in NATO] have taken a look at the Heavy Airlift Wing and said, 'You know, that is a model for the future.'"

To get started, Welsh said the countries have to openly state "that they have a need" and the ability to "build capability in that area—whatever consortium area that is, whether it's [intelligence-surveillance-reconnaissance] or tactical airlift or air policing capabilities."

Schissler asserted, "The model is valid. That's something we proved, here. It is possible to set up a multinational organization. … Pool your money, your resources, your people, talent, and your training, and everybody brings contributions [and] you can make it work." ■

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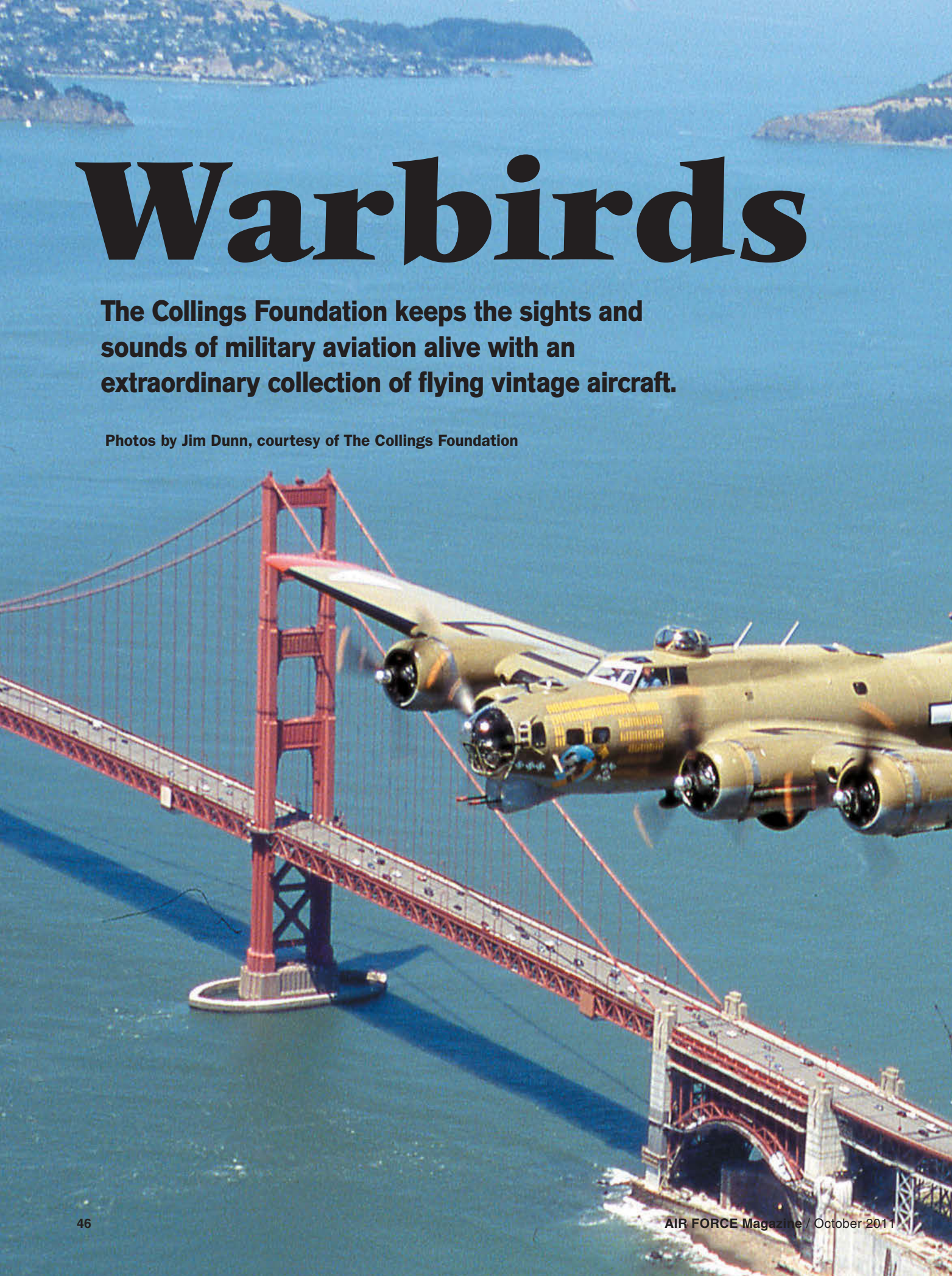
The Collings Foundation keeps the sights and sounds of military aviation alive with an extraordinary collection of flying vintage aircraft.

Photos by Jim Dunn, courtesy of The Collings Foundation



Two stars of a "living history" collection pass San Francisco's Golden Gate Bridge. At left is a B-17G painted as the World War II bomber Nine O Nine, *and at right is the only flying B-24J Liberator, painted as* Witchcraft.

Created in 1979, the Collings Foundation was set up to help Americans learn about their aviation heritage by seeing and hearing for themselves the machines that fought in World War II, Korea, and Vietnam. The foundation's 24-airplane collection—many of them the sole privately held flying examples of their type—tours the air show circuit and provides static displays at aviation events. ***I1I*** *At a 2010 Oshkosh, Wis., air show, an F-4D Phantom, flanked by an A-4 and TA-4J Skyhawk, performs a Vietnam-era flyby.* ***I2I*** *This two-seat Me 262 replica is one of the newest elements of the Collings collection.* ***I3I*** *B-17G* Nine O Nine *flies past Mount Shasta in California.* ***I4I*** *The Korean War-era collection includes this AT-6F, based at Collings' Stow, Mass., facility.* ***I5I*** *The Fiesler Fi-156 Storch was used for observation and even as an air ambulance.*

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I1I Tondelayo, *a B-25J Mitchell, awaits its next mission at Fox Field in Lancaster, Calif. It honors a B-25D that sank a 6,000-ton freighter in sea action, while its turret gunner shot down five defending Japanese aircraft. Heavily damaged, the original* Tondelayo *was repaired and returned to action.* ***I2I*** *The newly restored Me 262 Schwalbe (Sparrow). The Me 262 was the first operational jet fighter.* ***I3I*** *Beside a Collings B-17, World War II B-17 crewman Harold Woloz holds a photo of his bomber crew. Fans can take tours of the Collings aircraft, see them in action, and sometimes get firsthand accounts from veterans.* ***I4I*** *At an annual re-enactment in Stockton, Calif.,* Witchcraft *drops two dummy bombs. Although more than 18,000 B-24s were built, only about a dozen intact models survive.*

I1I *The star of the Vietnam-era collection is the F-4D, here lifting off at an Oshkosh air show in 2010. The aircraft depicts that flown by Vietnam War ace Robin Olds during the famous Operation Bolo campaign. Congress had to give special permission to own and operate a civilian Phantom, because the type is still a front-line fighter in some parts of the world.* ***I2I*** Nine O Nine *honors an Eighth Air Force B-17 that survived 140 missions in World War II Europe, believed to be the unit record. The Collings version is complete with its Norden bombsight.* ***I3I*** *The two-seat TP-51C,* Betty Jane, *escorts* Witchcraft *over a California bombing range.* ***I4I*** *Many pilots earned their wings in an open-cockpit Boeing PT-17 biplane such as this colorful model.* ***I5I*** Witchcraft *and* Nine O Nine *fly in formation.*

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I1I Witchcraft *makes a run during a 2009 Collings Foundation "Wings of Freedom" tour. The aircraft served both the US and Britain in the Pacific theater; at war's end, it was abandoned in a boneyard in India, but was resurrected and used by that nation's air force. Again retired, it was bought by a collector in 1981 and acquired by the foundation's namesake, Robert Collings, in 1984. It took five years to restore the bomber to flyable World War II configuration.* ***I2I*** *A TBM Avenger carrier-based torpedo bomber is one of the foundation's Navy aircraft.* ***I3I*** *The B-24J was originally painted as* All American, *shown here in 1992.* ***I4I*** *The cockpit of* Witchcraft *is manned by Jim Rollison (l), a Collings Foundation B-24 volunteer pilot.*

I1I Nine O Nine *passing the Golden Gate. This B-17 was built too late for the war and served as a test subject in nuclear blast experiments. After a 13-year "cooling down" period, a massive rebuild, and service as a firefighting water bomber, it was acquired by Collings in 1986 and restored.* ***I2I*** *Ralph Nash, a B-24 veteran, stands in front of* Witchcraft. *Names of donors who funded restoration or operation of the bomber are written on its nose.* ***I3I*** *A Cessna UC-78 Bobcat, used for liaison, training, and other missions, in Navy colors.* ***I4I*** Betty Jane *has two fully operational sets of controls, replicating the five or so Mustangs field-modified as VIP transports and observation.* ***I5I*** *The earliest type aircraft in the collection is a pre-World War I-vintage Bleriot Type XI.*


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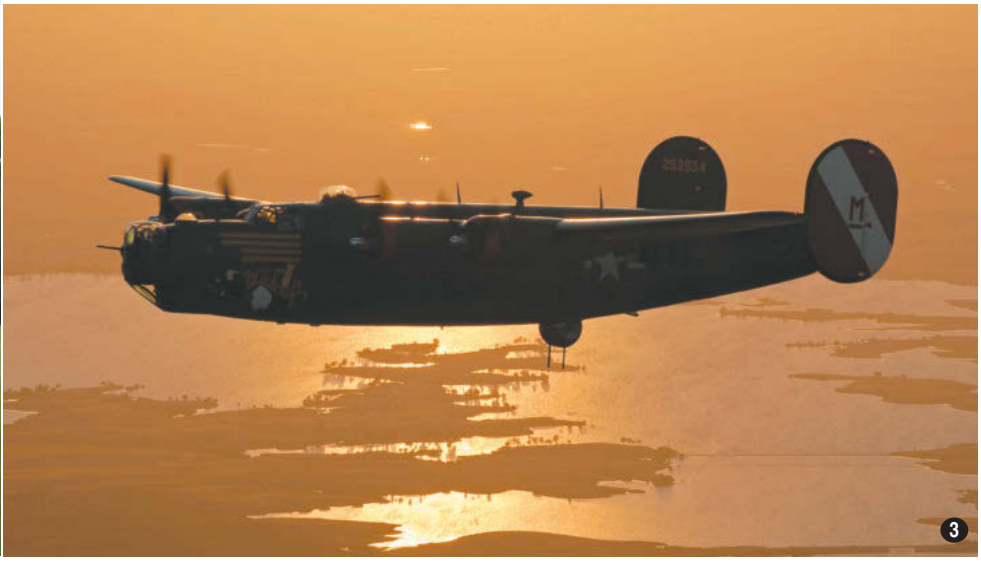

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I1I *After flying as* All American, *the foundation's B-24 wore this paint scheme, shown in 2003.* The Dragon and His Tail *honored Liberator pilots in the Pacific theater. The aircraft had one of the most extensive examples of "nose art" in the war and was reported to be of great interest to Japanese pilots. The actual* Dragon *was the last B-24 scrapped, despite an energetic campaign to save her.* ***I2I*** Tondelayo *flies over the mothball fleet at Suisun Bay in northern California.* ***I3I*** Witchcraft *is silhouetted by the sunset after a day in Stockton.*

I1I Nine O Nine *over San Francisco. Though it wears mostly olive drab, most late-war G model Flying Forts dispensed with camouflage and flew in bare metal.* ***I2I*** Witchcraft *powers up for another flight. Despite its authentic look, all of the Collings aircraft weaponry consist of nonfunctional replicas. The aircraft also have some modern navigational aids, as required by the FAA.* ***I3I*** *The TP-51 helps the foundation raise money by offering pilots a flight experience hard to come by nowadays: time logged in an authentic World War II Mustang.* ***I4I*** *A real B-17, B-24, and B-25 flying in formation is a sight once thought lost forever, but thanks to the Collings Foundation, will continue to awe and inspire future generations.* ■

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Airmen performing the personnel recovery mission are holding up under enormous strain. Their equipment is not.

RESCUE ON THE RAGGED EDGE

By Aaron Church, Associate Editor

THE Air Force's personnel recovery units are now heavily engaged in four combat zones at once, and it's pushing them to the breaking point. Members of the personnel recovery enterprise—which encompasses pararescuemen, combat rescue officers, and survival escape, resistance, and evasion specialists—believe that the current operating tempo can't be sustained indefinitely.

Gen. Philip M. Breedlove, USAF vice chief of staff, put it bluntly. He told a House panel in July that personnel recovery is on the "ragged edge."

"As we continue to be challenged by new tasks around North Africa and other places, we are right at the limit" of supporting US Central Command with "low-density, high-demand assets," Breedlove said. Hardest hit among the scarce specialties are those in personnel recovery and intelligence-surveillance-reconnaissance, which are being "pretty much consumed" by current demands.

USAF's limited rescue assets are supporting combat operations in Afghanistan and Iraq as they have for most of the last decade, but more recently they've been tasked with ongoing operations in Libya and the Horn of Africa, all on top of steady-state demands imposed by commitments in Europe and the Pacific.

While morale and retention among the personnel recovery enterprise remains good, the force's elderly HC-130 and HH-60 aircraft are struggling. High operating tempo has driven availability rates to some of the lowest in the Air Force, and while the HC-130s are due for replacement soon, there's no near-term relief planned for the helicopter fleet.

On the operational side, the past few years have been a growing experience. Early on in Afghanistan, critical assets such as the HC-130 were positioned in Pakistan. They were safely outside the conflict zone, but more than an hour away from Afghan airspace and as much as three hours away from stranded or injured troops, depending on their location. While the helicopters were staged much closer to the fight, such as at Kandahar Airfield, they still depended on the HC-130s' refueling capability for long-range missions.

The Pave Hawks rely on the HC-130s not only to extend their range but to speed ahead, dropping pararescue

USAF photo by SSgt. Eric Harris

SSgt. Kevin Welander, 26th Expeditionary Rescue Squadron, scans his sector from the door of an HH-60 Pave Hawk helicopter near Kandahar, Afghanistan.

USN photo by Mass Comm. Spec. 1st Class Nathanael Miller

TSgt. Patrick Ledbetter preflights the engine of a Pave Hawk from the 56th Rescue Squadron onboard USS* Ponce *on a mission for Operation Odyssey Dawn in Libya.

jumpers who can prepare time-critical patients for extraction before the helos arrive. Likewise, the HC-130s depend on the helicopters' guns in hostile areas and their ability to extract survivors at the scene.

In theory, USAF can accomplish recoveries beyond the reach of the other services. In practice, getting to a victim in time—preferably within the first, "golden hour" after injury—requires proximity to combat.

"Initially, going into this war [in Afghanistan], I don't think we were postured right," said CMSgt. Lee Shaffer, pararescue career field manager at the Pentagon.

"We had the right forces, we just weren't in the right place," he said.

Shifting to central operating hubs such as Kandahar and Bagram Airfield was a first step in rectifying the problem. As the war spread deeper into Afghanistan, however, isolated patrols or helicopter crewmen trapped in wreckage could be three or four hours' flight time away, even from Kandahar.

"These guys are either sitting getting shot and wounded or isolated. ... For us to [get to] them took a long time," noted Lt. Col. Stephen Goodman, combat rescue officer branch chief.

Today in Afghanistan, all this has changed. Rescue detachments are dispersed to forward operating bases across the country, often only minutes away from a fight.

"Now, sometimes you're sitting out there on the ramp and you can see the guys going across the fence and you know that you're probably going to get the call … soon," said Goodman. "Our leadership has cracked that nut and we are postured where we need to be. The closer we are to the fight, the more people we're going to extract from the battlefield," he asserted.

