

February 2002/\$4

AIR FORCE

JOURNAL OF THE AIR FORCE ASSOCIATION

MAGAZINE

Enduring Freedom
Airpower Delivers

The Return of NORAD
A Chronology of Terrorism
Task Force Hawk



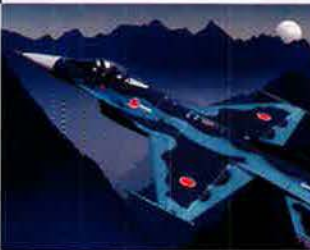
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About the cover: A Northern Alliance soldier points to jet contrails in the sky above northern Afghanistan. See "Enduring Freedom," p. 32. AP photo by Sergei Grits.

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By John T. Correll, Editor in Chief

From Sensor to Shooter

SOMETIMES the targeting of airpower can be swift and uncomplicated. Recent operations in Afghanistan provided an example.

Taliban troops and tanks had massed on a ridge within view of a US forward air controller, who scanned the position with a laser range finder and relayed the coordinates to the theater command center. The target was passed to a B-52, flying unseen above the clouds. Guiding on a signal from space, the B-52 struck with deadly precision. Time elapsed: 19 minutes.

Several things made the quick reaction possible. The target was clear and visible. The FAC was close enough to make positive identification. The ridge was in a location where the FAC was authorized to release a strike on certain kinds of targets, such as tanks.

For various reasons—some technical, some procedural, some political—most targeting of airpower takes much longer than 19 minutes.

In the Kosovo operation three years ago, the representatives of more than a dozen nations got to vote on what to bomb. The approval of fixed targets took, incredibly, an average of 14 days.

The constraints are seldom that severe, although *The New Yorker* and the *Washington Post* have reported delays in the approval of targets in Afghanistan that may have let some Taliban and al Qaeda leaders escape.

Avoidance of civilian casualties is important. Mistakes can kill the wrong people. They can also undercut the objectives for which the war is being fought.

It is not easy to balance such considerations against military requirements, especially in a theater like Afghanistan, where the Pentagon says 90 percent of the targets have been of the mobile or “emerging” variety.

The crux of the matter is how soon we can absorb and act on data from intelligence, surveillance, and reconnaissance sources. When the data is ambiguous, it stretches out the targeting decision.

Part of the solution is more ca-

pable sensors. In general, though, our ability to gather data is greater than our ability to translate it into usable information.

The Air Force believes the targeting loop can be shortened substantially. This is a high priority for Gen. John P. Jumper, who became Air Force Chief of Staff last September. He has been pushing the idea for his last three assignments.

The goal is to cut the targeting cycle to 10 minutes or less.

Jumper says that the “kill chain”—the time from when the target is spotted by a sensor until a shooter locks on to it—can be reduced to 10 minutes or less.

To get there, we must modify intelligence practices held over from the Cold War, when the collection of data was paramount. “First we collect, then we analyze, then we report. Does that sound time critical to anybody here?” Jumper asks.

He prescribes the “horizontal integration” of aircraft and spacecraft, which would exchange data with each other, directly and immediately. A small preview was seen in Afghanistan, where Predator reconnaissance drones provided a streaming live feed from their video cameras to AC-130 gunships.

The place where it all comes together is the Combined Air Operations Center, which Jumper says the Air Force “will consider as a weapon system and crew it like we crew an airplane.”

The automated CAOC of the future will combine information from satellites and manned and unmanned aircraft with everything that’s in any database. In the past, such information came in separately from various sources, platforms, and priesthoods, which diminished its value in making decisions.

The CAOC will obtain and display, without being asked, useful kinds of information about targets and the battle area. This will be done almost instantly, machine to machine, and it will go a long way toward resolving ambiguities of target location and target identification.

Political constraints are not within the military’s purview to decide. However, the stronger the confirmation of the nature of a potential target, the greater the confidence of the politicians in the proposed action is likely to be.

Reducing the targeting cycle is not a new idea, nor is the fusion of intelligence data. The difference this time is the degree of data integration that technology now makes possible and the amount of horsepower behind the effort. In the past, attention centered on platforms and programs, and integration was a by-product.

Among other evidence of the commitment, the Air Force is establishing a new three-star position on the Air Staff, a Deputy Chief of Staff for Warfighting Integration. Look for this to be a major theme in the months ahead.

The value of rapid targeting is obvious at the tactical level of war. If the process is slow, time-urgent opportunities may be lost or mobile targets may be long gone by the time an air strike gets there.

The significance at the operational and strategic levels may be less apparent.

For the past decade or so, the United States has pursued, with considerable success, the concept of parallel warfare. The attack is launched on all sides at once, and is simultaneous rather than sequential.

There is no time for the enemy to react, adjust, adapt, mount a counteroffensive, or escape. The faster the attack, the more effective it will be and the sooner the conflict will likely be concluded and over.

Tightening the sensor-to-shooter loop is long overdue, and the effort to do it has an excellent chance to succeed. ■

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Nuclear Minimalism

"Aerospace World" quotes Gen. [Ralph E.] Eberhart as stating that he personally believes that there will be a Minuteman IV sometime after 2020. [See "ICBMs Still US 'Ace in Hole,'" December, p. 24.] The basis for Eberhart's projections is his belief that the ICBM will remain an important part of the US strategic deterrent for decades to come.

While I happen to share Eberhart's views, we who support a strong ICBM force must make strong arguments to overcome the trend toward nuclear "minimalism." The value of the ICBM, according to Eberhart, is that it will convince any nation that puts the US at risk that "we have the capability to destroy them." Yet this capability is resident by design in the entire US strategic nuclear force posture. With the fall of the Soviet Union, it seems to many observers that the ability to destroy an adversary—vice defeat them in a nuclear war—can be achieved rather handily and with a small nuclear arsenal, possibly one composed entirely of SLBMs.

President Bush has announced unilateral cuts in US strategic nuclear forces to a level between 1,750 and 2,250 warheads by 2010. How many ICBMs remain in the force is not certain. Moreover, given the trend toward lower forces, it is not clear that even 1,750 warheads will be the floor for US strategic nuclear forces. Below 1,500 warheads, it will be very difficult to maintain even a small ICBM force. If Eberhart wishes to see a Minuteman IV, he and others must convince DOD, Congress, and the American people that ICBMs have a special role to play in guarding the nation's security.

There is a case to be made for the ICBM. Its value is its responsiveness and flexibility. These features are particularly relevant when the objective of US nuclear strikes is not the wholesale destruction of an adversary but precision effects, say to eliminate an opponent's nuclear capabilities. ICBMs may be particularly useful in the presence of a limited national missile defense that can defeat an initial strike,

opening the way for the use of ICBMs to prevent a second launch.

If the ICBM force is to be sustained, a strong, positive case needs to be made for their unique contribution to national security. That case is not being made presently.

Daniel Goure
The Lexington Institute
Arlington, Va.

Changing Times

Read your very excellent article entitled "Strategy for Changing Times" [*Editorial*, December, p. 2]. You said it right: Finding, fixing, tracking, and targeting anything that moves on the face of the Earth is a good prescription for the US military of the 21st century. So far so good, but in the future the trick will be doing so before it moves—i.e., before the enemy strikes. Weapons of mass destruction in the hands of our potential enemies, without a countervailing capability to deter their use, means they must be found and destroyed before they can be employed. Anything less is, to borrow a term from the Cold War, unthinkable.

Gen. James P. Mullins,
USAF (Ret.)
Del Mar, Calif.

Credit Where Due

I was surprised by your article in December [*Aerospace World: Afghan Food Drop Marks First Use of New System*, p. 14] giving credit [to two C-17 loadmasters] for the Tri-Wall Aerial Delivery System. While I don't in any way deny the value of what the

C-17s have done, let's give credit where it belongs.

As a former Air Force Special Operations Command aviator (MC-130E navigator), I take a lot of pride in the tactics and techniques our community has developed over the last 30 years, including the first use of night vision goggles for tactical flight (1980), the use of the BLU-82 15,000-pound Daisy Cutter bomb during Desert Storm (1991), and the TRIAD system (during the Bosnia relief missions). It felt good to see a special operations forces innovation, like so many other innovations, has crossed over to the mainstream airlift world.

David P. Tardiff
Fort Walton Beach, Fla.

In your article "Afghan Food Drop Marks First Use of New System," I believe you have an error. You state the drops "marked the first operational use of a new drop system." I may be reading between the lines, but it appears you're saying that the Oct. 7 airdrops over Afghanistan are the first time the tri-wall system has been used operationally. Not true!

While it may be true to say it was the first operational use of TRIADS by the C-17, it is not true to say it's the first operational use of the system, period.

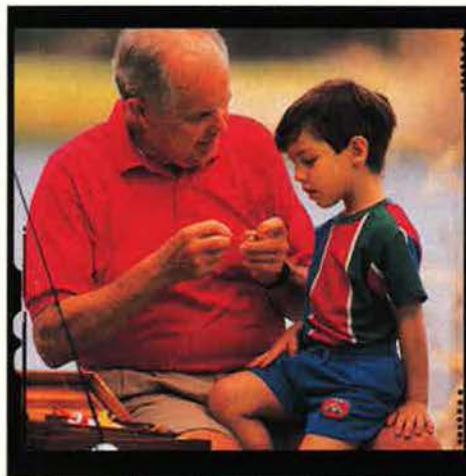
From 1993 until 1994, USAF conducted TRIADS drops over Bosnia. C-130E aircraft from the 37th Airlift Squadron [then at Rhein-Main AB, Germany] conducted most drops, but C-130 aircraft from the 43rd Airlift Wing at Pope [AFB, N.C.] and Guard and Reserve forces heavily augmented them.

As a member of the 37th, I helped test the TRIADS system at Grafenwöhr [Germany] drop zones using standard MREs. These tests were conducted with the help of MC-130s of the 7th Special Operations Squadron. Later, I served as a pilot on the test of TRIADS where the Humanitarian Daily Ration was validated for use.

Maj. Brian Robins,
AFRC
San Diego

Not to discredit SMSgt. Cliff Harmon

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or MSgt. Donny Brass, but the C-17 was not the first to use the "new system" to drop food packets. TRIADS was developed by crews and support personnel at Rhein-Main during Operation Provide Promise. That operation delivered aid to Bosnia from July 1992 to January 1996. TRIADS proved most effective in Bosnia.

Brig. Gen. Fred N. Larson,
ANG (Ret.)
Lexington, Ohio

■ *These readers are correct. The American Forces Press Service news release used as the source of our "Aerospace World" item apparently contained errors. The Air Force recognized four airmen in 1995 for developing TRIADS for use over Bosnia. The airmen, who each received \$6,000 from the USAF suggestion program, were: Capt. Matthew B. Ash, MSgt. Michael G. Duffie, MSgt. Mark N. Heflin, and SMSgt. Haldor C. Regi. Use of the system over Afghanistan was a first for the C-17.—THE EDITORS*

Developing Aerospace Leaders?

I read with great interest about the Air Force's latest plan to develop its officers into leaders. [See "Developing Aerospace Leaders," December, p. 62.] One observation shared with me by a prominent executive recruiter specializing in junior military officers merits consideration: He generally refuses to accept Air Force officers with an operational background because "they lack leadership or managerial experience." Initially, I was offended by this assessment. Over time, I have come to realize its truthfulness.

Unlike Army and Navy counterparts who lead and oversee troops and seamen virtually from the outset of their careers, Air Force pilots are not expected to actually rate and oversee the career of subordinate personnel until they become flight commanders. This means that for 10 to 12 years, our pilots are only expected to look out for No. 1.

It might be argued that aircraft commanders and instructor pilots must supervise and command and that many outstanding officers demonstrate selfless leadership throughout their career. While that is true, most operators are not required or even allowed to officially oversee anyone during the formative years of their career. The average pilot or navigator will not counsel anyone or write a single performance report (other than their own) until they are well over the

hump to retirement. They finally enter official leadership roles woefully ignorant about the intricacies of enlisted career progression and unaccustomed to even considering career goals other than their own.

Although our goal is not to develop the next generation of corporate and industry leaders and managers, the candid assessment of a top civilian headhunter is instructive.

All American officers accept their commission prior to being trained as specialists and relegated to "tribes" and "stovepipes." Even in our operator dominated, technology oriented Air Force, leaders supervise and motivate people, not airplanes or weapons systems. Perhaps it is time to apply that reality and the concept of "service before self" to the development of our newest aerospace leaders.

Timothy D. Moore
Elizabethtown, Ky.

George Patton was pretty parochial and certainly a pain to work with. His single-minded fixation on armor and its capabilities left him to have little reliance on the capabilities of his fellow fighters. Billy Mitchell, Curtis LeMay, Douglas MacArthur, and Hyman Rickover were all men of the same narrow tribal viewpoints who became problems in one way or another for the civilian and military leadership.

"Developing Aerospace Leaders" appears to herald another attempt to fix the problem. I'm convinced that there are groups that can be (pejoratively) labeled "tribes," but I'm not convinced they are as big a problem as they are depicted to be.

A case is made that they make [the personnel center's] job more difficult, but it is left as a given that the candidates [the center] was "forced" to accept were either less competent or less effective. We seem to be moving from a cult of the purple suit to one of the grey suit. We're aiming for managerial rather than combat efficiency and effectiveness. We have never been able to define leadership or consistently train for it so we settle for training managers and homogenizing the force.

With the smaller force we have today, we may not be able to count on as many great mavericks to emerge and may not be able to tolerate or deal with the difficulties they bring. Certainly DAL will make their appearance even less likely. Any attempt to "broaden" will necessarily reduce "depth" and probably knowledge,



Publisher
John A. Shaud

Editorial afmag@afa.org

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passion, and commitment to a "tribe" as well.

Harvey Sarsfield
Longmont, Colo.

The B-52

Once again Walter Boyne gives a concise yet outstanding history lesson in "Fifty Years of the B-52" [*December, p. 50*]. As a fan of the venerable beast, I thoroughly enjoyed the article and I was amazed by Boyne's ability to hit every highlight of what is arguably the most recognizable airplane in the world. Two of the photo captions, however, were not entirely correct.

The caption on p. 56 says, "The offensive and defensive positions here ...," but the photo shows the BUFF's offensive station, with the radar navigator on the left and the navigator on the right. The defensive position is upstairs, now manned by the lonely electronic warfare officer.

[The photo on] p. 57 shows a B-52 being marshaled into parking. The caption says, "The B-52G, the last with a tail gun" In fact, the B-52H was armed with a 20 mm Vulcan cannon until the demise of gunners in 1991. The guns were gradually removed from the airplanes over a couple of years, and I suspect by now

they are all "neutered." I was a gunner on both the B-52G and B-52H—and proud of it.

MSgt. Carlos Cisneros
Peterson AFB, Colo.

As an aircraft hydraulic systems specialist in the early 1970s, I got to work on B-52Hs at Wurtsmith AFB, Mich., as well as B-52Ds and B-52Gs at Anderson AFB, Guam. One error [in a photo caption p. 57] is the mention that the B-52G was the last model with a tail gun. The aircraft I worked on at Wurtsmith were equipped with the M61A 20 mm Vulcan gatling gun. If a hydraulic leak was found in the tail section in front of the quick disconnects, hydraulic specialists fixed the leak. If the leak was aft of this point, armament specialists took care of the problem. The gunner wasn't in the tail of the aircraft; he was relocated to the main cabin, sharing space with the five officers.

SMSgt. Stephen Bibler,
USAF (Ret.)
Hesperia, Calif.

■ *Thanks to both readers for catching these errors.—THE EDITORS*

I was a navigator in B-24s (Fifteenth Air Force in Italy), then later I

worked for North American Aviation where the Hound Dog missile (AGM-28) was designed and built for use under the wing of the B-52. As an engineer in the design, test, and use of the Hound Dog, I was disappointed that your article did not mention that missile, especially since the picture on top of p. 53 shows one under the wing. There is a lot that could be said about that missile.

R.M. Hamilton
Upland, Calif.

I just finished reading Boyne's excellent article. His description of this old warrior filled me with wonderful memories and a heartfelt warm fuzzy. After logging 4,500 hours in the C, D, E, F, G, and H models in a 30-year career, reading about my reliable old friend and the contributions that it continues to give to our country again filled me with pride. I think all of us who had the privilege of flying the BUFF feel the same way.

Col. John R. Johnson,
USAF (Ret.)
Bellevue, Neb.

Boyne's article asks "what the world might be like if the B-52s had been unleashed in 1965" with respect to their significant impact over

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North Vietnam during Operation Linebacker II in late 1972. Well, one reason why they were not unleashed was clearly stated by 7th Air Force commander Lt. Gen. [William W.] Momyer ("Chairman Momyer" to us line guys) to aircrews at Da Nang AB in the fall of 1966.

We in the 480th Tactical Fighter Squadron were on the night schedule and were wakened one morning to assemble in the briefing room. Momyer came in, turned a straight back chair around, sat down, and gave us the "inside story." He had come to explain why he was directing an increase in night air operations (meaning F-105s and F-4s) against North Vietnam and expanding the strike areas from the lower Route Packs up to Packs 5 and 6 to increase pressure on Uncle Ho.

A senior captain F-4C aircraft commander stood up and asked, "How come we don't send the B-52s up to Hanoi?" Without hesitation the general said, "Can you imagine world reaction, especially Russia, if our primary nuclear retaliation weapon was shot down by some Third World backwater nation?"

That's why, as I recall, we weren't sending the BUFFs up to the Hanoi area in that time frame.

Lt. Col. Anthony P. Callanan,
USAF (Ret.)
Redondo Beach, Calif.

[Maj. Gen. William E.] Eubank [Jr.] is an old friend with whom I have exchanged a few war stories about the B-52. The fact that he never mentioned the one about the tip gear doesn't mean it didn't happen; it only means there were so many others that it got lost in the bunch. What didn't get lost is the "junior pilots" flying "chase" on early B-52 missions.

There was no connection between the copilot ACE [Accelerated Copilot Enrichment] program and the incident with the tip gear. ACE was conducted much later in T-33, T-28, and T-37 aircraft for copilot proficiency and never involved one of them on a chase mission of a B-52, although we all envied them their extracurricular flying mission.

At any rate, it was a good review of a powerful weapon system and some super troops.

Col. Bob Straughan,
USAF (Ret.)
Carrollton, Tex.

■ *Walter Boyne confirmed the incident (which he witnessed) with*

Eubank in a telephone conversation. There was no ACE program at the time, but it was possible for SAC air crews to check out in base operations aircraft. There were two T-33s available at Castle AFB, Calif., as well as C-45s, B-25s, and C-47s. The T-33s were used to fly chase on the B-52s (only one or two had arrived) when they returned to the landing pattern.—THE EDITORS

I enjoyed the article on the BUFFs. Over the years, I often pondered the following: War has changed from the Cold War—type to the Vietnam—, Gulf War—, Bosnia—, and now Afghan—type. The BUFF has been incredible (as anticipated) and appears to be becoming even more of a valuable asset. Why doesn't USAF upgrade the BUFF? Build all new BUFFs—somewhat like the B-737s or MD-12 series. This would probably be very cost effective and give the new BUFFs all new airframes, new engines, avionics, new nuisances, and other improved refinements but still be cheaper than the B-2s.

John Rowland
Clifton, Va.

What great memories that article brought back for me. Thank goodness one of the greatest generals of the Air Force (if not the greatest), Gen. Curtis E. LeMay, was at the helm during the early days of the B-52. Those who have never witnessed an entire SAC alert force answer a klaxon, fire up all engines, taxi, and take off at one minute intervals have missed a great experience.