The Golden Hour

In early 2002, HH-60s had just shifted to Kandahar and the HC-130s providing air-to-air-refueling, command and control, and support were across the border in Pakistan. Not long after, midway through a night mission, HC-130 pilot Maj. Terry Crabtree and copilot Maj. James Woosley received an urgent call to divert. An Australian special operations forces soldier had driven over a landmine on a patrol near Afghanistan's border with Iran.

The mine "severed the SOF troop's leg right below the knee, [as well as] his arm. Part of his face had some massive trauma. ... Fortunately there was a medic on scene, but he was requesting help and immediate assistance," recalled Woosley, now head of USAF fixed wing personnel recovery assets at the Pentagon.

Two HH-60s immediately scrambled from Kandahar and were aloft minutes later with pararescuemen aboard. Fortunately, the HC-130 was airborne over southwestern Afghanistan, but its cargo bay was full of equipment from its original mission.

The HC-130 landed at Kandahar, and as soon as it was down, the crew heaved the equipment out "literally on the side of the runway," Woosley said. They "just dumped it out and civil engineering came out to recover it for us," he added. Throwing the throttles forward, the crew lifted off, departing directly from the runway's remaining length. Overtaking the HH-60s in flight, the HC-130 arrived on scene roughly 25 minutes after the wheels left the strip at Kandahar.

To prepare the casualty for evacuation ahead of the helo's arrival, pararescuemen in the cargo bay readied their chutes for a drop. After the flight crew managed to correct a malfunction with the air-drop sighting and navigation system, the PJs conferred with the aircrew and jumpmaster.

"We needed to coordinate … [and] make sure we're on the same page to running them in to where they really intend to drop … that they're aware of any threats we're aware of, that they also know the timeline for when the HH-60s are coming in," explained Woosley.

USAF photo by SSgt. Joshua L. DeMotts

An HC-130 pulls away after refueling two HH-60 helicopters over the desert near Davis-Monthan AFB, Ariz. The youngest active duty HC-130N/P entered service in 1965.

USAF photo by SSgt. Eric Harris

Capt. Nick Morgans (l) and TSgt. Anthony Wood, both with the 46th Expeditionary Rescue Squadron, on a training mission near Kandahar.

Jumping into a minefield at night with a weapon and full medical equipment, the PJs avoided the dimly glowing red chem-light markers tagging the mines. Beyond the minefield lay an unmarked swamp and possible insurgents, seriously curtailing landing options for the HH-60s following behind.

Given all that, and the extent of the SOF soldier's wounds, the PJs elected not to move from the marked drop zone. Confident the HH-60's rotor downwash wouldn't trigger the mines—a real hazard with larger helicopters—the rescuers on the scene decided to bring the helo in directly.

Avoiding Iranian airspace and accidental illumination of the PJs on the ground, the HC-130 vectored the HH-60s to the landing zone. Upon touchdown, the PJs were within a "minute of having the patient secured for travel," minimizing the helicopter's exposure in the landing zone. "It took about 40 minutes for the HH-60s to get from Kandahar to touchdown, which is very fast—they couldn't have delayed more than a handful of minutes before they were airborne," Woosley observed.

Forming up with the HC-130 at low level enroute back to Kandahar, the HH-60s refueled in-flight with the patient onboard.

With forces postured so far away, "it was the best timeline that individual could have ever encountered from rescue," said Woosley. "Unfortunately the patient did not recover from his injuries; they were too massive."

While it will never be known if a faster response could have saved the soldier, distance alone pushed the evacuation outside the "golden hour," despite an otherwise flawless response.

Lesson Learned

Going into Libya, correct placement of recovery forces was a focus from the outset. HH-60s deployed aboard the Navy's amphibious vessel USS *Ponce* to provide combat search and rescue to coalition aircraft during Operation Odyssey Dawn.

Still, a Marine Corps MV-22 Osprey snatched the only airman extracted by recovery forces—an F-15E pilot who ejected over Libya. Had the situation been worse, however, USAF assets were in place. "It's not always a bailout of a pilot that ejected and can walk away from the scene," said Goodman. "It is very much a cooperative effort to … respond with the best alternative."

Schaffer says rescue should be included in posture planning in any future action and be put in place "before the war even starts." After watching the struggle in Afghanistan, "I don't want to ever see that happen again."

Libya, on the other hand, raised the issue of just how far high-demand rescue resources can feasibly stretch. USAF's 385 or so PJs, along with a limited number of CROs and SERE specialists, currently cover four separate combat mission areas with only six deployed rescue teams.

Japan's earthquake-tsunami disaster earlier this year illustrated the thinness of resources. Despite having rescue units permanently assigned to Pacific Air Forces at Kadena AB, Japan, it was pure luck that USAF had rescue assets available to help, as they are often tasked elsewhere.

"Had that happened at any other time, we may not have had the rescue forces available on Okinawa to forward locate on mainland Japan," said Goodman.

Overseas units, such as the 33rd Rescue Squadron, which technically are assigned to provide search and rescue support for US Pacific Command, routinely deploy to Iraq, Afghanistan, or Djibouti as needed.

Had there been no assets available to help with the Japan disaster, Goodman said, there would have had to have been choices made about what would be left undone.

"If something like that humanitarian mission happened and we had nothing, we'd have to make a decision ... [about]how important is important?' he noted.

As a result, contingencies such as Japan often become a "pickup game of sending who you have."

Nowhere was this slice-and-dice approach more apparent than in Libya. Air Forces Africa, designated the lead command for the mission, had no assets of its own. For the rescuers already in high demand, this literally meant pulling assets from another operational theater, initially the Horn of Africa.

The 82nd Expeditionary Rescue Squadron had to break off from covering the joint task force conducting anti-piracy and counterterror operations in the Gulf of Aden, standing in until assets from Europe became available for the Libya mission. The unit permanently assigned to US Air Forces Europe—the 56th Rescue Squadron at RAF Lakenheath, UK—had just returned from a 120-day rotation in Afghanistan when the call came in.

USAF photo by SSgt. Joshua L. DeMotts

Maj. Victor Pereira pilots a Pave Hawk during refueling. HH-60 helicopters are severely stressed equipment, and reached their highest-ever utilization rate last year.

"They were home for 10 days when the Libya thing kicked off," noted Maj. Victor Pereira, HH-60 pilot and personnel recovery rotary wing branch chief.

Even without jumping from one combat deployment directly to another, active duty HH-60 helicopter crews are already at the Air Force's "red line" one-to-one deployment-dwell ratio, meaning they are deployed as many days as they are at home station.

While rescue personnel were frequently near the one-to-one ratio even in peacetime, such high deployment rates play havoc with pilot currency. Time at home station is required simply to keep up to date on the range of specialized flying skills needed for the mission.

"We have multiple skill sets that we need to be proficient in and that's why we go for a little bit shorter duration," observed Pereira.

While only at 74 percent of authorized strength, the PJ career field is the largest it has ever been. The CRO force, stood up in 2001 to provide officers to lead in the field, represents a new pool altogether. Though only at 64 percent of its authorized manning, the career field is slowly growing and the added leadership and manpower have been a huge morale boost to the all-enlisted PJ force. Measures such as the screening of rescue candidates have reduced attrition greatly in the pipeline, resulting in lower washout rates. Retention bonuses have successfully kept experienced airmen in uniform.

While the same does not hold true for aircrew, the high operational tempo actually boosted retention among PJs, CROs, and SERE specialists. The only real retention concern centers on experienced HH-60 pilots.

After eight to 10 years of flying, helicopter pilots who would normally rotate into instructor pilot slots are leaving the force instead. It's not necessarily because they are burned out, however. "You will lose them if you don't use them. These guys want to be in the fight," said Schaffer. "Is there stress on them? Of course there's stress. Does it matter to them right now? Not necessarily."

Highest Use Ever

While the people persevere, the hardware has limits.

"It's the iron that's stressed, not the people," Schaffer said. "If we want to continue to do the things that we're doing, we need a better HC-130" as well as "more HH-60s, or even a bigger helicopter," he said.

Underscoring the point, most of the HH-60 fleet rolled off the assembly line in 1981. The average helicopter in the rescue inventory has 5,300 flight hours on it, with some surpassing the 10,000-hour mark.

"To keep these helicopters operating at 100 percent can't be done," said Pereira. The Pave Hawk fleet suffers one of the worst availability rates in the Air Force, an abysmal 60 percent. While maintainers work tirelessly, there is only so much they can do.

Making matters worse, the helicopters boast the highest use rate of any rotary wing fleet now engaged in combat operations. USAF's fleet of 99 Pave Hawks reached its highest-ever utilization rate just last year.

In the short term, USAF will keep the Pave Hawk inventory up by procuring 13 combat loss-replacement helicopters converted from Army Black Hawks. Without a true replacement program in the works, though, this handful of aircraft is a mere stop-gap to replace HH-60s that have crashed or otherwise been lost. Replacements will "bridge the gap until the recapitalization of the HH-60 is awarded and fielded," Pereira said.

With the Air Force's announcement that initial operational capability for an HH-60 replacement may be delayed as late as 2018, relief is still a long way off.

With the J model HC-130 on the horizon, the fixed wing fleet offers "a little brighter message," Woosley said, but even they face a long road ahead.

The first HC-130J took to the air last July, but conversion to the new aircraft will not begin until next year, when the first airframe arrives at Kirtland AFB, N.M., to train crews. Even with fresh HC-130Js entering service, the pinch actually worsens before it gets better. To change over, Air Combat Command will be forced to stand down a squadron—the 79th Rescue Squadron at Davis-Monthan AFB, Ariz.—for operational conversion. In the meantime, "the high operational tempo gets even worse for the units that are still flying the legacy platform," said Woosley.

Between March 2010 and July 2011, HC-130 crews logged 1,045 combat recovery missions in Afghanistan alone. Whether stateside or deployed, the fleet routinely operates from unprepared strips, refuels helicopters at low level, and maneuvers aggressively to evade threats—practices that severely punish the equipment. The fact that the youngest active duty HC-130N/P entered the force in 1965 does not help.

"It's a leadership and logistical challenge, but it's one that's mapped out ... pretty efficiently," said Woosley. Though Air Combat Command is petitioning for more, the current plan calls for a total of 37 HC-130Js.

"The next few years will be a challenge, but it's one that we're looking forward to because it's an advance we've needed," he added.

The HC-130J offers longer range, improved loiter times, and for the first time, the ability to be refueled in midair itself. Besides the added advantage of flying an aircraft with a modern digital cockpit and upgraded defensive suite, the new aircraft features medical-grade interior lighting and an onboard power system, allowing improved treatment for patients. Together, all these will give wounded troops a better chance of survival. ■

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Enduring Freedom's New Approach

By Rebecca Grant

A KC-10 refuels a B-1B over Afghanistan. The versatile tanker has been invaluable during Operation Enduring Freedom.

USAF photo by Capt. Sean Chuplis

In remote, landlocked Afghanistan, airpower linked up with special operators and the Northern Alliance to quickly drive the Taliban from power.

"About 15 land-based bombers, some 25 strike aircraft from carriers, and US and British ships and submarines launching approximately 50 Tomahawk missiles have struck terrorist targets in Afghanistan," said Chairman of the Joint Chiefs of Staff Air Force Gen. Richard B. Myers.

It was Oct. 7, 2001, and the US and her allies were for the first time striking back against the perpetrators of the 9/11 terror attacks.

From early October through the fall of Kabul on Nov. 13, 2001, airpower led a campaign that took away the Taliban's control of the government of Afghanistan and dealt heavy blows to al Qaeda elements that once found safe harbor there. It was only the beginning of the War on Terror, yet the first phase of the campaign delivered major victories—and hatched a new operating concept where precision strike and surveillance achieved goals with just a handful of special operations teams on the ground.

This opening act of Operation Enduring Freedom laid down a marker. Airpower swiftly disrupted al Qaeda's main nest and enabled the Northern Alliance—Afghanistan's main opposition to the Taliban—to take control of city after city in rapid succession.

"I still believe the operating template [used] early on was the right way to go," said retired Air Force Gen. T. Michael Moseley, who took up the job of combined force air component commander in late October 2001.

The initial US commitment to overthrow the Taliban had been about 110 CIA officers and special operations forces, plus massive airpower, journalist Bob Woodward later tallied.

Airpower had to quickly capitalize on some changes to deliver. In a few short weeks aircrews learned to pick up targets in flight, cope with long missions, aggressively pursue time-sensitive targets, and put continuous

USAF photo by MSgt. Dave Nolan

A weapons systems officer preflights the goods on an F-15E. In the early days of Operation Enduring Freedom, F-15Es flew 15.5-hour round-trip missions from Kuwait.

precise firepower where ground controllers wanted it. All this took place before the first regular Marine Corps and Army troops arrived on the ground.

The process was not perfect. Coalition forces continued to chase al Qaeda and hunt Osama bin Laden himself. Coordination between air and special operations forces worked smoothly although attempts to apply the same model with regular Army forces endured some painful lessons. But without doubt, in late 2001, OEF proved a new kind of airpower victory.

Landlocked

America's desire for retaliation was fierce, but what got OEF rolling was the urgent requirement to put bin Laden and his forces on the run, to break up their ability to carry out fresh attacks. The first step was to remove the Taliban, al Qaeda's state terror-sponsor.

The Taliban had been in control of Afghanistan's government since 1996. Bin Laden took refuge there shortly thereafter. The CIA had been hunting for bin Laden since al Qaeda bombed the US embassies in Kenya and Tanzania in 1998, though with little success in locating or disrupting him, and none in apprehending or killing him.

Planning started over on Sept. 12, 2001.

"We had al Qaeda and Taliban target sets in Afghanistan and plans to strike those targets with [Tomahawk cruise missiles] and manned bombers," wrote US Central Command chief Army Gen. Tommy R. Franks in his memoir. But retaliatory strikes, which had been President Bill Clinton's response of choice after the embassy bombings, were no longer good enough.

President George W. Bush demanded something new. The "antiseptic notion of launching a cruise missile into some guy's ... tent" was now "a joke" in light of the devastation of 9/11, Bush told Woodward.

The goal was to make sure Afghanistan did not remain a safe haven for terrorists. The US and allies decided to use military force to back a loose coalition of Afghan rebels known as the Northern Alliance and push them into battle to end the Taliban's control of Afghanistan.

The Northern Alliance numbered about 15,000 according to a 2000 estimate by the International Institute for Strategic Studies. Three men led the alliance: deposed Afghan President Burhanuddin Rabbani, Gen. Abdul Rashid Dostum, and Ahmad Shah Massoud, the legendary "Lion of Panjshir." They'd all been receiving some assistance from the CIA to seek out bin Laden.

Unfortunately, bin Laden got to the Northern Alliance first. A pair of al Qaeda suicide bombers assassinated Massoud two days before 9/11, after arranging for an interview on the pretext of being Belgian journalists.

Even then, Northern Alliance forces constituted the best means of direct attack against the Taliban. Within a matter of hours, plans were brewing to increase aid and bring in special operations forces to work with CIA teams already in Afghanistan.

A full range of air strikes would follow.

Pentagon planners reviewed options for deploying US ground forces. They quickly came to the painful realization it was going to take too long and require too many forces, explained Pentagon spokesman Rear Adm. John D. Stufflebeem.

The way to strike hard and fast was to marshal airpower to tip the balance in favor of the Northern Alliance so it would take back Afghanistan's major cities and end Taliban rule. "Once we're on the ground, it should go in weeks," CIA counterterrorism chief Cofer Black told Bush at a White House meeting on Sept. 13.

The combination of airpower and SOF appealed to Bush. It was up to CENTCOM to refine the plan and make it workable.

Franks briefed an outline for OEF on Sept. 21. "We want air and SOF operations to be as near simultaneous as we can get them," Franks told Bush. First, air strikes would go after known remnants of air defenses. The

USAF photo

A B-1B roars off in full afterburner for a combat mission over Afghanistan. During the first six months of OEF, B-1s dropped nearly 40 percent of all bombs delivered by coalition air forces.

coalition would attack al Qaeda and the Taliban directly while using SOF to support opposition on the ground in Afghanistan. There was no exact target list—the coalition aircrews would have to rely on targets generated by SOF or sniffed out during operations.

Bush approved the full plan on Oct. 1 and set Oct. 7, 2001, as the first day of OEF.

Allies joined up, and a total of 27 nations granted overflight clearances by Oct. 1. "The French and British jumped right in early on," said Moseley. "All the Gulf Cooperation Council states were involved in a variety of ways, not necessarily kinetic," Moseley said. Bombers and fighters began deploying to the Gulf region and airlift, refueling, and combat search and rescue elements headed to unlikely basing locations in nations including Tajikistan and Uzbekistan.

"A couple of locations [were] absolutely abysmal," acknowledged USAF Gen. Charles T. Robertson Jr., who commanded US Transportation Command.

Mosely said, "When I first showed up at al Udeid [AB, Qatar, the future headquarters for US Air Forces Central], there was a 14,000-foot runway with a fire station—that was it." For the time being, control of air operations would be run from Prince Sultan Air Base in Saudi Arabia.

Going to war quickly was a stretch for airmen. An outpouring of basing offers was not enough to assure there would be a sufficient number of combat air patrols over Afghanistan.

CENTCOM planned for C-17s to air-drop humanitarian relief beginning on Night One. So the job of providing air superiority for the first days fell to carriers on station in the North Arabian Sea.

Enterprise was leaving the area but turned around after hearing about the attacks on the World Trade Center. The carrier *Kitty Hawk* left most of its air wing in Japan in order to take on helicopters for special operations forces. "Having the carriers snuggled up off the coast of Pakistan ... was probably key to being able to start this thing as fast as the Administration wanted," said Stufflebeem.

Operation Enduring Freedom began with strikes from B-2s flying from Whiteman AFB, Mo. B-52s launched from the British atoll Diego Garcia in the Indian Ocean.

CENTCOM was cautious. "The first thing we did was set conditions to begin to take down the tactical air defense and all of that," Franks said. Afghanistan had sparse air defenses, but still, pilots reported anti-aircraft fire clustered around Kabul, Bagram, and Mazar-i-Sharif in the north. Navy F-14 pilot Lt. Chris Gasko watched the "string of tracers from the ZSU-23s" and handheld surface-to-air missiles that resembled bottle rockets "corkscrewing up" at him.

It took time to figure out geography and politics, too. Moseley recalled sending his aide down to the headquarters of the National Geographic Society to purchase a map before he left Washington, D.C. "I carried that map every day of the campaign," he later said.

Distance was a major problem. "In the early stages we were flying the longest bomber missions in the history of combat aviation," said Moseley. "We were flying the longest UAV missions in the history of combat aviation with the Global Hawk. We were flying the longest fighter missions in the history of combat aviation," he said.

F-15E Strike Eagles operating from Kuwait completed a 15.5-hour mission to Afghanistan, while a Global Hawk UAV logged a 26-hour flight. Likewise Navy pilots launching from the cluster of carriers faced a nearly 700-mile flight to their northernmost targets.

Tankers were critical to the operation. The combined air and space operations center (CAOC) was coordinating Air Force, Navy, and NATO aircraft that all needed either boom or probe-and-drogue-style refueling. KC-10s were up all day. Any tanker leaving its station "would dump its remaining fuel into

USN photo by Photographer's Mate 3rd Class Kerryl Cacho

Sailors launch an S-3 Viking aircraft from the deck of USS* Carl Vinson *in 2001. Both* Enterprise *and* Carl Vinson *were operating in the Arabian Sea in OEF's early days.

USAF photo by Capt. Sean Chuplis

A KC-10 refuels an F-16 over Afghanistan. For a while, USAF was flying the longest fighter missions in the history of combat aviation in support OEF.

the KC-10s," Moseley said. "We never brought fuel home. The KC-10s were worth their weight in gold."

Teams on the ground with Northern Alliance forces and southern tribes were a big source of intelligence about new targets. But OEF also demanded aircraft use a full spectrum of sensors in ferreting out al Qaeda and Taliban targets. From electro-optical pictures to radar moving target indicator to sniffing for all forms of electronic emissions, Afghanistan steadily morphed into an intelligence-surveillance-reconnaissance war.

USAF photo

Lt. Gen. Michael Moseley (l), combined force air component commander during late 2001, is greeted by Col. Stephan Gensheimer, commander of the 384th Expeditionary Operations Group, at a forward base.

Week by week the air component layered in more command and control capability and additional ISR assets. Some, such as E-3 AWACS aircraft and Navy E-2Cs, deconflicted airspace and passed along fresh coordinates and CAOC instructions. E-8 JSTARS aircraft were deployed in November to help hunt for moving vehicles.

The ISR requirements were a departure from past conflicts—and a demand that got Moseley and others thinking about the path ahead. "U-2s, the [Royal Air Force's] Canberra, the French Mirage—all did a great job," he said. But just a few weeks of Enduring Freedom drove Moseley to the conclusion it was time to get serious about a U-2 replacement and a new configuration for the ISR force.

Then there were the unmanned vehicles. Global Hawk made its combat debut and Predators—which had previously flown in Kosovo—were engaged from the start. They were so new to the force the Pentagon felt compelled to arrange a background briefing for reporters in early November to explain what these ISR collectors were and how they operated.

The air war was not without its dangers. Foremost in Moseley's mind was what would happen if enemy fire or mechanical problems forced a coalition airplane down in Afghanistan.

He had no illusions about how the Taliban or al Qaeda would treat a downed US pilot or a captured SOF operator. "You get shot down and they will catch, torture, and kill you," he stated. Having combat search and rescue capabilities ready at a moment's notice was imperative.

"If you are going to send people to a place like this, you owe it to them to go pick them up," Moseley said.

"The next thing we did was set conditions with these Special Forces teams and the positioning of our aviation assets to be able to take the Taliban apart or fracture it," Franks later briefed.

USAF photo by SSgt Ken Bergmann

Mississippi Air National Guardsmen SSgt. Mitchell Sojourner (l) and MSgt. John Carter complete a post-flight inspection of a C-141. The venerable Starlifter pulled heavy duty in OEF.

Combination

The main job for these missions after the first several days was to provide on-call strikes as directed by SOF controllers on the ground. They called it XCAS, a new shorthand for immediate close air support.

Indeed, the streamlined process bore little resemblance to previous conflicts. Individual SOF controllers relayed their requests through their own chain and back to liaisons at the CAOC via secure Internet chat. Some teams worked in the north, others hundreds of miles south.

"All of the airspace control measures that you would normally have to worry about in terms of air-ground relationships are not there," Col. Michael A. Longoria, who was commander of the 18th Air Support Operations Group, attached to 9th Air Force, said at the time. "You have a large land mass, a lot of airspace, [and] little bitty airplanes with a lot of bombs. Everybody's a bad guy; everything's basically a target."

The system was a good fit for the widely dispersed fight. Meeting air support requests called for fluency with precision weapons and the ability to quickly retarget.

OEF was not an all-precision air war. Strings of Mk 82 munitions were delivered from bombers, and platforms such as the A-10 still had devastating effect. However, most fighters now carried laser guided bombs and bombers frequently loaded up 2,000-pound satellite guided Joint Direct Attack Munitions.

A consistent challenge was in generating useful targets, so aircrews could keep the pressure on. What helped most was the October insertion of airmen from USAF special tactics squadrons who had training and equipment to spot targets and call in close air support.

Higher command levels had to adjust, too. Both the forward CAOC and CENTCOM's main staff in Tampa, Fla., had grown accustomed to the more leisurely pace of Operation Southern Watch

over Iraq (which continued during the first 17 months of OEF). Procedures were tight—but targets were rarely urgent. The key was adapting command and control to the rapid targeting procedure.

Time-sensitive targeting required fast ISR, nimble strike aircraft, and several levels of command approval. This sort of targeting had been done before, but "not by a full CAOC and not in theater," Moseley said. The Air Force became convinced of time-sensitive targeting's relevance after operations in Bosnia in 1995 and Kosovo in 1999.

Air Force officials had experimented with time-sensitive targeting and bombers flying close air support at Nellis and in exercises with the Army. "We built a mini-CAOC" to improve command and control methods for turning ISR detection of ground targets into a set of actionable coordinates for precision weapons, said Moseley. "We had a rapid targeting model that I was quite comfortable with."

Significant shifts in the air war took place from late October through early November—soon to culminate in smashing successes. But it was not fast enough for some. Coalition aircrews flew just over 1,800 strike sorties in the first month of OEF, a small number compared to operations over Kosovo two years earlier and miniscule compared with Operation Desert Storm in 1991.

Three weeks into OEF, many commentators were clamoring for ground troops.

The air war continued. A B-52 was filmed dropping a string of weapons on Taliban trench lines near Kabul. The clip caused a sensation. Senior officials at the Pentagon insisted that the US job was providing airpower and resupply, and it was up to the Northern Alliance militias to decide when to move.

Although the campaign did not show immediate results, the strategy was working and the opposition was soon to be overwhelmed. The number of US teams on the ground increased steadily. "The more teams we get on the ground, the more effectively we'll bring airpower to bear on the Taliban lines," said Myers on Nov. 4.

Proof of the concept came from plans for inserting the first regular US ground forces. These were to be marines under the command of Brig. Gen. James N. Mattis. The marines would fall in on Kandahar on Nov. 25 and take over the attack on Taliban and al Qaeda forces from special operations forces holding the airfield. Importantly, thanks to the large amount of firepower available from aircraft, the marines could go in light.

USAF photo by TSgt. Adam Johnston0

Maintainers with the 104th Expeditionary Fighter Squadron work on an A-10 undergoing contingency phase maintenance at a deployed location. A-10s have provided critical close air support throughout OEF.

Moseley met with Mattis in advance. "We had a long chat," Moseley said. Mattis told Moseley that if airpower did its job, "I won't have to take artillery."

Cities Fall

In the early weeks of November came a string of successes. Dostum of the Northern Alliance was pressing hard at Mazar-i-Sharif. "This is being done at our initiative. Some is visible. Some is not," Franks stated cryptically on Nov. 8, adding, "It is only those who believe that all of this should be done in two week's time … who are disappointed" by the pace of progress.

Mazar-i-Sharif fell the next day.

The Joint Staff confessed to some confusion in sorting Islamic fundamentalist Taliban fighters from the international al Qaeda terrorists they supported and protected. "Where we can positively identify Taliban as such, we are pursuing them. It's difficult, though—it's difficult in the southern part of Afghanistan, west of Kandahar, to be able to positively identify what may be southern Pashtun tribes versus Taliban troops that may be on the move," Stufflebeem explained.

Taliban control of Afghanistan was rapidly collapsing. The Northern Alliance took control of Kabul on Nov. 13. "Every day the targeting and effectiveness has improved, and that has clearly played a critical role in killing Taliban and al Qaeda troops," Rumsfeld announced. Kicking the Taliban out of the capital city of Kabul fulfilled a top objective of Operation Enduring Freedom.

Yet those watching the swirling situation on the ground stopped well short of declaring outright victory. Despite the success in driving the Taliban out of one major city after another in rapid succession, Stufflebeem cautioned on Nov. 14, "We don't have enough factual information to assume that this war in Afghanistan is about to end."

Breaking Taliban control of Afghanistan ensured the nation would not continue to be the premier terrorist stronghold, training ground, and safe haven for bin Laden's al Qaeda terrorists, but "we still have the job of finding and getting al Qaeda," Stufflebeem said. "We still have the job now of finding and getting at Taliban leadership, specifically."

Bin Laden himself remained at large, and the campaign to find him and destroy al Qaeda would soon turn to a desolate mountain range known widely today as Tora Bora. ■

Rebecca Grant is president of IRIS Independent Research. She has written extensively on airpower and serves as director, Mitchell Institute, for AFA. Her most recent article for Air Force *Magazine was "Not Just Another Post-Cold War Budget Drill" in the September issue.*

The Campaign for Goldwater-Nichols

By John T. Correll

Twenty-five years ago, not everybody was in favor of reorganizing the Department of Defense.

Sen. Barry Goldwater (I) and Air Force Chief of Staff Gen. David Jones speak at an event in 1975. A few years later they would be on the same side of a fight to reorganize the Department of Defense.

The dominant figures in the US armed forces today are the Chairman of the Joint Chiefs of Staff and the combatant commanders. They, along with the President and the Secretary of Defense, are the undisputed first team. Everyone else is secondary, subordinate, or in support.

It was not always so. As recently as World War II, the War Department (including the Army Air Forces) and the Navy Department (including the Marine Corps) were completely separate organizations. There was no unified structure to which all of the armed forces belonged.

Up to 25 years ago, the real centers of power in the Department of Defense were the individual military services. Since then, the roles of the Army, Navy, Air Force, and Marine Corps have been starkly reduced in what is proclaimed to be the age of "jointness."

The legislation that brought on the change is known as the Goldwater-Nichols Department of Defense Reorganization Act of 1986, after its sponsors in the Senate and House of Representatives. It could just as well have been named for Air Force Gen. David C. Jones, former Chairman of the Joint Chiefs of Staff. Four years earlier, he rolled the first rock in what eventually became the Goldwater-Nichols avalanche.

Jones dropped his bombshell Feb. 3, 1982, in unscripted testimony to the House Armed Services Committee. Defense Secretary Caspar W. Weinberger and Jones were presenting their initial statements on budget requirements. Weinberger spoke first and focused on the Reagan rearmament program, which had begun the previous year.

Committee chairman Melvin Price (D-Ill.) asked Jones if he also had a statement. "I look forward to testifying on the budget issues," Jones said. "However, there is one subject I would like to mention briefly here. It is not sufficient to have just resources, dollars, and weapon systems; we must have an organization which will allow us to develop the proper strategy, necessary planning, and full warfighting capability. ... We do not have an adequate organizational structure today."

He called for major reform of DOD organization, which he said was inadequate to meet requirements for defense planning, development of strategy, and other responsibilities. He said the Joint Chiefs of Staff were "basically a committee" and that "if the Chiefs cannot come to an agreement, a unanimous agreement, among the five of us, we then inform the Secretary of Defense and, as appropriate, the President."

The process gave each service a "de facto veto," he said, and "it is very difficult for a Chief as head of a service to say more resources ought to go to another service rather than his own," he said.

Jones told the committee that he would "work with my colleagues first because many of these things can be solved by the Chiefs unanimously agreeing to change. I will then work with the Administration—the Secretary of Defense and the President—which may include submitting legislative proposals."

That was a surprise to Weinberger. Jones had told him only that he intended to express "concerns about how the system operated." Weinberger had other priorities and did not believe organization was a problem. His attention was on the rearmament program and distractions were bothersome.

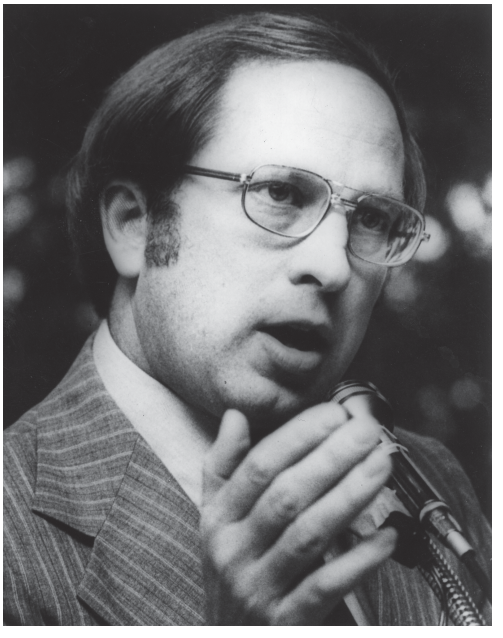
Jones, who was a few months away from retirement, had decided he could wait no longer to speak up. His testimony introduced the issue but it did not immediately put it fully into play. Change would take several years and strong commitment from both houses of Congress.