CMSgt. Donald W. Grannan,
USAF (Ret.)
Fort Worth, Tex.

About That Meeting

Murray Green in his letter [*"Arnold and FDR, p. 6*] in your January issue makes the assertion that my two grandfathers, Hap Arnold and Donald Douglas, were on the golf course on Dec. 7, 1941. This is not correct.

According to Donald Douglas, who told me this personally, they were in fact at Doug's hunting camp near Buttonwillow, Calif. They had been out shooting and came back to hear the news from one of the caretakers who had heard it on the radio.

Also, my parents eventual marriage in 1944 was not even a glimmer on the horizon at that point. The two men had been pals since World War I. That was the basis of the relationship between them. They always



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talked aviation, but both were avid outdoorsmen and enjoyed each other's company tremendously. Arnold in his busy life never missed an opportunity for hunting or fishing, if he could squeeze it in.

Another historical note: Arnold in a dramatic scene had personally seen off the flight of B-17s from Hamilton Field heading for Hawaii the night before. Although he had no way of knowing that the Japanese attack was imminent, he suspected war was on its way and told his men so. He then flew down to Bakersfield to meet Douglas. Those B-17s would, of course, attempt to land in the middle of the Japanese attack.

Regarding the flap with FDR over aircraft production, there is plenty of evidence that Arnold, while not disobeying a direct order, protested and angled to delay and defer equipment transfers to Europe prior to December 1941 and, in fact, had "strong, blunt, and colorful" interchanges with the US Secretary of State on this subject.

I will leave the full characterization of the Byzantine world of FDR's aid to Britain and France prior to Pearl Harbor up to the historians.

Robert Arnold
Glen Ellen, Calif.

Don't Repair It

Rather than spend \$800 million over the next three years to repair the damage done to the Pentagon by the Sept. 11 terrorist attack, why not just make the damaged area a memorial, then spend the money to set up a new office for those displaced somewhere outside the Pentagon and outside Washington, D.C.? [See "Aerospace World: Pentagon Repairs Will Take Years," December, p. 13.]

Washington is always a hardship tour for all but those who love to shuffle paper and especially for the enlisted ranks. The Pentagon has undergone numerous upgrades and improvements, but it is still like working in a giant, substandard 60-year-old warehouse.

Time to move everyone who doesn't need to be in D.C.—thanks to modern communications—to somewhere more hospitable and less political, like Peoria [Ill.] or Hays, Kan. If we are really going to modernize the force and move forward, let a move from the Pentagon, however small, lead the way.

Bill Barry
Huntsville, Ala.

Getting Back to the Hornet?

The article "Doolittle Raider in South Carolina" in December on p.

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77 contains a significant error. The article states that following Lt. Col. [Horace E.] Crouch's B-25 dropping its bombs on Japan, the bomber headed for China because it did not have "enough fuel to return to the [USS] *Hornet*."

It never was the intention of the Doolittle Raiders to return to the *Hornet* following their strike on the enemy's homeland. All 16 crews were briefed to head for China after dropping their loads, even though they knew that their fuel loads would be marginal by the time they arrived there. They accepted this risk and hoped for the best—a true testimony to their bravery and their dedication to the mission.

In any case, even the legendary miracle-worker Jimmy Doolittle might have had problems landing a B-25 on the relatively short deck of the *Hornet* if a return landing had been part of the plan.

MSgt. Jim Walker,
USAF (Ret.)
Dayton, Ohio

■ You are correct.—THE EDITORS

The Predator B

Always great to see published words and pictures of Unmanned Aerial Vehicles, and your December edition is no exception. That said, the UAV photo included in your "The Changing Business of Defense" article [p. 58] is mislabeled. The photo is actually of General Atomics' new Predator B, vice their Predator UAV.

While Predator is being fielded and already has attained an impressive combat record, last I heard its "big brother" was still undergoing contractor tests in the desert skies over California. Predator B, which is

advertised to come with either turboprop (pictured) [or] jet engine, is General Atomics' next generation UAV, designed to fly faster, higher, and carry more payload than its little brother.

Lt. Col. William A. Malec
Air Force UAV Battlelab
Eglin AFB, Fla.

Whence the Markings?

The cover photo (by TSgt. Cedric H. Rudisill) on the December issue depicts a B-52H heading back from its bombing mission over Afghanistan to the Indian Ocean island of Diego Garcia. Surprisingly, this aircraft shows no markings on its upper surfaces.

In the past, USAF aircraft had the national insignia (stars and bars) readily visible on the upper left wing (even in camouflage paint), with a mirror image of the insignia under the right wing—along with the appropriate fuselage and tail code markings. I'm wondering, is this a new paint scheme and are the national identity markings omitted on purpose?

MSgt. Menko D. Christoph,
USAF (Ret.)
St. Peters, Mo.

Manly Pride?

The January letter "Manly Pride" [Letters, p. 4] is very disturbing to me. The writer makes reference to sending "women to fight our wars" as being inappropriate. How can a veteran of the Air Force, someone who fought for the rights we have in this great country, want to deny someone those rights?

A woman has the same right and duty to support her country that any man has. Women fought for decades to earn equal rights and eventually won. Being a US military veteran does

not give anyone the right to want to strip those rights from them. It is their war, too. They were affected by the Sept. 11 tragedy. They have the right to fight the war alongside their male counterparts.

Cadet Maj. Andrew J. Peloquin,
AFJROTC
Deltona, Fla.

Where [retired] Col. [Michael] Sexton was "pained" by the picture of the female F-15E pilot "preparing to deploy for combat," I was heartened and filled with pride. Although singularly of the male gender and having both daughters and granddaughter, but never having been a member of the Air Force (I spent 30 years agitating gravel in the Army), I have always been a staunch advocate of women serving in the military, in any capacity for which they were qualified.

I had occasion to actually fight against female guerrillas in both Korea and Vietnam. If given a choice, I would choose a male adversary every time. On occasion, the men could be forced into surrender. In my experience, the women always fought to the death.

In over 55 years of military service and entrepreneurship in America's business community I have never met a woman who fell short in whatever she was supposed to be doing. I cannot say the same for the males I have run across. I found women to be the most conscientious, the most dedicated, the most reliable, the most professionally competent, the most honest and principled individuals I ever encountered when compared to their male contemporaries. Given a choice, I will choose to serve or do business with a woman anytime.

In my jaundiced view, Sexton is not only pained by women being placed in harm's way but feels terribly threatened that women can cut it just as well, if not better, than their male comrades-in-arms. His thinking is no different than what I witnessed in the early 1950s on the services' initial attempts to racially integrate its forces—thinking that unfortunately is still much too prevalent today.

Perhaps if we adopt a more Taliban-like repressive attitude toward our womenfolk the "manly pride" of certain of our male chauvinistic brethren might be better served.

Karl R. Morton
Pinetop, Ariz.

Carl: Not the U-2

A number of publications have car-

ried biographies on the late Marine Corps hero Maj. Gen. Marion E. Carl [because of] his installation into the [National] Aviation Hall of Fame.

One reported activity in his career that bothered me was the oft-repeated statement in those biographies that he had flown reconnaissance missions in the U-2 over China in May 1955. As an original USAF U-2 pilot, I knew this had to be an error since Tony Levier didn't make the first flight until August 1955.

I finally broke the code reading a new book, *Shadow Flights*, by Curtis Peebles. It turns out that Carl flew his China missions in the F-2 Banshee, not the U-2. That probably took a lot more guts, and he obviously had lots of them.

Maj. Gen. Pat Halloran,
USAF (Ret.)
Colorado Springs, Colo.

■ *We ran an item about Carl in "Aerospace World: Four New Names for the Aviation Hall of Fame," in April 2001 [p. 24], taking our information about the U-2 flights from the Hall of Fame news release. We will correct our Web site version to not perpetuate the myth.—THE EDITORS*

More on Bomber Questions

[I read about the long missions addressed in the September "Bomber Questions" article [p. 36] and the letter [from James C. Miller] in November [p. 4]. I was part of the initial cadre that started the Chrome Dome 24-hour missions in 1960 at Turner AFB, Ga. I wonder if there are ever any lessons learned?

I flew three of the Chrome Dome routes to the North Pole, Alaska, and the Mediterranean. The longest mission was 28 hours-plus, with four refuelings. Some of our lessons learned were: use midmorning take-offs so the crews get a normal night's sleep; eat a special high-protein breakfast; take in-flight meals from a selected diet; flight surgeons [recommended] different types of amphetamines and other drugs; carry extra crew members, mostly a third pilot; carry pain pills and diarrhea medication, just in case.

The most dangerous and energy-sapping [tasks] were the multiple refuelings, especially at night in the northern lights and if there was weather. There were so many instances of refueling problems [that] an engineering solution was developed to use the autopilot to reduce the workload.

Several of the lessons learned were

applied to the F-16 program: restrict the overseas ferry flights to approximately eight hours or less; adjust takeoff times for daylight flying and refuelings.

My last flight prior to retiring from USAF in July 1980 was in an F-16B, 40,000 feet-plus and Mach 2-plus, low-level bombing and nine Gs and refueled behind a KC-135. The fighters are a piece of cake compared to bombers and other heavies, due to the KC-135 [and] KC-10 tanker wing vortices.

Col. Dorsey J. Talley,
USAF (Ret.)
Fort Worth, Tex.

The B-1 is a great plane; however it cannot replace the mighty B-52. The B-2 is a wonder. I wonder how it flies? I'm sure the superintelligent Air Force planners have thought of this, but why not build a super B-52 which would cost a relative pittance compared to the B-1 and B-2? Since it is 50 years old and cannot be replaced by the billion dollar bullfrog, it seems logical and sensible (or is that the problem?) to build a modern B-52.