Previous Attempts

Organizational unification of the armed forces was attempted before, by President Truman in 1947 and President Eisenhower in 1958. Prior to World War II, coordinating the plans and operations of the separate armed services was not an issue. Army and Navy missions seldom overlapped. Joint operations became common during the war, especially in the "island-hopping" campaigns in the Pacific.

Truman wanted to replace the "antiquated defense setup" with three coordinated military branches under a Department of National Defense. The compromise—the Navy being vehemently opposed to unification—was the National Security Act of 1947, which established the Defense Department and co-equal branches of the Army, the Navy, and the Air Force. It was a start, but Eisenhower said later that the result had been "little more than a weak confederation of sovereign military units."

Eisenhower, declaring that "separate ground, sea, and air warfare is gone forever," led the next attempt, which culminated in the Defense Reorganization Act of 1958. The Army and the Air Force supported the change. As before, the Navy was opposed. Gen. Carl A. "Tooey" Spaatz, who had been the first Air Force Chief of Staff, offered a radical opinion from retirement—"complete integration" of the armed forces into a single service.



Sen. Sam Nunn, as the ranking Democrat on the Senate Armed Services Committee, appointed a task force to work on the controversial plan.

The new legislation did not go that far, but it did take the individual services out of the chain of command. The services retained their roles as specified by law, but the operational missions were assigned to unified and specified commands on a geographical and functional basis. The function of the services was to organize, train, and equip forces for the combatant commands.

The subsequent implementing directive, signed by Secretary of Defense Neil H. McElroy, introduced ambiguity. It said, "The chain of command runs from the President to the Secretary of Defense and through the Joint Chiefs of Staff to the commanders of the unified and specified commands." In fact, the act did not include the Joint Chiefs in the chain of command. For the next 20 years, the services exploited the organizational arrangements, including influence on actions by the Joint Chiefs of Staff, to maintain their power.

"When I was the air commander in Europe, I had two bosses, the Chief of Staff of the Air Force and the unified commander—the commander-in-chief, US European Command, who is over all US theater forces," Jones said. "The Chief of Staff of the Air Force assigned me all my people, gave all my rewards to my people, controlled all my money, gave me all my equipment. Obviously, he had nine times the influence over me than [the] unified commander had. So he who controls the resources can have a tremendous impact."

Jones Rings the Bell

Jones was Air Force Chief of Staff from 1974 to 1978. He was appointed Chairman of the Joint Chiefs by President Carter in June 1978 and reappointed for a second term in June 1980.

His relations with Weinberger and the Reagan Administration were clouded from the beginning. Shortly after the election in November 1980, Jones approached Secretary of Defense designate Weinberger about defense reorganization. Weinberger had other priorities, and an impasse developed.

Meanwhile, congressional conservatives who thought Jones had been too closely aligned with the Carter Administration and deferred too readily to Carter policies urged Reagan to dismiss him and appoint a Chairman more attuned to Reagan's priorities. Reagan decided to keep Jones to the end of his term, which ran until June 1982. In his memoirs, Weinberger referred to Jones as "the holdover Chairman of the Joint Chiefs of Staff."

As his retirement in June 1982 approached, Jones continued to press the reorganization issue. He followed up his surprise testimony in February with articles in a business publication, *Directors & Boards*, and in *Armed Forces Journal.* He made headlines after a breakfast meeting with reporters Feb. 17 at which he said parochial interests of individual services sometimes overwhelmed what was best for overall defense.

One of the few military leaders agreeing with Jones was Army Chief of Staff Gen. Edward C. Meyer. In an *Armed Forces Journal* article in April 1982, he said, "The changes urged by General Jones, while headed in the right direction, do not go far enough."

After retirement, Jones sharpened his attack. In a *New York Times Magazine* article in November 1982, he said the defense budget "is derived mainly from the disparate desires of the individual services rather than from a well-integrated plan based on serious examination of alternatives." He added that "it is an uphill struggle for anyone—including a Secretary of Defense—to gain real control of our defense establishment."

"To eliminate service domination of the channels of military advice to the Secretary and the President, the Chairman of the Joint Chiefs of Staff—rather than the five-man committee of the Chiefs—should represent the operational side, while the service Chiefs should continue to represent the administrative side of our military organization," he said.

DOD photo by Helene C. Stikkel

CENTCOM commander Army Gen. Tommy Franks (r) and Secretary of Defense Donald Rumsfeld (l) at a press briefing in 2002. Rumsfeld inflated the role of combatant commanders in an attempt to keep the Joint Chiefs marginalized, and Franks ran with it.

Army Gen. John W. Vessey Jr., who replaced Jones as Joint Chiefs Chairman, did not agree. In November 1982, he told Congress the consensus of the Joint Chiefs was that "sweeping changes to 10 USC are unnecessary." (Title 10 of the US Code is the legal basis of organization for the services and the Department of Defense.)

Retired Adm. Thomas H. Moorer, who had been Chairman from 1970 to 1974, was considerably more caustic. "The Chairman of the Joint Chiefs of Staff, with respect to those in uniform, has all the authority he is willing to take," Moorer said.

In December, Jones told the Senate Armed Services Committee reform of the Joint Chiefs was "the most important defense issue facing the Congress and the nation. It makes issues [such as] the MX [missile] and others pale in comparison."

Additional evidence of the problem was supplied by Operation Urgent Fury in Grenada in 1983, where in several instances the services could not communicate with each other because their equipment was not compatible.

Catching On With Congress

The defense reorganization cause took root on Capitol Hill, owing much to the efforts of two congressional staffers, Archie D. Barrett of the House Armed Services Committee and James R. Locher III of the Senate Armed Services Committee.

Barrett, a retired Air Force pilot, had written a paper at National Defense University in 1981 critical of the undue influence of the individual services on defense decision-making. It was published as a book in 1983 with an introduction by Jones. At his instigation, the HASC investigations subcommittee held the first hearings on defense reorganization and introduced the first legislative proposal. Barrett had great credibility with the subcommittee chairman, Rep. Richard C. White (D-Tex.), and with Rep. William F. Nichols (D-Ala.), who succeeded White as chairman in 1983.

Locher was a West Point graduate who, in his own words, "spent 10 years as a 'whiz kid' system analyst" in the Office of the Secretary of Defense in the 1960s. His first boss at the SASC, Sen. John G. Tower (R-Tex.), was against defense reorganization and blocked the efforts of White and Nichols to get a bill through Congress.

Tower retired in early January 1985 and was replaced by Sen. Barry Goldwater (R-Ariz). Both Goldwater and the ranking SASC Democrat, Sen. Sam Nunn of Georgia, were strongly in favor of defense reorganization and appointed Locher to head a task force to work on it and report directly to them.

The issue percolated steadily through 1984 and into 1985 and continued to draw criticism from the Pentagon. Navy Secretary John F. Lehman Jr. charged that empowering the Chairman of the Joint Chiefs at the expense of the military services would create "a Prussian-style general staff." *Armed Forces Journal* reported, "Secretary of Defense Caspar Weinberger, the Secretaries of the Army, Navy, and Air Force, and the Chairman of the Joint Chiefs of Staff are agreed on one point: Capitol Hill proposals to reorganize the US military establishment aren't necessary."

On the other hand, in a February 1985 report from the Center for Strategic and International Studies, six former Secretaries of Defense (Robert S. McNamara, Clark Clifford, Melvin R. Laird, Elliott Richardson, James R. Schlesinger, and Harold Brown) endorsed reform, including designation of the Chairman of the Joint Chiefs of Staff as principal military advisor to the President and Secretary of Defense.

At the direction of Goldwater and Nunn, Locher fashioned an instrument

Nunn, Locher fashioned an instrument with which to bludgeon the opposition. It was a 645-page "staff study," published in October 1985, reviewing the problem and offering options for reform.

A deliberate tactic, devised by Nunn with Goldwater's concurrence, was that the staff study would propose extreme measures that would make the actual provisions later introduced seem less radical by comparison. One such suggestion was to increase the stature of the combatant commanders in the field by making them senior in rank to the service Chiefs.

The study also proposed disbanding the Joint Chiefs of Staff and replacing them with an advisory council of four-star military officers on their last tours of duty before retirement. This idea had been around for a long time, advocated with minor differences in detail by Gen. Omar N. Bradley, Gen. Maxwell D. Taylor, Sen. W. Stuart Symington, Secretary of Defense Harold Brown, and in 1982 by Army Chief of Staff Meyer.

Goldwater declared that unity of command "means there is only one Chief and he's over all the Indians—no matter what tribe."

The Final Push

The SASC began markup of the reorganization bill—getting it down on paper in the form it would be introduced—on Feb. 4, 1986. The previous evening, an explosive meeting took place in the Pentagon between the Joint Chiefs, Goldwater, and Nunn, who had come over for a final consultation. Adm. William J. Crowe Jr., the new Chairman, supported the legislation. The Air Force Chief, Gen. Charles A. Gabriel, did not say much.

The others were opposed and said so in no uncertain language. The hot-tempered Goldwater took their criticism as an attack on his efforts to make improvements and roared, "If you think you can bully Sam and me, you are mistaken."

The next morning, the SASC received eight letters from military leaders, seven of them "quarrelsome or contentious," according to Locher, who was present for both the evening meeting and the markup. Only Crowe's letter was in favor. "I will not be deflected or sidetracked in this effort even if I get a letter a day from everyone in the Pentagon," Goldwater snapped.

In the House, four reorganization proposals were merged into a single bill, sponsored by Nichols, still a leading champion of reform. As Goldwater and Nunn pressed forward, they received welcome support from the Packard Commission, chaired by David Packard, the legendary co-founder of Hewlett-Packard who oversaw the creation of a new system acquisition process when he was deputy secretary of defense in the early 1970s. His commission's report on defense management was mostly about acquisition reform but it included a chapter on military organization and command. Packard's recommendations tracked along with Goldwater and Nunn: Strengthen the Chairman of the Joint Chiefs and give more power to the commanders of the unified and specified commands.

In March, the SASC overrode Pentagon objections and passed the bill, 14 to zero. Syndicated columnists Rowland Evans and Robert Novak slammed the decision the next day, blaming the hyperactive committee staff for a measure that "clearly would move toward a unified general staff with the Chairman of the Joint Chiefs elevated and individual service Chiefs and Secretaries downgraded. That would mark final victory for McNamara's whiz kids, the super-bureaucrats, against the uniformed professional military." Goldwater, infuriated all over again by the accusation he was being led around by his staff, gruffed, "These lies make me mad as hell!"

In his radio address April 5, President Reagan urged Congress to approve reorganization, citing the Packard Commission. White House officials said Reagan's endorsement, despite Weinberger's objections, reflected his commitment to curb waste, abuse, and Pentagon inefficiency.

Redistributing the Power

Both the Senate and the House approved reorganization bills, which were merged in conference in September. The final version was named for Goldwater and Nichols at the suggestion of Sam Nunn. The conference bill passed and was signed into law by Reagan Oct. 1.

Goldwater was exultant. "It's the only goddamn thing I've done in the Senate that's worth a damn," he said. House Armed Services Committee Chairman Les Aspin (D-Wis.) was even more effusive, calling it "one of the landmark laws of American history" and "probably the greatest sea change in the history of the American military since the Continental Congress created the Continental Army in 1775."

The final Goldwater-Nichols legislation, patched and repatched many times to accommodate compromises, was 162 densely printed pages long. Among the provisions of the act:

- It gave the Defense Secretary "full power over every facet of the Department of Defense." This confirmed a Presidential directive of 1953 and put it into law for the first time.
- The Joint Chiefs Chairman was designated principal military advisor to the President, the National Security Council, and Defense Secretary. The Joint Staff was assigned to work for the Chairman.
- It established the position of vice chairman of the Joint Chiefs, first filled by Air Force Gen. Robert T. Herres.
- It clarified the chain of command, from the President to the Secretary of Defense to the unified and specified commands. The Joint Chiefs Chairman is not in the chain, nor are the service Chiefs.
- It increased the authority, responsibility, and powers of commanders of the unified and specified commands.
- It made joint duty assignments mandatory for promotion to general officer ranks.

Crowe, the first Chairman to hold authority under the act, made a point of including the service Chiefs in any action where they had a significant interest. "If we have a disagreement, then I know I've got in my back pocket the authority to resolve it," he said. "They know it, too." But "I cannot get along without the help of the Chiefs, regardless of what the law says."

The Gulf War in 1991 was both test and validation for Goldwater-Nichols. "The most demonstrable example was seen in the role of the Chairman of the Joint Chiefs of Staff, Gen. Colin Powell," said Bernard Trainor, retired Marine Corps general turned *New York Times* correspondent. "As a result of Goldwater-Nichols, [Powell] wielded power and influence beyond that exercised by previous Chairmen. He was the politico-military maestro of the Gulf War. His fellow members of the Joint Chiefs were relegated to onlookers who simply provided the forces."

As for Gen. H. Norman Schwarzkopf, the combatant commander in the Gulf, "he was king in the Kuwaiti

theater of operations," Trainor said. "All within his domain had to do his bidding."

Converting the Critics

In the years following adoption of Goldwater-Nichols, opinion within the military swung in favor of the changes and kept on swinging. It soon became difficult to find anyone who thought the act was a bad idea.

Gen. John A. Wickham Jr., former Army Chief of Staff, had been among those whose opposition raised Goldwater's ire at the evening meeting in February 1986. In 1995, Wickham told Locher the act "has achieved 80 percent of its objectives and will go down in history as a major contribution to the nation's security."

There was no relenting, though, from Moorer, who had nailed his colors to the mast. "I don't think it accomplished anything," he said in a 1990 interview.

In 1996, on the 10th anniversary of Goldwater-Nichols enactment, Gen. John M. Shalikashvili, Chairman of the Joint Chiefs, graded the main provisions of the legislation at a National Defense University symposium and assigned an overall grade of B. He gave top marks for better military advice to civilian leaders, for strengthening of the combatant commanders, and for improved effectiveness of military operations. To get straight As, he said, the services had to work harder to develop a shared vision of the future.

Joint Forces Quarterly published a special issue on the 10th anniversary of the act. For his contribution, Jones chose to go with an edited and abridged version of his article from the *New York Times Magazine* in 1982, indicating his commitment to reform. In 1990, Weinberger published memoirs of his seven years in the Pentagon. He did not even mention Goldwater-Nichols.

The tacit assumption of Goldwater-Nichols was that whereas the service Chiefs in the old days could not escape parochialism and self-interest, the Chairman of the Joint Chiefs and the combatant commanders, when empowered by the act, would rise above service bias.

That would not always be the case. In Operation Allied Force in Serbia in 1999, airpower was the only force engaged in the 78-day operation that ended with Serbian surrender. Nevertheless, the unified force commander, Army Gen. Wesley Clark, insisted that the decisive factor had been the impending threat of a brigade-sized Army task force, deployed to Albania but not engaged, and several months away from being ready to begin combat operations.

The net benefits of Goldwater-Nichols are clear, but there is a downside. Breaking the power of the service Chiefs also reduced the strategic contribution of those who were outstanding enough to rise to the top in the Army, Navy, Air Force, and Marine Corps.

As noted by retired Lt. Col. Stephen Melton of the Army Command and General Staff College, the Goldwater-Nichols Act "diminished the role of the Pentagon by making the operational commanders the primary war planners" and "relegated the military's strategic center—the Joint Chiefs of Staff and military departments—to an advisory and supporting role."

"As a result of Goldwater-Nichols, the service Chiefs no longer have any motivation or real opportunity to focus on grand strategy or strategic issues, because they've been relegated to the program business," said retired Air Force Maj. Gen. Charles D. Link, a highly respected analyst of military roles and missions.

Known and Unknown Pressures

It is little remembered today that during the run-up to Goldwater-Nichols, some concern was expressed that strengthening the Joint Chiefs Chairman would correspondingly weaken the position of Defense Secretary. During his second tour in that office from 2001 to 2006, Donald H. Rumsfeld demonstrated that the Secretary holds the trumps, anytime he wants to use them.

Rumsfeld systematically undercut the authority of the Chairman and consolidated power in his own hands. At his first meeting with Army Gen. Hugh Shelton, Chairman of the Joint Chiefs, Rumsfeld told him, "You are not the advisor to the National Security Council," before conceding that Title 10 of the US Code did give Shelton that responsibility. Rumsfeld next suggested that Shelton give his advice to the President through the Secretary of Defense instead of directly. Shelton declined. According to Shelton, Rumsfeld was greatly "concerned with marking his territory like a little bulldog."

When it suited his purposes, Rumsfeld emphasized the role of combatant commanders to keep the Chairman and the Joint Chiefs out of the advisory loop. He did so notably with Army Gen. Tommy R. Franks of US Central Command during operations in Afghanistan in 2001.

Franks was proud to be a commander "who fought the wars" and held the service Chiefs in contempt. According to Shelton, Rumsfeld's offer of direct access "inflated Tommy's head about 10 hat sizes, because he was now 'above' the Joint Chiefs and working directly for 'the man.'"

In September 2001, the Joint Chiefs requested a briefing from Franks. Shelton thought it "was a productive give-and-take exchange," but Franks had no interest in the comments of the Chiefs.

Franks complained that "we endured an hour of this aimless dialogue, a waste of time that neither the Secretary nor I could spare." The next day, Franks said the service Chiefs who had been at the briefing "came across like a mob of Title 10 motherfuckers."

In other instances, it was the combatant commanders who got the Rumsfeld treatment. In October 2002, for no apparent reason other than impulsive arrogance and a display of personal power, Rumsfeld put out a memo forbidding combatant commanders to use the title "commander in chief" or "CinC," which had been in use since before World War II. Rumsfeld said the only CinC was the President.

The Chairmen who followed Shelton often found their opinions and advice discounted as Rumsfeld dominated all channels to the White House. It was not until after Rumsfeld's departure that much of the status of the Chairman of the Joint Chiefs was restored, during the tour of Adm. Michael G. Mullen.

Today, few would argue with William J. Perry, Defense Secretary from 1994 to 1997, who said the Goldwater-Nichols Act was "perhaps the most important defense legislation since World War II."

On the 25th anniversary of its adoption, Goldwater-Nichols has regained its course, and the organization and function of the Department of Defense are a closer approximation of the balance of power ordained by the act. ■

John T. Correll was editor in chief of Air Force *Magazine for 18 years and is now a contributing editor. His most recent articles, "Showdown in Berlin" and "The Astro Chimps," appeared in the September issue.*

DOD Photochart Special

Compiled by June Lee, Editorial Associate

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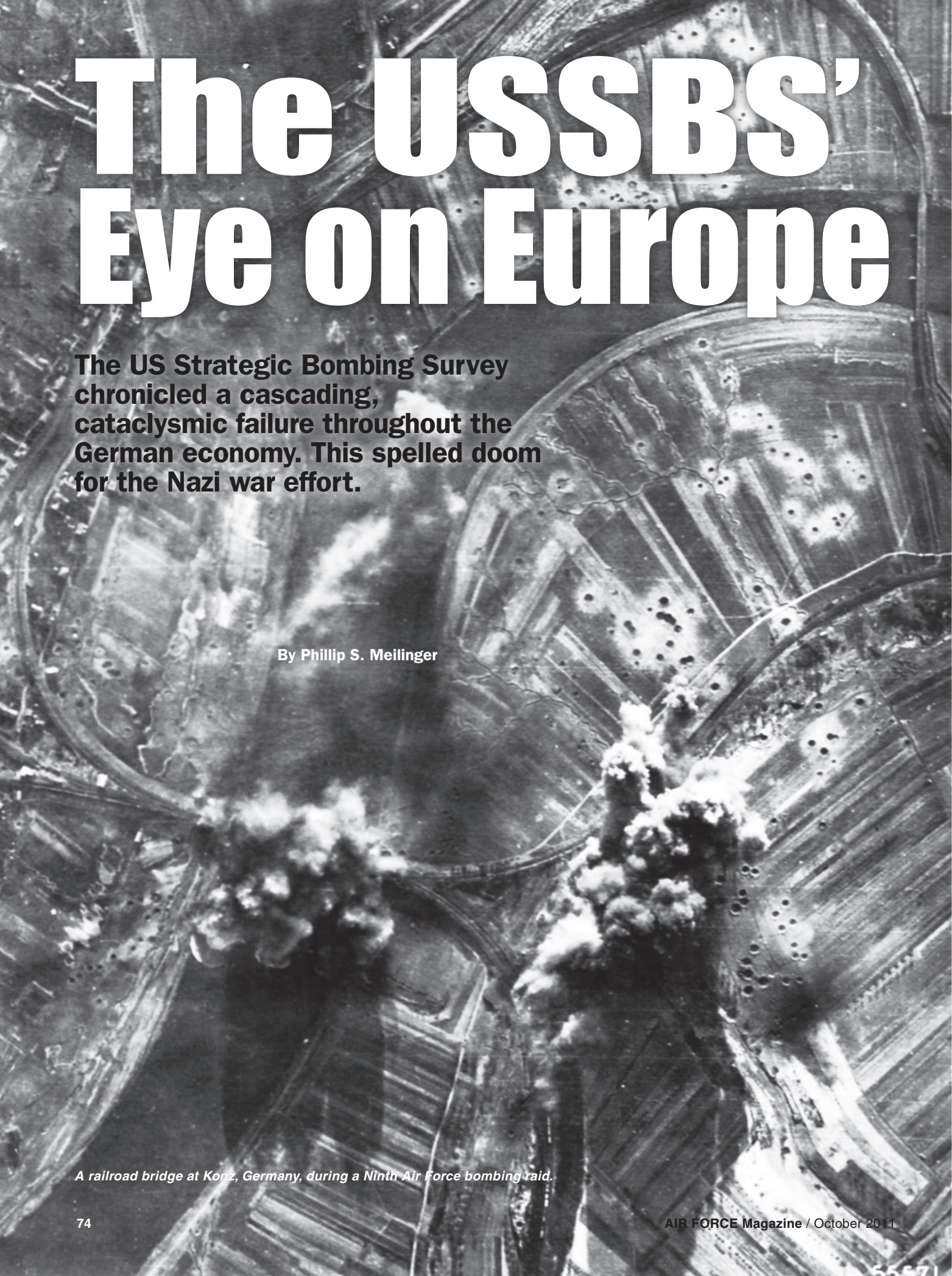
The USSBS' Eye on Europe

The US Strategic Bombing Survey chronicled a cascading, cataclysmic failure throughout the German economy. This spelled doom for the Nazi war effort.

By Phillip S. Meilinger



A railroad bridge at Konz, Germany, during a Ninth Air Force bombing raid.

The United States spent $183 billion on armaments during World War II. Of that amount, the Army Air Forces share was $45 billion. With that money, the AAF bought 230,175 aircraft, of which 34,625 were heavy bombers—15 percent of the total aircraft purchased. These bombers cost $9.2 billion—20.4 percent of AAF expenditures, and five percent of total US armament spending.

Did the United States get its money's worth?

Those in uniform, but also historians and military buffs, have debated that question for decades. Much of that debate sheds a great deal of heat but little light. There was, however, a massive effort conducted at the end of the war to answer the question of strategic airpower's effectiveness. That effort was the US Strategic Bombing Survey (USSBS, pronounced "us bus").

Many over the years have referred to the survey, but few seem to have read it.

The survey was the intellectual brainchild of Maj. Gen. Muir S. Fairchild. "Santy" had been an instructor at the Air Corps Tactical School in the late 1930s where he had refined and articulated the doctrine of high-altitude, daylight precision bombing of an enemy's industrial centers. The core of this belief was referred to as the "Industrial Web" theory postulating that economies were integrated entities, like a spider's web, and a disturbance in one sector of the web (the economy) would reverberate throughout all sections. During the war, Fairchild served in Washington, D.C., on the Air Staff and the Joint Staff, but he remained interested in the concept of strategic bombing and, more importantly, on what effect it was having on the German war effort.

As the war drew to a close in Europe, he believed a bombing survey was essential to answer questions regarding the effectiveness of airpower. He took the idea to Gen. Henry H. "Hap" Arnold, Commanding General of the AAF. At the same time, Gen. Carl A. "Tooey" Spaatz, the top American air commander in Europe, wrote Arnold with a similar idea. Arnold liked the idea, agreed with his subordinates, and approached Robert A. Lovett, the assistant secretary of war for air. Lovett took the idea to the President, and on Sept. 9, 1944, Roosevelt gave his approval to form a bombing survey team.

Lt. Gen. Carl Spaatz (foreground), commander of US Strategic Air Forces, and Gen. Henry Arnold, AAF Commanding General, visit a rough airstrip in France after D-Day.

The following month, Arnold offered the job as survey chief to Franklin D'Olier, president of the Prudential Insurance Co. D'Olier was caught by surprise and expressed his unsuitability for the job—he was not an aviator. Arnold countered that that was precisely why he was ideal: He wanted a nationally prominent man of affairs, with no axes to grind, pro or con.

Historian David MacIsaac writes that Arnold and Lovett told D'Olier the AAF needed an impartial report to be used "as a basis for planning the postwar composition and strategical principles of the Army Air Forces." The general stressed, "This is your job, and when you're finished, you report not to me, but directly to Secretary Stimson and the President."

D'Olier organized his team, which would eventually number nearly 1,600 officers, enlisted personnel, and civilians, into three broad groups dealing with military, economic, and civilian studies, with those in turn divided into 13 smaller divisions for categories such as physical damage, oil, munitions, transportation, and morale.

Civilian businessmen, lawyers, and bankers headed all of the groups and divisions although they usually had a military officer serving as deputy who acted as their executive officer to ensure things got done within the military system. The quality of the civilians chosen was exceptional and included Paul H. Nitze, John Kenneth Galbraith, Henry C. Alexander, and George W. Ball. The expertise of those selected was specific for the tasks they were given: For example, Robert P. Russell of the Standard Oil Co. was to be the director of the Oil Division, and Col. Frank A. McNamee Jr., deputy head of the Office of Civilian Defense, was named director of the Civilian Defense Division.

A Catastrophic Effect

Over the next year, USSBS teams roamed Europe, visiting hundreds of bombed sites, measuring, photographing, and collecting data, while also interviewing thousands of individuals, from top generals and diplomats—Hermann Goering, Karl Doenitz, and Albert Speer, for example—to workers and civilians.

So what were the bombing survey's findings?

The survey's writers concluded that "Allied airpower was decisive in the war in Western Europe." Airpower was

B-17s form up on a World War II bombing run. Eighth Air Force suffered astounding casualties—more than 26,000 of its airmen were killed.

not the only decisive factor: The massive Soviet Army on the Eastern Front was chewing up German divisions at an astonishing rate. The American, British, and Free French forces in the West were facing far fewer German troops, but the offensive beginning on D-Day caught Germany in the jaws of a vice it could not escape.

Also, not just strategic airpower but airpower in general was a decisive factor in victory. By D-Day, Ninth Air Force, a tactical air force tasked to support the 12th Army Group, was larger than the operational strength of the entire Luftwaffe.

Even so, USSBS argued that strategic bombing had a catastrophic effect on the German economy and transportation system, and this in turn had a fatal impact on German armed forces.

The survey completed 212 volumes covering the European war, and in these reports it presented scores of charts, graphs, and tables illustrating the impact of bombing. At its peak, the combined bomber offensive—which included the AAF and the Royal Air Force Bomber Command—employed 1.34 million personnel and more than 27,000 aircraft. The bombers flew 1.44 million sorties and dropped 2.7 million tons of bombs—54.2 percent by the AAF. (An additional 2.7 million fighter sorties were flown, most of those in support of the bombers.)

The bombing campaign was costly: The survey reported the British and the Americans suffered nearly 160,000 deaths among their airmen (almost exactly the same number by each), and 40,000 aircraft were destroyed (22,000 RAF and 18,000 AAF). The casualties for Eighth Air Force were staggering: 44,483 men. Indeed, Eighth Air Force suffered more deaths—26,000—than did the entire US Marine Corps during the war, as 24,511 marines died of all causes.

Significantly, 85.9 percent of all bombs dropped by the AAF on Germany fell after D-Day. In truth, the combined bomber offensive did not really begin until the spring of 1944—a date predicted by prewar planners. When the aircraft and crews were finally available in mid-1944 to conduct major bombing operations against Germany, the "Crescendo of Bombing" proved devastating to the German war effort.

The bombing survey's graphs regarding production in key industries are dramatic. Virtually every major commodity necessary to sustain the German war effort began a severe decline by the summer of 1944.

Regarding synthetic fuel, for example, peak production of 316,000 tons per month plummeted to 107,000 tons in June and 17,000 tons by September.

Aviation fuel dropped from 175,000 tons in April 1944 to 30,000 tons by July and 5,000 tons in September—a 97 percent drop in five months. The largest German oil refinery, Leuna, was bombed 22 times during the war, ultimately reducing its capacity by more than 90 percent. The effects of this fuel drought were felt throughout the Wehrmacht. Aircraft stopped flying and tanks stopped driving. In March 1945, for example, the Soviets overran 1,200 German tanks that had run out of gas. Because of the aviation fuel shortage, new Luftwaffe pilots entered combat with perhaps 110 flying hours compared to 360 for the AAF.

The bombing attacks on the German transportation industry were even more profound: "The attack on transportation was the decisive blow that completely disorganized the German economy," the survey stated.