David E. Kuriger
Lyman, Maine

Overreaction

[Irv] Levin overreacted to your November 2001 reply to [Walter J.] Gerzin [about] the "raid" on Social Security. [See "Letters: On the Mark," p. 5.] AFA exists to inform its members about matters that affect them professionally and personally. Belief that elected officials and their "political interfaces" will be forthright when such action will diminish their power (Social Security is a very powerful political tool!) is both foolhardy and dangerous. By providing its members a forum for a variety of issues, AFA helps its members to see the truth, and that is good.

Col. Dale C. Hill,
USAF (Ret.)
McLean, Va.

Corrections

In the January issue, the map on p. 51 ("The Search for Asian Bases") should have shown Kazakhstan to the north of Uzbekistan and Kyrgyzstan.

Also in January in "Aerospace World," p. 21, Vandenberg is misspelled in the subhead.

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Aerospace World

By Suzann Chapman, Managing Editor

Enduring Freedom Rolls On

The war on terrorists in Afghanistan is still being fought but has now taken a different direction, stated Defense Secretary Donald Rumsfeld.

"The campaign continues without pause," he told reporters, adding "although in a somewhat different phase."

"One does not bomb unless there is something to bomb," Rumsfeld said in late December. In the Tora Bora area, for instance, he emphasized it would not be appropriate to bomb the area when coalition forces are "crawling around in caves and tunnels."

They are looking for information, people, and weapons. The searches in Afghanistan have resulted in arrests across the world and "undoubtedly have prevented other terrorist activities," stated the defense chief.

It is also still dangerous, he said. "There are pockets of resistance throughout the country."

DOD Continues Air Strikes

Coalition forces identified new tar-

But Where Is He?

Asked for the nth time if the Pentagon knew Osama bin Laden's status, whether he had escaped to another country or was dead, Defense Secretary Donald Rumsfeld replied, "We hear six, seven, eight, 10, 12 conflicting reports every day."

"I've stopped chasing them," he added, but couldn't stop there. In his now famous acerbic style, Rumsfeld noted on Dec. 27:

"We do know, of certain knowledge, that he is either in Afghanistan or in some other country or dead. And we know of certain knowledge that we don't know which of those happens to be the case."



South Carolina Air National Guard members at McEntire ANGS, S.C., ready F-16s for takeoff to a forward location, from which 169th Fighter Wing pilots, maintainers, and support personnel will participate in Enduring Freedom.

USAF photo by SSGT. Robert E. Minder

gets in late December and early January as the search for remaining Taliban and al Qaeda elements spread beyond Tora Bora.

On Dec. 21, AC-130 gunships and carrier fighter aircraft attacked a convoy of about 10 to 12 vehicles and the command-and-control compound from which they had departed near the town of Khowst, which is south and west of Tora Bora.

On Dec. 26, heavy bombers and tactical aircraft attacked another target near Ghazni, destroying a compound that contained Taliban leadership.

On Dec. 28, air strikes targeted a compound near Gardez.

On Jan. 3, USAF B-1Bs and AC-130s and Navy F-18s struck the Zhawar Kili compound near Khowst again.

And on Jan. 4, adding B-52s, the USAF and USN aircraft struck it for at least the third time.

Air strikes continued against Zhawar Kili during the second week of January. Air Force F-16s and Navy F-14s and F-18s struck the complex, which officials called "very, very extensive."

DOD Achieves "Additional" Goal

The Administration has clearly stated its goals in the war on terror, namely to stop terrorism and the nations that harbor terrorists, emphasized Rumsfeld. That includes "al Qaeda but not just al Qaeda," he said.

In Afghanistan, there was the additional goal of ending the Taliban government because of its support for al Qaeda.

"We have now achieved that one goal," said Rumsfeld, adding this caution: "We still have the al Qaeda network worldwide to deal with, as well as the other terrorist networks, and we intend to do so."

The problem does not go away with the capture or death of Osama bin Laden, he reminded reporters Dec. 27. There are any number of people who could and would continue to operate the al Qaeda network, said Rumsfeld.

"Now, clearly it's our goal to chase them and find them wherever they are."

Where Next?

The Administration has left no doubt that the action in Afghanistan is just

the first military step in the war against terrorism. The next likely target: terrorists bases in Somalia.

Defense officials have repeatedly stated that the mission in Afghanistan is not over, while other Administration officials have begun pointing to increased surveillance over Somalia.

US intelligence officials said that aerial reconnaissance flights over the north African nation of Somalia increased the first week of the new year, reported the *Washington Times*. US, British, and French spy aircraft were gathering information about al Qaeda terrorist camps.

Defense Chief Rumsfeld would not speculate on what other country might be the next military stop in the anti-terror war. He did confirm Jan. 3 that intelligence gathering had increased.

On Somalia, he told reporters that al Qaeda "go in and out."

"We know there have been training camps there and that they have been active over the years and that they, like most of them, go inactive when people get attentive to them."

Secretary of State Colin Powell remarked to the *Washington Times* Jan. 8 that the US had told several countries to deny support to terrorists as part of a major diplomatic effort.

"And one that immediately comes to mind and that has been mentioned particularly is Somalia," Powell stated.

USAF Considers New Jammer

When the Air Force retired its last EF-111 Raven aircraft in 1998, the Navy's EA-6B Prowler became DOD's sole electronic attack platform. Its age, though, will force a replace-

Bush Announces ABM Treaty Withdrawal

President Bush announced Dec. 13 that he was giving formal notice to Russia that the US plans to withdraw from the 1972 Anti-ballistic Missile Treaty.

In remarks in the Rose Garden, Bush explained, "I have concluded the ABM treaty hinders our government's ability to develop ways to protect our people from future terrorist or rogue state missile attacks."

Bush was referring to the US pursuit of a national missile defense program that could protect the US from a small number of missiles launched by a rogue state or by terrorist organizations.

The Pentagon has held up some tests of elements of a proposed system because the tests might have violated the ABM treaty.

Russian President Vladimir Putin, in a television appearance, claimed that the US was wrong to abandon the 30-year-old cornerstone of US-Russia nuclear strategy. However, he said that the move would not threaten Russia's national security.

Senior Bush Administration officials have pursued closer relations with the Russians for some time. And that, they believe, in addition to the President's budding friendship with Putin, has ensured withdrawal from the treaty would not lead to a new arms race.

In fact, both leaders have pledged to reduce offensive nuclear arsenals further. Bush, in his remarks, said the US had pledged "to reduce our own nuclear arsenal between 1,700 and 2,200 operationally deployed strategic nuclear weapons."

Putin, in turn, called for a reduction of between 1,500 and 2,200.

President Bush said the era of the ABM treaty was "a much different time." He noted that the hostility that once led both countries to keep thousands of nuclear weapons on hair-trigger alert, pointed at each other, no longer exists.

"As the events of September the 11th made all too clear, the greatest threats to both our countries come not from each other or other big powers in the world," he said, "but from terrorists who strike without warning or rogue states who seek weapons of mass destruction."

ment some time this decade. A key question is whether USAF will pursue a replacement of its own rather than continuing the present arrangement of joint use of a single platform.

The Air Force has been sharing jammer crews with the Navy and Marine Corps using the Prowlers, an

arrangement that officials say has worked well.

Pentagon acquisition head Edward C. Aldridge confirmed in late December that the EA-6B has experienced cracks in the wing section that have restricted its operation. "We've got to replace the airplane," he said.

Aldridge told reporters that a Navy-Air Force analysis of alternatives had been completed but is under review by service leadership and would "eventually get up to me."

"There're a lot of things still to be done," he added.

USAF Chief of Staff John P. Jumper had said earlier that the Air Force has a candidate aircraft to replace the EA-6B, but he also said the issue is "wide open" to alternative solutions.

There are concepts that put jamming capability on unmanned vehicles. There may also be other avenues that would enable US forces to penetrate aerial threats.

"The whole idea of electronic warfare has to be folded into this entire notion of information warfare," Jumper emphasized.

"We can't assume that traditional notions" are the only way to penetrate threats, he added.

Low Rate Production for JASSM

Pentagon acquisition chief Aldridge cleared the Joint Air-to-Sur-

USAF photo by SSgt. S.C. Felde



Local news media in Bishkek, Kyrgyzstan, on Jan. 9 interview members of the 86th Air Mobility Squadron, part of the 86th Contingency Response Group setting up operations for Enduring Freedom. (See news item on p. 16.)

face Standoff Missile for low rate initial production on Dec. 21. That will enable the Air Force to place the newest cruise missile on board F-16 and B-52 aircraft by 2003, stated USAF officials.

JASSM, a joint Air Force–Navy program developed and produced by Lockheed Martin, is a 2,000-pound-class weapon that will also eventually be deployed on B-1, B-2, and Navy F/A-18E/F aircraft. With its stealth capability it will be able to penetrate enemy air defenses at more than 200 miles.

Air Force Secretary James G. Roche calls JASSM “a flagship program for acquisition excellence.”

It came in under projected dollars and showed such high performance, the Air Force increased its buy from 2,400 to 3,700 missiles.

USAF is also considering an extended-range version.

AFRC Crew Flies First Enduring Freedom Prisoners to Gitmo

An Air Force Reserve Command C-141 crew from the 445th Airlift Wing transported the first Taliban and al Qaeda detainees to Cuba on Jan. 11.

The 20 prisoners were delivered to the US naval facility at Guantanamo Bay, nicknamed Gitmo, where DOD plans to hold as many 2,000 prisoners, if necessary.

Southern Command activated Joint Task Force 160 to head the operation at Gitmo. The task force includes active duty members, primarily security forces personnel, from each service and reserve personnel.

Speaking about the first flight, one of the 445th AW Reservists said of the crew, “Nobody relaxed.”

The 445th Reservists, who were all volunteers, are from Wright–Patterson AFB, Ohio. The flight crew was augmented by several airmen from the 445th Security Forces Squadron.

Other AFRC units from California, Maryland, and Wisconsin are also taking part in the transport operations.

USAF Grants Most Stop-Loss Waivers

Air Force officials said Jan. 8 that more than 80 percent of requests for relief from Stop-Loss have been approved.

USAF activated Stop-Loss last fall to restrict personnel from retiring or separating during Operations Enduring Freedom and Noble Eagle and any associated operations.

Service officials said they had re-



Photo by Phil Kocurek

Two CV-22 Ospreys have been undergoing testing at Edwards AFB, Calif., for the Air Force. The service wants the CV-22s to replace its aging MH-53J Pave Low helicopters.

Osprey To Restart Flight Testing

Testing will resume for the V-22 Osprey tilt-rotor aircraft in April, Pentagon acquisition chief Aldridge told reporters Dec. 21.

“But,” he emphasized, “this new flight test ... will be much more comprehensive than that previously planned.”

Just over a year before, the Osprey program suffered its second lethal crash in one year. The first, on April 8, 2000, killed 19 Marines. The second, on Dec. 11, 2000, killed four, including the program’s most experienced pilot and director, Lt. Col. Keith M. Sweaney.

The Pentagon halted flight testing while the entire program underwent review by the Marine Corps, the DOD inspector general, and an independent blue-ribbon panel. Though the panel criticized the program, its final conclusion, presented to Defense Secretary Rumsfeld early last year, was that the flaws could be overcome with design modifications.

In May last year, the Pentagon approved changes to hydraulics lines, poorly designed engine nacelles, and defective flight software.

Aldridge stated that production would slow to the minimum sustaining level to permit time for periodic reviews of the flight-test results and to make changes to the production aircraft, as needed.

“I personally still have some doubts, but the only way to prove the case one way or the other is to put the airplane back into flight test.”

That testing will last about two years. Among factors like shipboard compatibility and landing in dust and debris, it will also explore the phenomena called vortex ring state, which was cited as the cause of the April 2000 crash.

The Marine Corps plans to buy 360 V-22s, and the Navy and Air Force plan to buy 50 each. The Marines have maintained that they need their version of the tilt rotor for rapid deployment into high-threat areas. USAF officials, though asking for far fewer, have also steadfastly cited the need for the CV-22, the special operations version, to replace aging helicopters.

Despite the aircraft’s problems, two of Rumsfeld’s special defense review panels—the Conventional Forces and Transformation Panels—called the V-22 “critical.” They did not lavish such a term on other systems.

Aldridge, in fact, stated that the V-22 “has some very unique capabilities. ... There is no other alternative.”

However, he noted, “first thing we have to make sure of is that it’s reliable, safe, and operationally suitable.”

ceived about 900 waiver requests out of a total of 11,500 personnel affected by the order.

Major command commanders judge on a case-by-case basis whether personal reasons to leave the service are compelling enough to outweigh the Air Force's need for the individual to stay. As of Jan. 3, said officials, commanders had approved 82 percent of enlisted requests and 81 percent of waivers for officers.

"What's interesting is that less than a thousand of those affected have asked for waivers," said Lt. Col. Richard Binger, chief of retirements at Air Force Personnel Center.

"It seems that people are accepting that their country needs them right now," he added.

Bush Signs Authorization Bill

President Bush signed the \$343.3 billion National Defense Authorization Bill for Fiscal 2002 on Dec. 28, despite a major setback on the base closure issue.

The authorization bill approved a new round of base closures but not as soon as Defense Secretary Rumsfeld had requested. The bill delays the start until 2005. The Pentagon had asked for authority to start the process next year.

There were early indications that Rumsfeld might ask the President to veto the bill. Instead, he said he "slept on it" and would not recommend a veto over base closure issues.

He said a veto would delay important legislation for service members, including a sizeable military pay raise and infrastructure improvements.

The raise is the largest pay increase in 20 years, according to defense officials.

Increases range from five to 10 percent. The pay raises are targeted to certain pay grades, with enlisted members receiving a minimum boost of six percent and officers, five percent.

Certain pay grades for both enlisted members and officers will see greater increases, officials said, to help with retention.

However, Rumsfeld pointed out that the delay in the base closure program will waste money and assets.

"Given the war on terror, we will be doing something even more egregious, and that is we will be providing force protection on bases that we do not need," Rumsfeld said. "It's a shame."

Deployable Shelters Not Proved

The 40-plus-hour missions that B-2 stealth bombers flew to Afghanistan for Enduring Freedom may soon be at an end when the Air Force gets

Professor Herold Counts the Casualties

Dismayed that the Pentagon had not announced the number of civilians killed by the bombing in Afghanistan, Professor Marc W. Herold of the University of New Hampshire decided to make his own count.

His method is to read the international press—he spends 12 to 14 hours a day on the Internet, gathering "data"—and to derive his tally from the number of deaths reported. By January, Herold had thus calculated a toll of 4,050 noncombatants killed.

Herold says that his "documented high level of civilian casualties" is attributable to "the apparent willingness of US military strategists to fire missiles into and drop bombs upon heavily populated areas of Afghanistan."

He has relied considerably on such sources as the Afghan Islamic Press Agency, the al Jazeera news network, and newspapers in Pakistan.

Herold is an associate professor in the Departments of Economics and Women's Studies. He received his Ph.D. at Berkeley in 1979.

US officials do not have a count of civilian casualties but regard Herold's "count" as preposterous.

Herold's ongoing study is popular with some Arab leaders and Muslim clerics who have their reasons for believing his numbers. But he has also begun attracting attention in the Western press.

Michael Evans, defense editor of the *London Times*, called Herold's work "an unofficial report by an American academic" and used it to flesh out his own account of "mass civilian casualties" in Afghanistan.

The *Guardian* newspaper in Britain said Herold is conducting "a systematic independent study" that demonstrates that "the US and its camp followers are prepared to sacrifice thousands of innocents in a coward's war."

The *Washington Post* said those "with long experience in such assessments" are skeptical of counts like Herold's but followed that by noting equal skepticism of "the Pentagon's virtually routine denials" of extensive civilian casualties.

The *Post* quoted Darcy Christen of the International Committee of the Red Cross as dismissing statements on casualties by US Secretary of Defense Donald Rumsfeld as the kind of thing to be expected from "a political actor or military actor."

The Toronto *Globe and Mail* noted that the death toll of "ordinary Afghans" in Herold's study surpassed the number of people killed in the terrorist attacks on Sept. 11. It said that "other organizations, whose monitoring has been less rigorous, offer lower figures."

It does not say what methods could possibly be "less rigorous" than Herold's.

—John T. Correll

its new deployable shelters. But USAF's top officer wants more proof the shelters are up to snuff.

The first of four shelters contracted by the service in September is due this spring. A prototype shelter, complete with a climate controlled environment for maintenance of the stealth bomber's special protective coating, was tested last summer.

Chief of Staff Jumper told reporters late last fall that he was not convinced the deployable B-2 shelters will allow the Air Force to maintain the bomber's low observable capabilities "as well as I expect them to be maintained."

He said that does not prevent use of B-2s, but is just a question of conducting "considerable tests" to prove the shelter capability before he commits them to forward locations.

The shelters, he admitted, "have had some problems," but he added, "I don't think that has been the showstopper."

When he has a chance to have that maintenance capability proved to him,

Jumper said, the Air Force has a plan to pre-position the new bombers in host countries.

Navy Area Missile Gets Ax

The Pentagon announced Dec. 14 that it had canceled the Navy Area Missile Defense Program because of excessive cost growth.

The Navy missile's acquisition unit cost had increased by 57 percent and average procurement unit cost by 65 percent.

Under the Nunn-McCurdy law, passed several years ago, once a program's unit costs increase by 25 percent, the Pentagon must certify to Congress that:

- The acquisition program is essential to national security;

- There are no alternatives to the acquisition program that will provide equal or greater military capability at less cost;

- The new estimates of the program acquisition unit cost or procurement unit cost are reasonable; and

■ The management structure for the acquisition program is adequate to manage and control program acquisition unit cost or procurement unit cost.

Pentagon acquisition head Aldridge told reporters Dec. 21 he could not answer yes to all four criteria, "so we had to stop the program."

One key answer was yes, though, Aldridge emphasized. He said that it was essential to national security.

The program will be restructured, he said, with the Navy essentially developing a new terminal defense system that will incorporate new technical developments, such as hit-to-kill technology.

Rumsfeld: We Need Two New Civilian Posts

Defense Secretary Rumsfeld requested in late November that Congress grant him authority to create

two new senior civilian posts: an undersecretary of defense for homeland security and an undersecretary for intelligence.

In a letter to Congress, obtained by *Inside the Pentagon*, Rumsfeld said, "It is becoming clear that we are likely to need reorganization in two principal areas: intelligence and homeland security" to conduct a sustained campaign against terrorism.

He added that it was not his intention to grow the Pentagon bureaucracy, "so we will find organizational offsets to account for two new undersecretaries."

USAF Establishes Homeland Security Directorate

The Air Force activated the Directorate of Homeland Security on Jan. 2 under the Deputy Chief of Staff for Air and Space Operations.

The interim director of the new or-

ganization is Maj. Gen. Jeffrey B. Kohler, who also serves as the director of operational plans in the DCS.

"Several major commands have created homeland security points of contact and some have created small offices," he said. "The focus of this organization will be to bring this all together with policy and guidance to make sure the Air Force is marching with one vision in homeland security."

USAF Sets Up Operations From Kyrgyzstan

Members of the 86th Contingency Response Group from Ramstein AB, Germany, deployed to Bishkek, Kyrgyzstan, late last year to open an airfield for Enduring Freedom.

Unit personnel from more than 40 Air Force specialties established the initial aerial port operation. They also provided force protection and coordinated construction of living, operational, and maintenance areas that would support coalition military personnel flying from Manas Airport in Bishkek to Afghanistan.