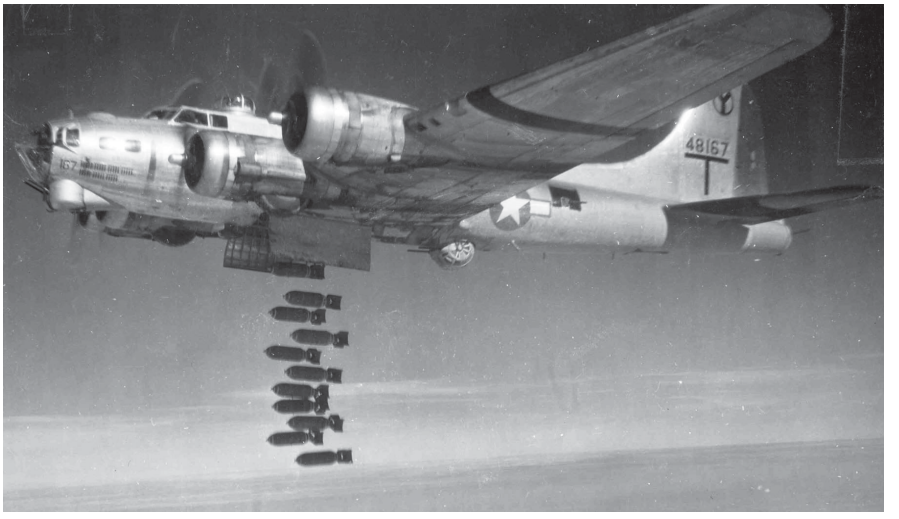
Eliminating the Luftwaffe

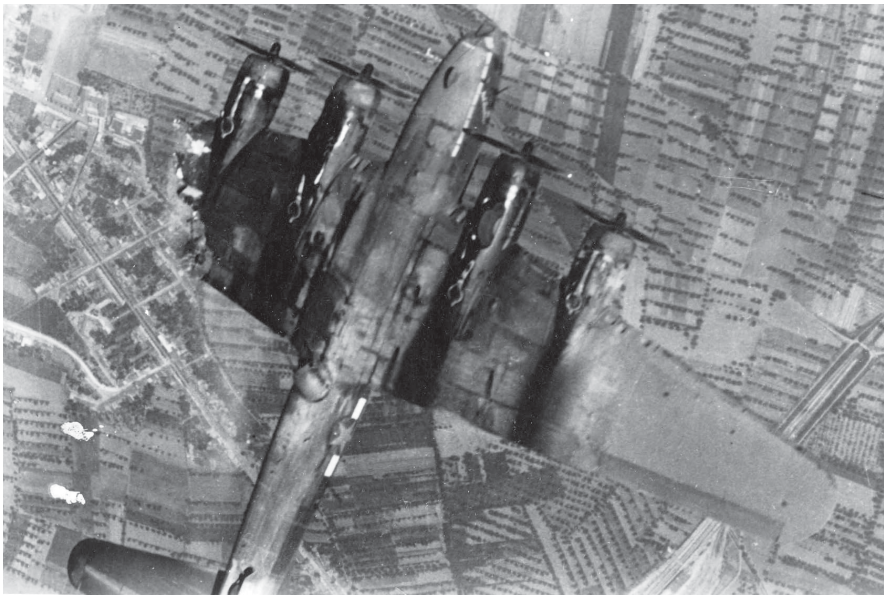
The survey noted that 40 percent of all rail traffic was used to deliver coal—21,400 train carloads per day at the beginning of 1944. By the end of the year that number had fallen to 9,000 cars daily, a drop of 58 percent. Steel production necessarily followed, with production in the Ruhr plummeting 80 percent in six months. Similar drops

A watchman picks through debris at Rheinmetall-Borsig in Dusseldorf after the munitions plant was hit by Eighth Air Force. The plant made 88 mm gun barrels.

were experienced in the production of explosives, synthetic rubber, chemicals (nitrogen, chlorine, methanol, etc.), powder, and combat munitions.

The effect of the bombing campaign on the German labor force was also significant: 2.5 million workers were engaged in "debris clearance, reconstruction and dispersal projects, and other types of repair activity necessitated by bombing." One million more workers were assigned to produce civilian goods that had been destroyed in the bombing attacks, and another one million were devoted solely to the production of anti-aircraft guns—Germany had more than 55,000 anti-aircraft guns in 1943 and they consumed 20 percent of all ammunition produced. It is worth considering the result if those millions of workers had either been producing offensive armaments, or worse, if they had been in uniform, opposing Allied forces at Normandy.





Above: A B-17 from Fifteenth Air Force releases its bomb load. Left: Hit by flak, a B-17 goes down. Despite a quick aircraft inventory buildup before the US entered the war, the Air Force only had 374 heavy bombers in 1941. By the end of the war, nearly 35,000 heavy bombers were built.

By D-Day, defense against Allied air attack—which ultimately proved futile—absorbed one-third of the entire German war economy.

The survey also gave some overall conclusions: Air superiority was essential to the success of the bombing campaign, as had been predicted before the war. This air dominance was not attained until the spring of 1944—but it allowed the bombing campaign to achieve its dramatic success. By D-Day, the Luftwaffe was virtually eliminated as a factor, with only 80 aircraft operational to oppose the Allied landings on June 6.

The analysts also concluded it was better to focus on one target system and destroy it, rather than hit numerous systems simultaneously with a relatively small amount of tonnage on each. Each industry had built-in slack, and a small degree of bombing was simply absorbed, resulting in little decline in overall production.

As noted, the transportation network, which was the recipient of greater tonnage than any other target system—32.1 percent of all bombs dropped—was the key to the enemy economy because it moved the resources to the factories and the finished goods to the front. The disruption of the railroads brought everything to a crawl. Especially important was the movement of coal that powered the entire German economy.

Close behind the destruction of the transportation system was the demise of the oil refineries, a situation particularly fatal to the Wehrmacht's mobility on land and in the air (9.3 percent of the total tonnage dropped was on oil targets).

Area attacks were deemed less effective in reducing industrial production than were "precision" attacks. In fact, the survey concluded that the area attacks of the RAF had only a minor impact on German production. Surprisingly, the RAF's own bombing survey reached much the same conclusion. The analysts stated, however, that German morale fell precipitously as a result of bombing, causing "defeatism, fear, hopelessness, fatalism, and apathy."

Yet, the coercive practices of the Nazi regime that relied on slave labor and a 72-hour workweek kept the factories operating. The survey also noted the synergism existing between target sets: The bombers destroyed the steel mills and the munitions factories, but also the rail lines leading to and from those mills and factories, along with the marshaling yards serving the railroads. Taking down the oil refineries meant there was little fuel to power the airplanes and tanks that were produced. All of this contributed to German military collapse.

In other words, rather than specific bottleneck targets existing as predicted by prewar theorists, it took repeated, heavy attacks against several components of the industrial system in order to produce the collapse of the entire enemy infrastructure. The German economy, indeed any economy, is akin to a living organism that adapts and reacts to stimuli such as attacks against it. The Germans fought back and changed behaviors and produced

Berlin after the heavy bombing campaign at war's end. Block after block of the German capital was devastated.

work-arounds. The resiliency of the German economy was a disturbing surprise.

Even so, when the bombing campaign was able to launch powerful attacks in mid-1944, the result was dramatic: The USSBS reports depict a cascading, cataclysmic failure throughout the German economy, a failure that spelled doom for the enemy war effort.

Survey analysts claimed, however, that some targets were overlooked that should have been struck more heavily during the war. The primary "lost target" was the German electrical system. Even before the war, air planners had considered the power grid a bottleneck target—the Air War Plans Division-Plan 1 team had placed it at the top of their list—but once the air campaign began, air leaders decided its widely dispersed nature and the small size of individual power plants made it a low priority target. This system, with minor exceptions, was never made a primary target for strategic bombing, but USSBS analysts argued it should have been. A relatively small amount of bomb tonnage would have had catastrophic and cascading effects throughout the economy.

Bottom Line: Worth the Cost

Similarly, the survey argued that the ball bearing industry, hit hard in the fall of 1943 but at grievous cost, was indeed a choke point target system that should have been revisited.

Other potential key nodes susceptible to cascading effects were aircraft engine factories, fuselage assembly plants, propeller facilities, and tetraethyl lead plants. This last was interesting. Tetraethyl lead (TEL) is a chemical that when added to gasoline raises its octane rating. High-performance engines of the time were dependent on high-octane gas. If the TEL plants had been destroyed—and there were only a handful around the Reich—the results could have been disastrous for the Luftwaffe, which required high-octane fuel for its fighter aircraft. This was the type of keystone target prewar theorists had predicted, but its importance was not discovered until after the war.

Of interest, Speer, the German armaments minister during the war, later stated that the ball bearing industry was indeed a bottleneck target as American air planners had thought. Speer felt striking it harder would have had a major effect on the economy.

Strategic bombing on Germany, while concentrated in time to the last nine months of a six-year war, was devastating, and Allied air superiority proved critical. Speer later stated that May 1944 was the beginning of the end: "The war was over in the area of heavy industry and armaments."

Although USSBS was supposed to be apolitical, this hope was naive. The subject of strategic bombing was freighted with politics: interallied (US vs. UK), interservice (AAF vs. the Navy), and intraservice (bombers vs. fighters). No matter what the survey teams wrote, they would offend someone. Moreover, the survey did have inherent problems. Its focus on strategic bombing tended to slight the achievements of tactical airpower—although such a strategic focus was after all its specific task. The civilian specialists chosen were from management rather than labor, and this might have skewed the results regarding worker productivity and morale.

Significantly, the US entered the war with a pitifully small number of heavy bombers, bombers that could have been built six years earlier—the B-17 first flew in July 1935. In September 1939 when war broke out in Europe, the Air Corps had a total of 27 heavy bombers—26 B-17s and one experimental XB-15. Over the next two years, the air arm would enjoy a huge buildup—21,000 more aircraft were built—but of those, only 374 were heavy bombers.

The Army hierarchy simply refused to buy the heavy bombers that airmen proposed. The land warfare zealots who controlled the top echelons of the Army between the wars prevented the AAF from acquiring the tools necessary to properly carry out the strategic bombing mission until 1944.

The result: In mid-1943, the Allies together could muster barely 1,000 heavy bombers on a given day. One year later, that number had tripled. By the fall of 1944, the combined bomber forces numbered 5,250 aircraft. That is why the Crescendo of Bombing, which began in mid-1944, was so utterly devastating. Airmen wondered if those astounding results could have been achieved earlier and with less loss of life.

The bottom line: Most certainly the strategic bombing offensive against Germany was worth the cost. The campaign was expensive in both human and economic terms, but it measurably shortened the war and saved tens of thousands of American and Allied lives. ■

Phillip S. Meilinger is a retired Air Force pilot with 30 years of service and a Ph.D. in military history from the University of Michigan. He is the author of seven books and more than 80 articles on military affairs. His latest book is "Into the Sun: Novels of the US Air Force." *His most recent article for* Air Force *Magazine, "The Prescient Planners of AWPD-1," appeared in July.*

Milton's Climb

By Walter J. Boyne

In 1933, T. R. Milton enlisted as an Army private. Ten years later, the future four-star general was leading daring bombing raids against some of the toughest targets in Germany.

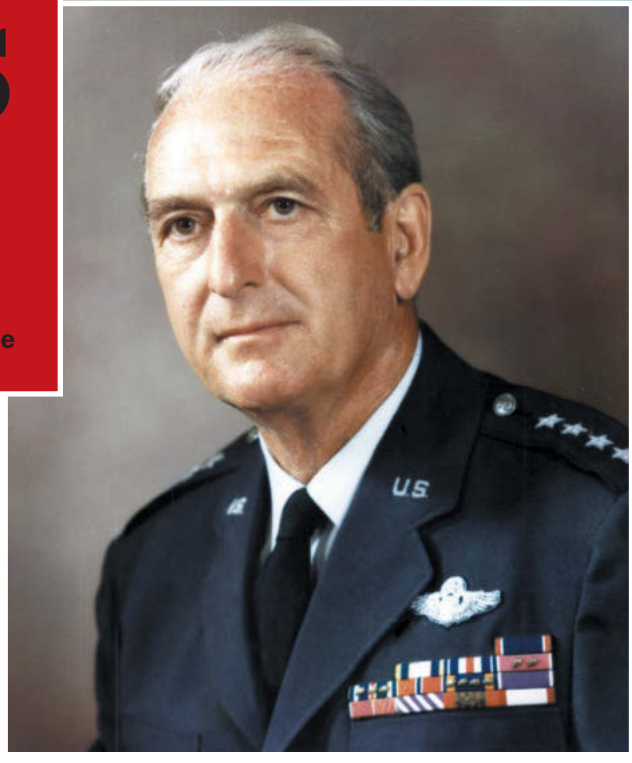


Photo courtesy Theodore R. Milton Jr.

Top: B-17s from the 91st Bomb Group fly in formation. Above: Milton's official photograph on receiving his fourth star. He was awarded a Silver Star for his leadership on a B-17 bombing mission over Bochum, Germany.

On Aug. 12, 1943, VIII Bomber Command launched a fleet of 330 B-17Fs against the synthetic oil refineries and manufacturing facilities around Gelsenkirchen, Germany, escorted by 329 P-47 fighters.

The weather was as bad as usual over Great Britain as the B-17s launched at 45-second intervals from their home stations. The mission was dangerous from the moment brakes were released, for an engine failure on takeoff could send an overloaded B-17 crashing to the ground.

Just after liftoff, the heavily laden bombers began a left-hand climb to join up in formation, disappearing one by one into the lowering clouds. Their ascent led them to a point where they could orbit on a "Buncher," a low-powered radio transmitter with a 15-mile range, specifically designed to permit formations to assemble. All 10 men aboard each bomber knew that 16 other groups, 329 more B-17s, were making the same climb through the same clouds. All hoped there would be no midair collisions on that upward path.

Formed up, the B-17Fs continued their long flight. Only a few score miles away, the Luftwaffe was watching and listening. The Germans had already tracked the bombers on radar plotting boards and would soon mark the position of the P-47 escorts, which took off after the bombers.

The Germans would soon face a surprise, however: The P-47s used belly tanks to extend their range. Still, the German fighters were serviced and ready, their pilots waiting for the signal to take off.

The Luftwaffe flak stations were alert, manned, and supplied with vast stores of ammunition for anti-aircraft guns.

On board the B-17F *Ain't it Gruesome,* the pilot, Capt. John B. Carraway, had two distinguished guests. One was Maj. Clark Gable, who would fly five operational missions while obtaining the film to produce a movie called "Combat America." This was Gable's fourth mission, and he flew wedged in behind the top gunner so he could obtain footage of attacking fighters. The other VIP was Maj. Theodore R. Milton, the 351st Bomb Group's operations officer.

As they neared the target it was apparent weather ruled Gelsenkirchen out, and Milton directed the force to bomb Bochum as a target of opportunity. German fighters were now up in force, making pass after pass through the long stream of B-17s. Before the day was over they and AAA would shoot down 25 bombers, a terrible 7.6 percent of the 330 dispatched.

Ain't it Gruesome was badly shot up, with one 20 mm shell taking the heel off Gable's flying boot, then going through the top of the fuselage without exploding.

Yet follow-up reconnaissance showed that the bombing was successful, and Milton's leadership was recognized with a Silver Star.

The citation for Milton, by then a lieutenant colonel, stated, "In spite of fierce enemy opposition and a heavy overcast, a target of vital importance to the enemy's air effort was virtually destroyed. The excellent results obtained can be attributed to the gallantry and superb leadership displayed by Colonel Milton."

Milton in discussions with a member of the Turkish Air Force. His diplomatic skills served him well both as the US representative to the NATO Military Committee and afterward in private life.

An Army Brat

Theodore Ross Milton flew lead in many of the most hazardous and costly bombing missions of World War II. The qualities he needed in combat, combined with a gregarious yet genteel personality, enabled him to succeed brilliantly in every subsequent Air Force assignment.

Milton was a service brat, born the son of an Army colonel in 1915 at Schofield Barracks, Hawaii. His father, Alexander Mortimer Milton, graduated in the same 1903 West Point class as Douglas MacArthur and played on the baseball team with him. Alexander Milton went on to enjoy a career in the cavalry, with his love of horses being passed on to his sons. Milton's younger brother John also graduated from West Point and rose to the rank of colonel in the infantry.

When Milton was 12, his family was stationed at Fort Riley, Kan., then the US Army Cavalry School. One day, he went bike riding with his friend Sidney V. "Budge" Bingham Jr. The two boys rode over to an airplane on the Army airstrip. The pilot was a family friend, none other than future General of the Air Force Henry H. "Hap" Arnold.

Both boys said yes when Hap asked them if they wanted a ride. To Milton, it was a life-changing experience—long before he landed he knew he had to become an aviator.

In 1934, Milton enlisted in the regular Army as a private at the age of 19. Two years later, he won an appointment to West Point.

There he was a bit of a rebel, receiving guard duty punishment for wearing slippers in to dinner and skipping an occasional mandatory football game. In later life he looked back at West Point with great fondness, regretting only that he had not been a better student. The same qualities that ultimately guided him through West Point and led him to become a great Air Force leader also established him as a concerned family man. While a cadet he met Grace Elizabeth Bailey, to whom he would be married for 69 years.