The 786th Security Forces Squadron has permanent roving patrols, plus a quick-reaction force that works with host nation security personnel to ensure area security.

In early January, a squad of eight from the 786th set out on foot for its first dismounted patrol to cover a seven-mile route. TSgt. John Murphy, patrol squad leader, said, "There are no known enemy forces here," adding that the patrol was checking for spots that might provide any potential enemy an advantage.

The USAF security forces said they were also sharing tactics and techniques with Kyrgyzstan security personnel.

The CRG was poised to provide support for 30 days or more.

Bulgaria Hosts US Military

Air Force air refueling aircraft began operating out of Bulgaria in late November for missions supporting Enduring Freedom over Afghanistan.

Six KC-135 Stratotankers from RAF Mildenhall, UK, were sent to Burgas airfield.

About 200 support and operations airmen from bases in England, Italy, and Germany make up the 351st Expeditionary Air Refueling Squadron. The unit's primary job is to provide aerial refueling for aircraft air-dropping humanitarian aid to Afghanistan.

US forces have participated in exercises in Bulgaria for several years,

Stateside CAPs Impact Readiness

The services have faced readiness problems for years. Now, however, readiness for the Air Force has taken on a new dimension, one not considered before the Sept. 11 terrorist attacks.

The new factor is that USAF is now not only faced with heightened operations abroad, said Gen. John P. Jumper, the Air Chief of Staff, but also a new mission at home—flying Combat Air Patrols over US cities.

That is "something we've not had to deal with before," Jumper told reporters. "We're in a situation where the increased requirements are at home and overseas at the same time."

"Does this cause us problems? You bet," emphasized the USAF Chief last fall.

The long running readiness issues were created as the services downsized yet picked up mounting workloads from back-to-back contingencies abroad. Compounding the problem were budgets that did not enable them both to modernize and recapitalize older systems.

Today's even higher use rate of USAF's older aircraft is undercutting their useful service life. And the toll for the Air Force from flying continuous CAPs for Operation Noble Eagle is seen in people as well as aircraft.

It's a tempo burden, said Jumper, that also cuts into training and funds for training.

The Air Force is assessing what the right concept of operations will be for homeland defense, according to the Chief. It could include flying continuous CAPs or perhaps switching to an alert status arrangement.

Ending the stateside CAPs could prove a political problem. The public may not be ready to forgo the sense of added security they provide.

Having fighter jets only on ground alert raises a timing issue. As an example, some point to the incident of the 15-year-old student pilot who crashed a private airplane into an office building in Tampa, Fla., on Jan. 5. He first strayed through the airspace at Tampa's MacDill Air Force Base, which is home to Central Command headquarters. Fighters on strip alert at Homestead Air Force Base outside Miami, about 200 miles away, could not have arrived in time even with adequate notification.

In this case, the FAA failed to notify NORAD, the military command charged with managing CAPs and dispatching alert aircraft, until after the teenager crashed. FAA officials said they are investigating why there was such a delay in what is supposed to be a more streamlined notification process. (See "The Return of NORAD," p. 50.)

Today, continuous CAPs are flown over Washington, D.C., and New York City, as well as up to six other cities or regions. Otherwise CAPs are flown when and where needed and fighters remain on ground alert able to scramble within 15 minutes at about 24 bases around the country.

The Air National Guard provides most of the fighter aircraft for the patrols, with support from active and Air Force Reserve Command forces.

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A B-1B takes off on an Enduring Freedom mission.

Warner: Too Soon for B-1s To Retire

Sen. John Warner, ranking Republican on the Senate Armed Services Committee, told reporters in mid-December that the Air Force's plan to retire about a third of its B-1B bombers should be reconsidered after the bomber's contributions to Enduring Freedom in Afghanistan.

Air Force Chief of Staff John Jumper was asked in late November if the service had been rethinking the move. "I'm sticking with that decision," he said.

USAF officials announced the plan last June as a cost saving measure. They proposed to retire 33 B-1s by the end of 2002. That would have left 60.

The decision created a furor, especially among Congressmen whose districts would be affected.

The Air Force's plan would eliminate B-1B units at McConnell AFB, Kan., Mountain Home AFB, Idaho, and Robins AFB, Ga. It would consolidate the remaining bombers at Dyess AFB, Tex., and Ellsworth AFB, S.D.

Air National Guard units at McConnell and Robins would be most affected. That fact and the "political" consolidations in Texas and South Dakota prompted a wave of protests.

Although House and Senate conferees indicated their support for the decision, lawmakers did manage to slow the process by including \$164.4 million in the Fiscal 2002 defense authorization bill to maintain the 33 B-1Bs until the Air Force completes a number of reviews.

USAF officials maintain that by shrinking the force, they can free up about \$1.5 billion to equip the remaining B-1s with new precision weapons, self-protection systems, and reliability upgrades.

The Air Force bought a total of 100 of the sleek bombers in the 1980s. Earlier attrition claimed seven. An eighth crashed Dec. 12. The B-1B entered service as a nuclear bomber designed to attack the Soviet Union but was converted for conventional munitions.

but this marked the first long-term stay for US military forces.

Petko Draganov, Bulgaria's deputy minister of foreign affairs, said the move required a difficult constitutional procedure that any country would require before "allowing foreign military to rest on [its] soil."

He added, "But it all went very smoothly, and I was really satisfied by the fact that when it came to parliament, 100 percent of the members of parliament voted for it."

USAF Announces Reorganization

Air Force Secretary Roche and Chief of Staff Jumper outlined the new look for the headquarters staff Dec. 18 in a joint press conference

with Army leadership. Both services announced plans to make themselves more efficient.

Pentagon spokesman Rear Adm. Craig Quigley said the Navy and Marine Corps would discuss similar efforts soon.

For the Air Force the agenda was to remove stovepipes, to find overlaps, and to transform the way it leads, said Roche.

The third item included establishing a new position—Deputy Chief of Staff for Warfighting Integration—to "worry about the architecture for our fighting forces," he said.

The office will integrate command-and-control and intelligence, surveillance, and reconnaissance systems

that are increasingly important to warfighters.

The new DCS will be the person, Roche added, who "can say this passes the test for sensible warfighting architecture."

"We have seen in Afghanistan the blending of systems that exist—the Predator UAV with the AC-130 in an effort that put Predator video on board the AC-130," said Jumper. "Seems like a simple step," but he added that a few months ago direct integration of stovepipes would not have happened on the battlefield.

"The key word here is integration," he said. The problems the Air Force has are at the seams, between and among the functions of find, fix, track, target, engage, and assess.

Congress OKs 60 More C-17s

Lawmakers included a provision for purchase of 60 additional Boeing C-17 transports, beginning in Fiscal 2002, in the defense authorization bill it released Dec. 12.

Senior Pentagon officials had told Congress that the Mobility Requirements Study 2005 cited the need for 50 to 60 more C-17s than the planned buy of 120.

The Air Force believes that the MRS-05, produced early last year, is already out of date.

Bush Approves Combat Zone Tax Break

President Bush signed an executive order Dec. 14 that grants significant tax breaks for service members in Afghanistan and the airspace above it.

The order is effective from Sept. 19, the day troops first started deploying for Enduring Freedom. It also applies to service members directly supporting operations in Afghanistan from other locations if they are receiving imminent danger pay or hostile fire pay.

The order permits enlisted service members and warrant officers to pay no federal income tax on all basic pay and special pay. Officers will pay tax only on that portion of their pay that exceeds the highest enlisted pay plus the \$150 imminent danger pay, a figure currently set at \$5,043.

Eligible service members also receive an automatic extension to file their taxes.

Additionally, since the order is retroactive to Sep. 19, officials said eligible service members will get a refund of taxes already paid, and future withholding will stop.

BMDO Gets New Name

The Ballistic Missile Defense Organization was redesignated the Missile Defense Agency the first week in January.

USAF Lt. Gen. Ronald T. Kadish remains as director and continues to report directly to Pentagon acquisition, technology, and logistics chief Aldridge.

In a memo announcing the change, Defense Secretary Rumsfeld stated his four key objectives, which included establishing "a single program to develop an integrated system under a newly titled Missile Defense Agency" and assigning "the best and brightest people to this work."

C-17 Sets 13 World Records

A 418th Flight Test Squadron crew from Edwards AFB, Calif., broke 13 altitude and payload world records Nov. 27 for the C-17, bringing the total number of C-17 world records to 33.

The crew flew three sorties to set maximum altitude records for payloads ranging from no payload to 88,200 pounds. Maximum altitudes were achieved by first burning down to the minimum fuel required to return to base and land, and then climbing the aircraft as high as possible.

An observer from the National Aeronautic Association, the governing body for US record attempts, was on board for all three sorties to verify the records.

One altitude record set was for steady horizontal flight, in which the crew had to maintain a constant airspeed and altitude for at least 90 seconds. The C-17 maintained an unofficial level altitude of 44,430 feet with a 22,100-pound payload. Altitudes of 43,820 and 45,500 feet were also reached carrying payloads of 88,200 and 22,100 pounds, respectively.

The aircraft was ready to keep going, said Maj. Chris Lindell, one of the test pilots.

"The maximum altitude achieved for the lower weights attempted was 45,500 feet, which was based on an operating restriction for the engines," he said. "The aircraft could have gone higher."

In addition to Lindell, the record-setting crew comprised test pilots Maj. Todd Markwald, Capt. Chris Morgan, and Boeing's Norm Howell and loadmasters TSgt. Tom Fields and Boeing's Gary Briscoe.

What Is the Best Approach?

No decisions have been made yet about what to do with the space based radar, according to Air Force Chief



A1C Jerry Pierson, 555th Fighter Squadron, Aviano AB, Italy, tightens the arming wire on a bomb as SrA. Patrick Dull, a load standardization instructor with Aviano's 31st Operations Group, watches closely.

Jumper. He is not convinced that it's the right system for the job.

"My concern is that we don't go down a path that might be a rush to failure."