Milton entered flying training on graduation from West Point in 1940, winning his pilot's wings in 1941.

His flying career offered great challenges, good fortune, and inspiring mentors. He also had the blessing of seasoning, piling up many flying hours before he entered combat. At Langley Field, Va., he flew the Consolidated Liberator in anti-submarine patrols, and after Pearl Harbor, he did similar work out of McChord Field, Wash.

He wanted a combat assignment, however, and in the spring of 1943 was assigned to duty as the operations officer of the 351st Bomb Group. Once again

C-74s, including this one, were used to drop supplies to a beleaguered West Berlin during the historic Berlin Airlift, in which Milton served as chief of staff to Maj. Gen. William Tunner.

Milton receives the 1985 Thomas D. White National Defense Award at the Air Force Academy, for significant contribution to the national defense of the United States.

a key mentor appeared, Col. Curtis E. LeMay, who had previously checked him out in a B-24.

The 351st had been organized in the fall of 1942 and its first assignment was to Polebrook in Northamptonshire, England. This base, and the forces it would dispatch for the rest of the war, illustrates Eighth Air Force's growth in power. Comparable units were being stationed at most of the more than 70 air bases turned over to the US by Great Britain. Almost 8,000 personnel served to support the four squadrons of the 351st—the 508th, 509th, 510th, and 511th. Each squadron mustered 72 B-17s, and they would plunge into combat over German-occupied Europe on almost every day the weather permitted.

Before the war ended, the 351st flew more than 9,000 sorties in 311 missions, lost 125 aircraft, and suffered almost 1,000 casualties.

In the process the bomb group dropped more than 20,000 tons of bombs, mostly 500- and 1,000-pounders, but also many incendiaries.

The 351st entered combat in May 1943, when a 25-mission tour was specified for aircrew members. It was also a time when the casualty rate made completion of a tour statistically improbable.

Milton did so well in the 351st that he was promoted to be deputy commander of the 91st Bomb Group as of Sept. 13, 1943. Already made famous by the exploits of *Memphis Belle,* the 91st was a tough, ready-for-business unit that gave Milton scope for his talents. It had pioneered bomber combat tactics and doctrine and then fought through the costly era when escort fighters lacked the necessary range. Once the Luftwaffe was batted out of the sky, the 91st carried on in the final air campaign against Germany.

Leading From the Front

The intensity of its engagements can be judged by the missions it flew in the last four months of 1943, just after Milton came on board.

In September, the 91st flew eight times, in October were seven missions, in November it flew eight times, and in December came 10 more missions. The numbers seem innocuous enough until you realize that each one required a massive planning process, thousands of maintenance man-hours, endless fueling and arming, tension-filled briefings, hazardous instrument climb-outs, relentless flak, incessant Luftwaffe attacks, a nerve-wracking straight and level bomb run, the horror of seeing a comrade blown out of the sky, and then the long trip home in a flak-battered aircraft with wounded aboard.

To do this once was brave; to do it as many as 10 times a month verged on superhuman, yet it was the norm for the 91st Bomb Group—and most of Eighth Air Force. In the 91st, Milton led from the front and by example, as on the bloody Oct. 14, 1943, raid on Schweinfurt.

His most famous mission came Jan. 11, 1944, when an attack on Oschersleben encountered the heaviest Luftwaffe opposition since the Schweinfurt raid. The historian of the 1st Combat Bomb Wing—the 91st's parent unit—wrote that Oschersleben "came to be known as 'Milton's Kampf,'" because almost every time Milton flew, circumstances dictated that he would wind up in the lead position.

In the Oschersleben raid, Milton led the wing, flying as copilot to Capt. Leroy B. Everett. They had virtually no fighter escort, and an hour before reaching the target, the Luftwaffe reacted in force, attacking time and again.

Milton's aircraft was severely damaged, with an engine shot out and both Milton and Everett wounded by enemy cannon fire. Milton refused aid and pressed on, despite the loss of 13 aircraft.

After bombs away, Milton led the wing back to England where bad weather forced the returning aircraft to land at diversion airfields. Despite severe wounds, he insisted on remaining airborne until the last aircraft in his group had landed.

His son, Theodore Ross Milton Jr., relates that while his father rarely talked about his experiences, Milton did remember with gratitude that his recuperation was speeded by a friend who smuggled a bottle of scotch to him at the hospital.

On Oct. 24, 1944, Milton assumed command of the 384th Bomb Group, leading combat missions until April 14, 1945.

In addition to the Distinguished Service Cross and Silver Star, Milton earned a Distinguished Flying Cross with three oak leaf clusters, both for his leadership and execution of bombing missions over Germany. He was awarded the Bronze Star Medal, the Purple Heart, and the Air Medal five times. There were foreign distinctions as well, including the British Distinguished Flying Cross and the French Croix de Guerre.

In the post World War II years, Milton rose from one important leadership position to another. His success in these jobs would be reflected in the series of promotions, carrying him all the way to four-star rank.

In the view of his family members and others who knew him best, Milton gained the most satisfaction not from promotions or awards, but from two other elements in his career.

The first of these was the evident esteem in which his colleagues—superiors, peers, and subordinates—held him. The second was the knowledge he had proved himself in a wide variety of duties, many far beyond anything

Milton plants a tree in Israel in 1986.

he might have thought of as a cadet or even while in combat.

Among the first of these was his assignment to serve as Maj. Gen. William H. Tunner's chief of staff for the Combined Airlift Task Force—known to history as the Berlin Airlift. Tunner, a master at his business, was not always easy to work with, and Milton "ran interference" for him with the other principal players in the operation. The two men worked well together, but much later in life, a misunderstanding led to a falling out between the two men, which Milton always regretted. Milton had written an article about the airlift, and something in it so infuriated Tunner that he never spoke to Milton again. The falling out mystified him, especially because he could never determine exactly why the article had so offended Tunner.

The Berlin experience ensured a tour at the Military Air Transport Service as director of operations. It was natural in the postwar period that his career would take a more conventional turn, as Milton attended the Air War College then served as executive assistant to Secretary of the Air Force James H. Douglas Jr.

Milton eventually tired of duty in Washington and welcomed his promotion to brigadier general in October 1957 and a concomitant appointment as commander, 41st Air Division, 5th Air Force, Japan. This nicely rounded his experience, adding a tactical fighter-bomber command role to his previous transport and bomber duties.

Four years later, Milton was promoted to major general and sent to Clark Air Base in the Philippines as commander of 13th Air Force. The rapidly moving events in Southeast Asia, particularly Vietnam, made this a much more important role than it would have been just a few years before.

He moved east to Hawaii for his next tour, serving as deputy chief of staff, plans and operations, for US Pacific Command.

A Flag at Half-staff

In the following years Milton fine-tuned the diplomatic and managerial techniques that had served him well in the past. At Tactical Air Command, he became Gen. Gabriel P. Disoway's chief of staff in 1965.

In February 1967, Milton was promoted to lieutenant general, becoming the Air Force inspector general. He held that position for only half a year, until August when he received what he later considered his "least favorite" assignment, that of comptroller of the Air Force.

Some 20 months later, Milton received a new assignment, and one much more to his liking: deputy chairman of NATO's Military Committee in Brussels, Belgium.

Then, on Aug. 1, 1971, he assumed duties as the US representative to the NATO Military Committee and was promoted to the rank of general.

All of Milton's combat experience and his considerable diplomatic skills were valuable in his new position. He was in a position to advise NATO's prestigious Advisory Group for Aerospace Research and Development (AGARD). In this position, Milton called attention to requirements for improved equipment, and particularly to the need for protecting the lives of aircrew members. The first need was for new minimum standards for approach and landing, which would reflect the advances in instrumentation that had occurred in the last two decades. He also called for a drastic advance in the accuracy of bombs dropped by fighter-bombers through increased training and the acquisition of updated equipment. Noting the numerical superiority of the Warsaw Pact forces over NATO, he urged that newer, more technologically advanced aircraft be purchased to offset the odds. He also continuously advocated the importance of crew survivability.

Milton's recommendations were not always immediately accepted, but in the long term, his views were adopted.

At NATO Milton enjoyed working with his foreign counterparts and formed lasting friendships with many of his opposite numbers. One of them was Luftwaffe Gen. Johannes Steinhoff, a 176-victory ace in World War II and a man who may well have taken a shot at Milton's B-17 during the war. Another close friend was Nigel Henderson, the British chairman of the NATO Military Committee. Both Milton and Henderson sounded an early alarm about the dependence of NATO on Middle Eastern oil.

Milton retired from the Air Force in 1974, but stayed busy lecturing and writing articles, many of them for *Air Force* Magazine.

He maintained his athletic prowess until his later years and his warm wit until the very end. On his death on Aug. 24, 2010, the Secretary of the Air Force authorized that the US flag be flown at half-staff from reveille to retreat on the date of his interment, Jan. 21, 2011, in Arlington National Cemetery.

Milton was one of the few to have risen from the enlisted ranks to become a full general. Making his case unique was that he did it by moving from KP and potato-peeling status as a private in the pre-World War II US Army to four-star rank in the independent Air Force. ■

Walter J. Boyne, former director of the National Air and Space Museum in Washington, D.C., is a retired Air Force colonel. He has written more than 600 articles about aviation topics and 40 books, the most recent of which is How the Helicopter Changed Modern Warfare. *His most recent article for* Air Force *Magazine, "Breaking the Dragon's Jaw," appeared in August.*

AFA National Report

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By Frances McKenney, Assistant Managing Editor

Iron Gate Salutes 50 Years

In New York City in July, the **Iron Gate Chapter** celebrated its golden anniversary with a salute to the Air Force—and a visit from the Air Force Chief of Staff, Gen. Norton A. Schwartz.

Chapter President Frank T. Hayes says that five decades ago, another USAF Chief of Staff, Gen. Curtis E. LeMay, "saw the need for an increased Air Force presence in Manhattan and suggested an AFA chapter." Hayes says this prompted Maxwell A. Kriendler—a Reserve colonel and an owner of the 21 Club—to establish the chapter, name it, and give it a home at the restaurant. The midtown eatery is fronted by a wrought iron fence and balcony, thus the name Iron Gate.

For the 50th anniversary celebration, an Air Force flag flew above the restaurant's entrance, in honor of the AFA guests, who included Georgette Mosbacher, a cosmetics company CEO.

Even New York City Mayor Michael R. Bloomberg took note of the event. He sent a proclamation, read at the luncheon by the city's veterans affairs commissioner, Terrance C. Holliday. It proclaimed July 28 as Air Force Day in New York City. The document highlighted some of the Empire State's links to the military, including Fiorello LaGuardia's World War I service with a bomb squadron in Europe. (La Guardia at the time was serving in Congress and went on to become New York City's mayor, 1934-45.)

Schwartz, who grew up in Toms River, N.J., spoke to this sold-out luncheon audience about the budget constraints facing the Air Force.

The chapter named Schwartz as an H. H. Arnold Fellow, and he later helped present several awards, including Chapter Teacher of the Year. Science teacher Peter Giles received the honor. Among those named as Jimmy Doolittle Fellows were: New York State President Maxine Rauch; W. Glenn Mackey, chapter aerospace education VP; and Carol Nelson, chapter secretary. The chapter named the late retired Maj. Gen. J. Stanley Holtoner as an Arnold Fellow.

A silent auction took place as part of the anniversary activities, with guests bidding for items such as models of the F-16, B-1, and F-105.

USAF Chief of Staff Gen. Norton Schwartz addresses the Iron Gate Chapter's 50th anniversary celebration in New York City. The chapter caught his attention through an invitation hand-delivered to the Pentagon. Iron Gate meets at the 21 Club, whose decorative jockey statues (background) were gifts from racehorse owners.

More photos at http://www.airforce-magazine.com, in "AFA National Report"

Three USO singers presented a musical tribute to Bob Hope, and a Broadway vocalist sang two numbers, including the Air Force Song.

And what's a birthday without presents? Guests went home with a gift bag filled with a 50th anniversary medallion; souvenir program; CD by singer Rebecca Henricks; and the books *If Not Now, When?,* by Medal of Honor recipient retired Army Col. Jack H. Jacobs, and *We Served With Honor,* about the 91st Strategic Reconnaissance Wing.

Lone Star Convention

At the Texas State Convention in Fredericksburg in July, Justin M. Faiferlick, the AFA vice chairman of the board for field operations, provided an update of AFA initiatives and a preview of the national convention.

Donald Taylor, a member of AFA's Veterans/Retiree Council, and William D. Croom Jr., from AFA's Aerospace Education Council, also delivered briefings.

Among award recipients highlighted at this state convention was Texas Teacher of the Year Darren Carollo, from Lincoln High School in Dallas. A physics and environmental systems teacher for the 11th and 12th grades, Carollo had earlier been named the **Seidel-AFA Dallas Chapter's** Teacher of the Year.

Another awardee, the winner of the Earle North Parker essay contest, came from the **Denton Chapter** area. Student Brandon Bear wrote an essay on this year's theme, excellence in all we do, one of the Air Force's core values. The contest is named for a Fort Worth businessman who died in 1993. Parker had served in the Army Air Forces in World War II and later founded the **Fort Worth Chapter.**

AFA honorees received their awards at the convention's evening banquet, where Brig. Gen. Mark A. Ediger served as guest speaker. He is commander of the Air Force Medical Operations Agency at Lackland AFB, Tex.

Hot Bats

"Warm and steamy," wrote **Northern Shenandoah Valley** Chapter VP Norman M. Haller.

He was describing conditions at the chapter's annual baseball outing in Winchester, Va., organized for clients

At the Texas State Convention, AFA Field Operations Vice Chairman Justin Faiferlick (left) reads the oath of office to new state AFA leaders, with guest speaker Brig. Gen. Mark Ediger at his side. L-r: Bill Lawson, Gary Copsey, Ricky Williams, Joan Lopez, and Bob Gehbauer.

of the VA Medical Center in Martinsburg, W.Va.

Out on the diamond, the bats were hot, too. With the AFAers cheering in the stands, the hometown Winchester Royals won both games: three to two, then 10 to five against the Covington Lumberjacks.

On that 95-degree Wednesday evening in July, the chapter hosted 28 veterans plus staff from the Department of Veterans Affairs facility, so they could attend this Valley Baseball League double-header.

Chapter veterans affairs VP Jim Phillips always arranges this event. Along

with Phillips and Haller, other chapter members at the game were Thomas G. Shepherd, Raleigh H. Watson Jr., Stephanie D. Portillo, and Ed Bell.

Before the second game got under way that evening, the announcer acknowledged the AFA visitors, who included veterans from the Vietnam War and Operation Iraqi Freedom.

Steele Scholars

The **Donald W. Steele Sr. Memorial Chapter** in Virginia presented its 2011 Open Scholarships at a July chapter luncheon, with Lt. Gen. Loren M. Reno, USAF deputy chief of staff for logistics, installations, and mission support, as guest speaker.

In his remarks, Reno encouraged the educational-scholarship recipients to pursue learning throughout their lives.

SSgt. Daniel Young and Ashtin Jeney each received $2,000 from the chapter. Young is enrolled at American Military University, earning a bachelor's degree in Middle Eastern studies. Awards luncheon organizer Kevin Lewis reported that Young is an intelligence operations manager at Fort Meade, Md., and proficient in four languages. Jeney began medical school this fall.

Recipients of $1,000 scholarships were Lisa Hill, currently studying philosophy at Christendom College; Sebastian Goodridge, now majoring in engineering at Pennsylvania State University; and Shannon Ellis, now a Florida State University business management major.

Connections and Cooperation

When **Salt Lake Chapter's** John W. Barainca received the Civil Air Patrol's highest award for aerospace education, a fellow AFA member in Utah, Grant Hicinbothem, called it "a great story" showing AFA and CAP cooperation.

CAP officials presented Barainca with the Frank G. Brewer Memorial Aerospace Award for Lifetime Achievement at their national convention in August in Louisville, Ky.

Barainca was AFA's National Teacher of the Year in 1988, noted Hicinbothem, who is the Rocky Mountain Region President, and Utah AFA also had a direct hand in this latest award. Among his notable achievements, Barainca in 1999 designed and built for sixth-grade students a "Mission to Mars" simulator, inside a 40-foot-long trailer.

Utah AFA originally funded this project, said Hicinbothem, and continues to donate $1,000 a year to its upkeep.

By 2009, Barainca's school district could no longer support the trailer, so AFA members stepped in, using their connections to transfer the trailer to CAP purview, ensuring more years of usefulness to the students.

This "exemplifies what AFA/CAP cooperation can produce," said Hicinbothem.

More Chapter News

■ **Gen. Bruce K. Holloway Chapter** member Joseph E. Sutter turned to chapter members, including Charles R. Harr and James R. Cundall and daughter Joanna E. Sutter of the **Ak-Sar-Ben Chapter** in Nebraska, for help in carrying out the latest Honor Flight from Knoxville, Tenn., in August. Honor Flight is a nationwide program founded to fly World War II veterans to Washington, D.C., so they can visit the memorial commemorating their military service. Honor Air Knoxville has conducted 10 flights, Sutter reported, bringing more than 1,100 veterans to the nation's capital. The itinerary always includes a stop at the Air Force Memorial, he added.

■ In New York, the **Chautauqua Chapter's** July meeting took place at the Dresser-Rand Challenger Learning Center in Allegany, N.Y., where Chapter Teacher of the Year Tom Moser is director. Moser arranged for chapter members to tour the facility, one of 48 centers located in the US, Canada, Britain, and South Korea. "Very impressive," commented Chapter President Steve Kockler after the tour. "You strap into seats that shake for the launch sequence." Named for the space shuttle that exploded in January 1986 just after liftoff, the centers offer realistic mission simulations and teacher training. They reach some 400,000 students a year. ■

Reunions

reunions@afa.org

Pilot Classes 57-O, P, Q, R, S and **Navigation Class 57-10** and **11.** April 17-21 in Orlando, FL. **Contact:** E. Mead, 517 Johnson St., New Bern, NC 28560 (252-636-1054) (atoldgoat@aol.com).

871st AC&WS, Villatobas, Spain. May 16-20, 2012, in Fresno, CA. **Contact:** Larry Bohannon (440-238-9774) (lkbohannon@roadrunner.com).

SAC Airborne Command Control Assn. Aug. 22-26, 2012, in Washington, DC. **Contact:** Wilton Curtis (804-740-2290) (wcurtis135@aol.com).

Seeking members of **UPT 65-G,** Reese AFB, for a March 2012 reunion. Contact: Pete Fleischhacker (210-493-5274) (p-f@att.net). ▪

E-mail unit reunion notices four months ahead of the event to reunions@afa.org, or mail notices to "Reunions," *Air Force* Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. Please designate the unit holding the reunion, time, location, and a contact for more information. We reserve the right to condense notices.

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I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).

The War of the "Four Battles"

In late 1994, Gen. Merrill A. McPeak lobbed a roles-and-missions bomb into the nation's defense community. The soon-to-retire USAF Chief of Staff called for scrapping an Army missile, elimination of Marine Corps fixed wing aviation, transfer of Army air defense to the Air Force, and Air Force abandonment of the close air support function. The always blunt McPeak said such moves would reconcile US forces with what he termed "the four battles"—close, rear, deep, and high—and eliminate overlaps in service spending. His suggestions did not sit well with the three other services, which soon started shooting back. Though McPeak's ideas made considerable sense, they faded away when he left the scene.

"Roles and Missions"

Gen. Merrill A. McPeak, USAF
Address to the Heritage Foundation
Washington, D.C.
Oct. 17, 1994

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

In my view, modern warfare can be seen as containing several distinct "battles," each with associated battlespace. Setting aside the maritime battle, about which I am not the expert, land warfare can be seen as encompassing the rear battle, which includes bases and supporting elements; the close battle, where the main opposing ground forces engage one another; the deep battle, including hostile territory well beyond our front lines; and the high battle—the arena of air and space combat. ...

Since operations in the rear and close battles revolve around seizing, holding, and securing ground, these battles should, in my view, be the responsibility of a ground forces commander—an Army or a Marine officer. Likewise, the Army and the Marine Corps should have the lead for organizing, training, and equipping forces that secure rear areas and engage enemy forces in close combat.

On the other hand, the air component commander should fight the high and deep battle. ... Air assets provide the cheapest and best—often the only—capability to operate in this battlespace. The air commander will likely be an Air Force or Navy officer. ... It seems logical that the Air Force and Navy should lead in fielding forces for the high and deep battles. ...

If you accept the scheme I have laid out, it follows that the commander responsible for the close battle has a much reduced requirement for weapon systems that reach across his battlefield seams into the deep and high battles. If there are such systems in the field or on the drawing board, they might be good candidates for retirement or transfer to another department. Alternatively, the commander with responsibility for the deep battle has little need for forces designed to support close ground combat. If there are any, they too could be transferred or cut. ...

The Army is investing almost $6 billion on a long-range surface-to-surface missile known as the Army tactical missile system or ATACMS. ATACMS would be used to attack both fixed and moving targets deep in the enemy's rear—a capability that airpower has provided for at least 50 years. Now, we should ask whether—at projected funding levels—ATACMS is really necessary. ...

Now, I've just violated one of the cardinal rules of civil discourse within the Pentagon by questioning the need for a system being fielded by another service. So, let me suggest an Air Force capability that is at odds with the concept of the modern battlefield. Earlier, I stated that responsibility for the close and rear battles should be assigned to a ground forces commander—an Army or a Marine officer. Yet, today, all four services provide close air support for ground forces. ...

It would be no great break from recent experience to assign the Army and Marine Corps primary responsibility for close air support. If we did, Air Force A-10 and OA-10 squadrons could be retired, saving about $5 billion over the next five years. ...

So there, I've done it. An Air Force Chief of Staff has suggested that the Air Force could give up some of its aircraft—some of its force structure. In fact, let me digress a moment to say I believe our nation has too much Tacair. ...

One option would be to transfer enough Marine Corps F/A-18 squadrons to the Navy to fill out their carrier air wings and retire the remaining Marine F/A-18s. Marine vertical-lift aircraft—helicopters and Harriers—are ideal for over-the-shore force projection and close-battle operations. But Marine F/A-18s require the same improved airfields as other high performance, fixed wing, land-based fighters. They are best suited for deep- and high-battle operations, where they duplicate existing Air Force and Navy Tacair capability. ...

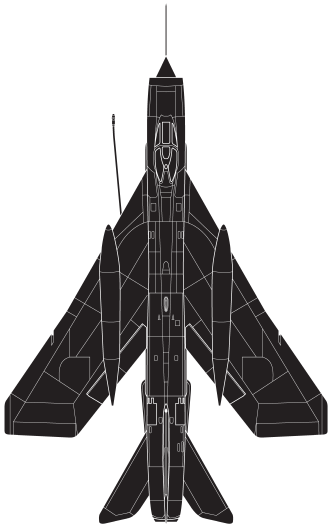
Having discussed the deep and close battles, let me turn to the high battle for a moment, starting with theater air defense. ... Freedom from aerial attack is so important that all the services have fielded capabilities to defeat the enemy air threat. ...

We have no way of knowing whether our style of "disintegrated" air defenses—unique to us among the world's first-class military powers—will really work under stress. We all should be highly skeptical. It is for these reasons that the Air Force has suggested that land-based air defenses should be our responsibility. This would allow us to save money, provide for integrated command and control, and increase effectiveness while reducing the odds of fratricide.

Now, I'm sure many of you will agree that the points I've raised today are entirely noncontroversial and will be accepted by the Army, Navy, and Marine Corps with open arms. ■

Artwork by Zaur Eylanbekov

Lightning



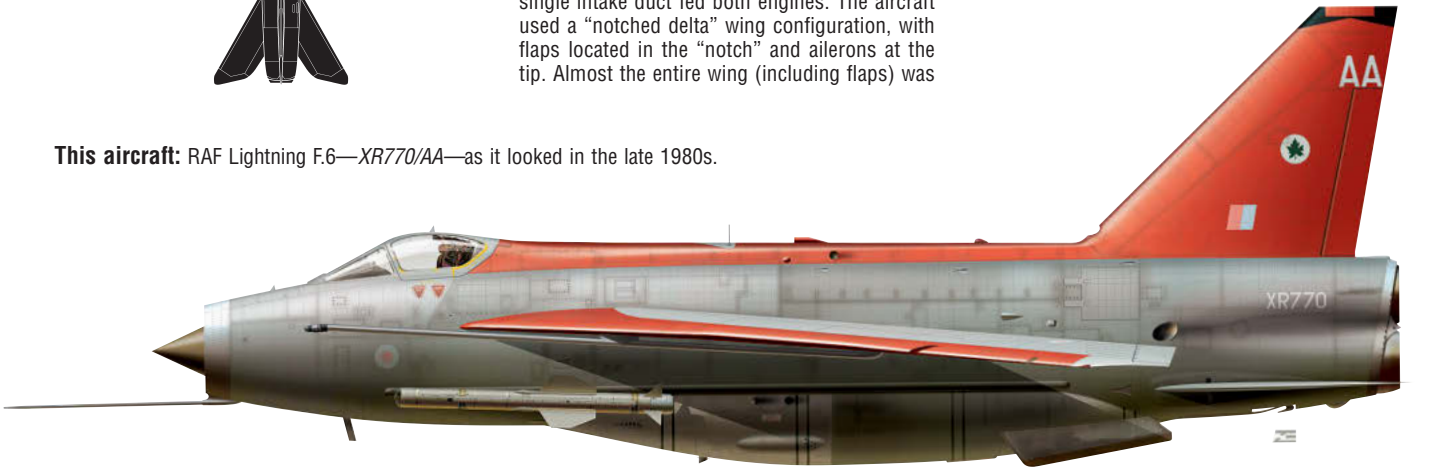
The Lightning was the first and only British-built fighter to have Mach 2 capability. The sophisticated English Electric design featured a unique vertically mounted two-engine setup, which gave a 100 percent increase in power with only a 50 percent increase in drag. The well-designed Lightning was aerodynamically far more advanced than its contemporaries. It was widely known for its blazing speed and unpainted natural metal finish.

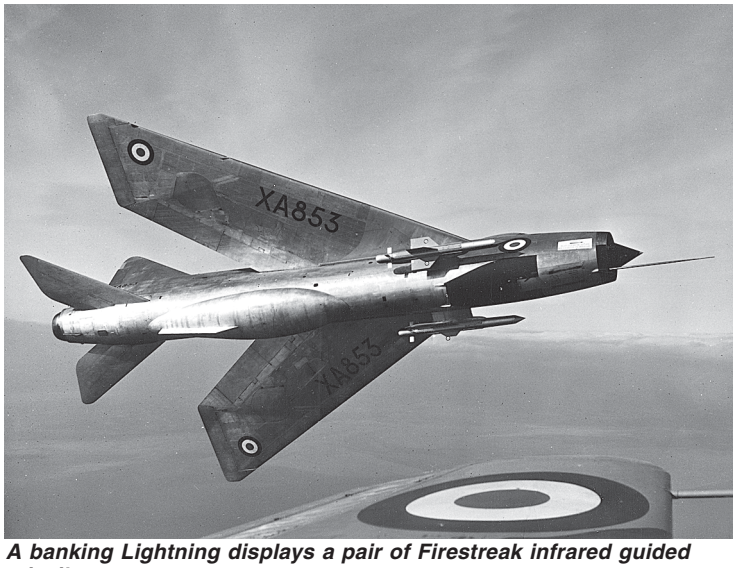
EE used experimental and preproduction prototypes to prove the design. Good results led to an RAF order for 50 F.1 Lightnings, the first of which arrived in 1959. The fighter was of an all-metal construction, with the cockpit well forward and the engines installed in the center section. The single intake duct fed both engines. The aircraft used a "notched delta" wing configuration, with flaps located in the "notch" and ailerons at the tip. Almost the entire wing (including flaps) was used for fuel storage, but for most of its career, the aircraft lacked the desired range. The tail section was mounted low on the fuselage.

The aircraft was relatively easy to fly, but required extensive maintenance. Fuel leaks in the "under/over" engine arrangement created a fire hazard. With an initial climb rate of 50,000 feet per minute, the Lightning was perfect for the interceptor role. It did not mature as a multirole fighter until 1964. Then, the installation of a ventral fuel tank and modification of the wing resulted in the highly capable Lightning F.6.

—Walter J. Boyne

This aircraft: RAF Lightning F.6—*XR770/AA*—as it looked in the late 1980s.





A banking Lightning displays a pair of Firestreak infrared guided missiles.

In Brief

Designed, built by English Electric ★ first flight April 4, 1957 ★ crew of one (two in trainer) ★ two Rolls Royce Avon turbojet afterburning engines ★ number built 340 ★ **Specific to Lightning F.6:** max speed 1,500 mph (Mach 2.2) ★ cruise speed 595 mph ★ max range 800 miles ★ armament two 30 mm cannons, two Firestreak or Red Top missiles, 44 rockets ★ weight (max) 50,000 lb ★ span 34 ft 10 in ★ length 55 ft 3 in ★ height 19 ft 7 in.

Famous Fliers

Notables: Roland Beamont (more than 1,300 test flights), Brian Carroll (flew above 87,000 ft), J. L. Dell, T. M. S. Ferguson, Mike Hale (intercepted U-2 above 60,000 feet), J. C. Hall, Peter Hillwood, J. K. Isherwood, D. M. Knight, J. W. C. Squier, Desmond de Villiers.

Interesting Facts

Nicknamed "Frightening" by some who flew it ★ became first to demonstrate "supercruise" ★ reached Mach 2.0 on Nov. 25, 1958—a first for a British aircraft ★ shot down a runaway Harrier which had continued to fly after pilot ejected ★ became first Royal Air Force platform to use integrated weapons system for automated missile delivery ★ sold to Saudi Arabia (100 for 100 million pounds) ★ flown by the No. 56 Squadron—the "Tiger Squadron"—and Firebirds aerobatic team No. 74 Squadron★ fitted with both over- and underwing mounts for tanks and armament ★ had jettisonable over-the-wing tanks.

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[1]Forrester Research, Inc., "Customer Advocacy 2011: How Customers Rate U.S. Banks, Investment Firms, and Insurers," March 2011. [2]Based on 2010 Member Communications Trend Survey. Use of the term "member" does not convey any legal, ownership, or eligibility rights for property and casualty insurance products. Ownership rights are limited to eligible policyholders of United Services Automobile Association. The term "honorably served" applies to officers and enlisted personnel who served on active duty, in the Selected Reserve or National Guard and have a discharge type of "Honorable." Eligibility may change based on factors such as marital status, rank or military status. Contact us to update your records. Adult children of USAA members are eligible to purchase auto or property insurance if their eligible parent purchases USAA auto or property insurance. Property and casualty insurance products are available to current and former military members and their former dependents who meet certain membership eligibility criteria. To find out if you are eligible, contact USAA. Underwriting restrictions apply. Automobile insurance provided by United Services Automobile Association, USAA Casualty Insurance Company, USAA General Indemnity Company, Garrison Property and Casualty Insurance Company, USAA County Mutual Insurance Company, San Antonio, TX, and is available only to persons eligible for P&C group membership. Each company has sole financial responsibility for its own products. AFA receives financial support from USAA for this sponsorship. 133277-1011

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