The Air Force is trying to determine what is the best combination of manned, unmanned, and space that will provide the best ground moving target indicator radar picture.

"Do we go for something in low Earth orbit or should we wait a few years and go up to medium Earth orbit?" asked Jumper.

The real question, he said, is how you get the best information to commanders rather than whether it is done by air or in space.

The technical analysis is ongoing, Jumper added.

Interceptor Test Successful

The Ballistic Missile Defense Organization, now known as the Missile Defense Agency, announced Dec. 3 it had scored a successful intercept of an ICBM target.

This was the third successful intercept out of five tests for the Ground-based Midcourse Defense Segment, formerly known as National Missile Defense.

In this test, designated integrated flight test 7, a modified Minuteman ICBM target vehicle was launched from Vandenberg AFB, Calif., and a prototype interceptor was launched approximately 20 minutes later from the Ronald Reagan Missile Site Kwajalein Atoll, about 4,800 miles away in the Pacific.

About 10 minutes later, the interceptor hit the target more than 140

miles above the Earth during the midcourse phase of the warhead's flight. The closing speed for the hit-to-kill intercept was in excess of 15,000 mph, officials stated.

The interceptor's Exoatmospheric Kill Vehicle separated from the rocket booster more than 1,400 miles from the ICBM target warhead. After separation, the EKV used onboard infrared and visual sensors, augmented by ground X-band radar data, to locate and track the target.

The sensors were able to distinguish between the target, the shroud enclosing the missile, and a decoy deployed in the test.

Another intercept system test is set for this month or March. The Missile Defense Agency has other tests scheduled for the intercept booster later this month.

Tanker Lease Up for Negotiation

Air Force Secretary Roche told *Defense News* on Dec. 21 that a controversial tanker aircraft lease proposal sent to Congress last fall was simply hypothetical.

House and Senate appropriators approved a lease plan in December.

The Air Force proposal was to lease 100 modified Boeing 767s over 10 years for \$20 billion, or \$20 million per aircraft. USAF would buy the aircraft for \$1 at the end of the lease.

The service had planned to begin replacing its aging fleet of KC-135 aerial refuelers by the end of this decade. That plan changed after the Sept. 11 attacks. Tankers have been flying virtually nonstop supporting both Operation Noble Eagle here in

the States and Enduring Freedom in Afghanistan.

Roche said Congress asked the Air Force to jump-start the recapitalization. Hence the lease proposal.

After weeks of debate, appropriators approved a provision that would allow USAF to lease 100 Boeing 767s for 90 percent of their market purchase price, modify them for tanker use, fly them for 10 years, remove the modifications, and return them to Boeing.

The Office of Management and Budget has warned that this plan may cost more than buying the aircraft outright.

But, Roche told *Defense News*, "now we've got the authority. ... Now we will take a good six months and go see what we can get."

"If we can conclude a satisfactory lease [and] if it's a good lease for the taxpayers, we will permit it," he added.

At issue for some Congressmen is the sole source aspect of the arrangement. Republican Sen. John McCain, for one, claimed that Senate

appropriators were using DOD to disperse corporate welfare to Boeing.

However, in a letter to the *Washington Post*, Dec. 21, Roche stated that the Air Force needs to modernize its tanker fleet and is "considering all reasonable options."

PJ Dies After Rescue

SSgt. Doug Eccleston, an Air Force Reserve Command pararescue specialist assigned to the 920th Rescue Group at Patrick AFB, Fla., drowned Dec. 7 following a successful rescue mission.

Eccleston, 35, and two other PJs had gone to aid a crew member aboard a Malaysian supertanker about 200 miles southeast of Bermuda, said officials.

They were flown out on an HC-130 aircraft, jumped into the ocean, and inflated a Zodiac raft to reach the tanker. The raft was hoisted aboard the tanker with the PJs in it.

The PJs stabilized the crewman and the tanker continued to Bermuda, where the patient was taken to a hospital.

The fatal accident took place when Eccleston and one of the other PJs were being lowered in the raft from the ship. The raft capsized, throwing both PJs into the water.

The other PJ was recovered right away, but Eccleston couldn't be seen. His body was found a few hours later.

Indiana ANG Extend Tour

The 181st Fighter Wing of the Indiana Air National Guard was asked to extend their normal 30-day deployment to support Operation Northern Watch to 90 days to fill in for active duty units tasked elsewhere.

The wing put out the word and had more volunteers than it could take.

"After the catastrophic events of the past few months, of course, there's been an even greater surge of patriotism than we've seen previously," said Lt. Col. Greg McDaniel, commander of the unit's 113th Fighter Squadron. "We just had more volunteers than we had spots for."

More than 180 Guardsmen deployed to form the 181st Expeditionary Fighter Squadron and other combat support packages.

"I could have actually taken the entire unit," said Col. Gary Peters, 181st FW commander. "I had a thousand members who would have volunteered to come out here; unfortunately, we could only bring a small portion of our unit."

"The employers have to allow these folks to take time away from their jobs, which puts a burden on their companies at the same time," Peters said. "But it shows you the tremendous patriotism and professionalism of a Guardsman who does step up to the plate."

AFRC Airlift Crews Take On Atlantic Express

The Atlantic Express continues to run, courtesy of two AFRC C-141 units.

Volunteers answered the call when Air Mobility Command said it couldn't keep up the thrice weekly flights to deliver supplies and equipment to Ramstein AB, Germany, because of Enduring Freedom missions.

The 445th Airlift Wing, Wright-Patterson AFB, Ohio, and the 459th AW, Andrews AFB, Md., picked up the duty to keep the Express line from backing up.

The Reservists nearly doubled their normal flying hours.

RED HORSE Sets Up at Nellis

AFRC reactivated the 555th RED HORSE late last year to supplement

Fear of Mistakes Carries High Cost

It seems to have slipped much notice, but a comment by USAF's top military leader about a new office being set up to join the seemingly never-ending struggle to improve the acquisition of weapon systems may just be the "I'm not going to take it anymore" signal the service has needed.

Said Gen. John Jumper: "Our unbridled fear of mistakes is costing us far more than any sensible risk taking ever will."

The new office, formally opened Dec. 10 at the Pentagon, is called ACE—Acquisition Center of Excellence.

It's not a replacement for Air Force Materiel Command or Air Force Space Command, with its new role in acquisition through the Space and Missile Systems Center. Its charter is to help USAF acquisition professionals do their job—better than it's been done in the past.

The plan, which was endorsed by Air Force four-star generals and senior civilians in November, is "to foster a culture of innovation and reasonable risk taking," according to USAF's new assistant secretary for acquisition Marvin Sambur.

If the service can do this, Sambur said, it can "shorten acquisition cycle times, insert new technologies into systems throughout their life cycles, and deliver today's technologies today."

The Air Force did not name the individual who would head ACE, saying only that it would be a member of the senior executive service. However, a report by *Inside the Pentagon* just last month said the job had gone to Terry Little.

Little is known as a reformer.

He managed programs like the Joint Direct Attack Munition, USAF's lead pilot program in acquisition reform, and the Joint Air-to-Surface Standoff Missile, another acquisition model, that was just approved for low rate initial production.

Air Force Secretary James Roche called JASSM a "flagship program."

The task for Little is huge.

But comments by Darleen A. Druyun, Sambur's principal deputy assistant secretary and a leading advocate on cutting red tape, seem to sum up the situation: "We need to get on with this. If there's a consensus on anything in the area of acquisition reform, it is that there's been enough study. It's time for action."

"Sometimes, we are our own worst enemies," she said. "That is about to change."

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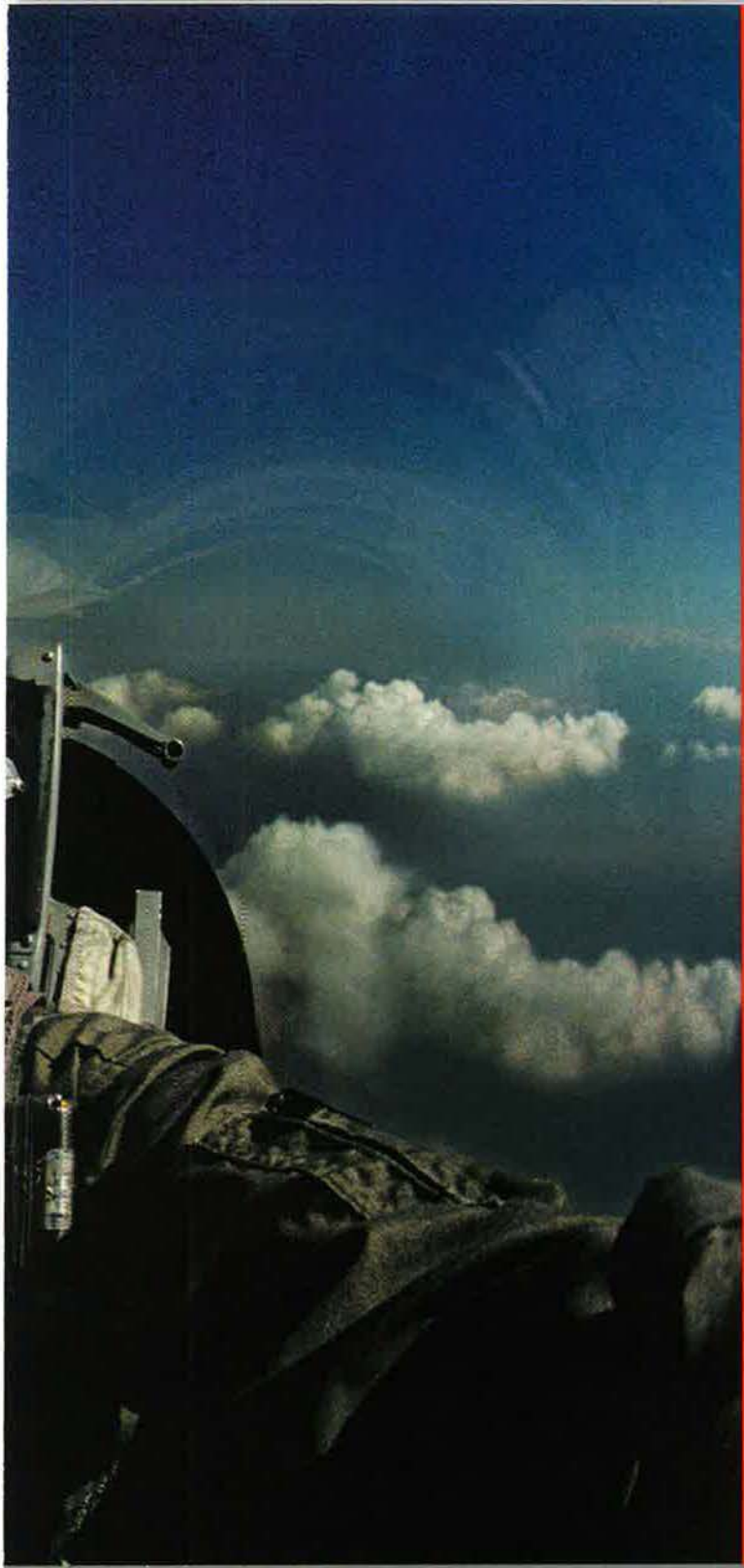
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Nero, the German shepherd, and his handler, SSgt. Marshall Cavit, from Peterson AFB, Colo., took part in the biggest marijuana bust yet for DOD's Counterdrug Task Force when they worked with US Customs for three months along the US-Mexico border last fall.

the active duty 554th RED HORSE at Osan AB, South Korea.

The new unit is looking for full-time and traditional Reservists to fill 18 career fields at its home base at Nellis AFB, Nev.

Officials said the 555th and 554th were both formed originally in 1965. The 555th was disbanded four years later.

The revived 555th, along with the ANG's 254th RED HORSE flight from Washington State, will augment Osan's squadron to form USAF's first active duty, Guard, and Reserve RED HORSE unit.

AFRC's 555th will also train with the active duty 820th RED HORSE at Nellis.

Ramstein Gains Hub Title Early

The actual transition of missions from Rhein-Main Air Base in Germany, long considered the transportation hub for European operations, to Ramstein Air Base is not scheduled until Dec. 31, 2005, but the pace of the changeover has been overcome by events.

Operation Enduring Freedom increased the number of airlift missions transiting Ramstein by nearly 50 percent.

Since the days of the Berlin Airlift, Rhein-Main had always been the "go to" base for airlift contingency operations. With its scheduled closure, all future contingency operations were to transition to Ramstein and Spangdahlem AB, Germany. Rhein-Main

had already begun its phased draw-down, forcing the early switch to Ramstein when airlift support for Enduring Freedom took center stage.

Normally, Ramstein processes 80 movements daily, including about 20 strategic aircraft. Since Sept. 11, the strategic missions jumped to about 30 per day.

The transition from Rhein-Main to Ramstein, which will pick up 65 percent of the old hub's mission, involves 14 construction projects, including a new runway, repair and lengthening of the old runway, additional ramp space, a freight terminal, a passenger terminal, and numerous other projects to upgrade the infrastructure of the base, said US Air Forces in Europe officials.

They said the transition will be funded through several sources, including the Frankfurt Airport, USAFE, NATO, and the Federal Republic of Germany.

Spangdahlem, about 85 miles northeast of Ramstein, will assume about 35 percent of the Rhein-Main mission. There are 23 construction projects planned for Spangdahlem.

Closing In on an Air-breathing Rocket Engine

NASA expects a design contract it awarded in December to a US industry team to lead to a ground test version of an air-breathing rocket engine by 2006.

Air-breathing propulsion is the key, according to NASA, to development

of a Reusable Launch Vehicle that would take off and land at airport runways and be ready to fly again within days. The result: more reliable and less expensive space transportation than is currently available.

The concept actually dates to the 1960s. Some 360 tests of alternative engine configurations over the past four years led NASA to believe it's a viable concept.

The \$16.6 million contract award to a consortium that includes Aerojet, Boeing's Rocketdyne, and Pratt & Whitney calls for completion of conceptual design and subsystem testing by November.

State Dept. Seeks Cheaper Space Access

The head of the State Department's Office of Space and Advanced Technology told the Commission on the Future of the US Aerospace Industry that low-cost access to space is an urgent matter.

"As a nation we have become increasingly dependent on foreign launchers, a trend that poses both national security and trade competitiveness risks over the long term," Ralph Braibanti advised the commission late last year.

The commission was created by the Fiscal 2001 Defense Authorization Act. It is chaired by former Rep. Robert Walker.

Braibanti noted that the need for reliable, low-cost launchers is apparent, but there's no consensus on how to get there.

Weldon: Let USAF Develop RLVs

At the same commission hearing, Rep. Dave Weldon (R-Fla.) said that the Air Force needs to develop RLV technology. He called for an end to the policy that placed NASA in the lead role.

Weldon was the lawmaker who put language creating the commission into the Fiscal 2001 defense bill.

"NASA's recent track record on X vehicles has not been good," he said. "The Air Force has a much better track record on X vehicles and should be given an opportunity to apply that experience to RLVs."

NASA canceled development of its X-33 and X-34 RLVs in March 2001. Air Force officials at one time thought that X-33 technology would aid in development of a space operations vehicle.

However, USAF announced last fall, after reviewing the program, that it would not assume management and funding responsibility for

NASA's X-33. Instead, it opted to continue to pursue other RLV avenues with NASA.

Weldon told the commission that pursuing an RLV is more critical for the Air Force than for NASA.

"I will even go so far as to posit for consideration that maybe NASA should get out of the new-RLV business altogether," he said.

Dover Nav Assists Airdrops

A C-5 navigator, Capt. Chris Deslongchamp, developed a computer program that helped C-17 crews with the high-altitude airdrops that were in use over Afghanistan.

Officials said the C-17 mission computer can normally handle high-altitude drops, but it was not able to independently calculate the release point for the humanitarian relief drops using the Tri-wall Aerial Delivery System. The release points needed to be manually calculated, until the mission computer can be modified.

That is where Deslongchamp's program, which he created two years ago, came in. His program, said Maj. Robert Rhyne of the Air Mobility Warfare Center at Fort Dix, N.J., "provided a very quick, convenient method for manually calculating a release point."

He added that there was at least one other existing program that could have been adapted, but Deslongchamp's was simpler to work with and was based on software familiar to C-17 pilots. The C-17 does not have a navigator.

Deslongchamp is a special operations low-level II navigator assigned to the 9th Airlift Squadron at Dover AFB, Del.

New Civil Service Rules

USAF officials announced in mid-December a new "Job Kit" for civilians seeking civil service jobs with the Air Force.

The kit includes some new rules for those seeking employment. One change is the requirement to have a résumé on file before applying for specific jobs.

"Under the new requirements, if their résumé isn't on file, they will not be eligible for consideration," said Hong Miller, acting chief of the Air Force Personnel Center delegated examining unit/recruitment branch at Randolph AFB, Tex.

Another change is that résumés will only be retained for one year, with updates allowed as necessary. New résumés must be submitted upon the one-year expiration. Officials said résumés will no longer be extended.

Applicants can access the Job Kit

Bush: Changing the Face of Battle

In a Dec. 11 speech at The Citadel in Charleston, S.C., President Bush continued his Administration's call for military transformation.

"We have to think differently," Bush said. "The enemy who appeared on Sept. 11 seeks to avoid our strengths and constantly searches for our weaknesses. So America is required once again to change the way our military thinks and fights."

"This revolution in our military is only beginning, and it promises to change the face of battle," he added.

He said that Afghanistan has been a proving ground for this new approach. "These past two months have shown that an innovative doctrine and high-tech weaponry can shape and then dominate an unconventional conflict," Bush said.

The brave men and women of our military are rewriting the rules of war with new technologies, he continued. "Our commanders are gaining a real-time picture of the entire battlefield and are able to get targeting information from sensor to shooter almost instantly."

"Our special forces have the technology to call in precision air strikes, along with the flexibility to direct those strikes from horseback in the first cavalry charge of the 21st century," Bush pointed out.

He cited the Predator Unmanned Aerial Vehicle as an example of the new technology. "This Unmanned Aerial Vehicle is able to circle over enemy forces, gather intelligence, transmit information instantly back to commanders, then fire on targets with extreme accuracy."

"Now it is clear the military does not have enough unmanned vehicles," he added.

"Precision guided munitions also offer great promise," he said. "In the Gulf War, these weapons were the exception—while in Afghanistan, they have been the majority of the munitions we have used. We're striking with greater effectiveness, at greater range, with fewer civilian casualties. More and more, our weapons can hit moving targets. When all of our military can continuously locate and track moving targets—with surveillance from air and space—warfare will be truly revolutionized."

Bush emphasized that the terrorist attacks of Sept. 11 had not changed his vision of military transformation, just the timeline.

"What's different today is our sense of urgency—the need to build this future force while fighting a present war. It's like overhauling an engine while you're going at 80 miles an hour," he said. "Yet we have no other choice."

Bush called on Congress to not micromange DOD, to let defense leaders innovate. He also asked for "every constituency ... to sacrifice some of their own pet projects."

"Our war on terror cannot be used to justify obsolete bases, obsolete programs, or obsolete weapon systems," he said. "Every dollar of defense spending must meet a single test: It must help us build the decisive power we will need to win the wars of the future."

by going to the Air Force Personnel Center's Web site on civilian employment (ww2.afpc.randolph.af.mil/resweb).

Those without access to the Internet can send résumés and supplemental data to HQ AFPC/DPCTDC, Attn.: Recruitment Call Center, 550 C Street West, Suite 57, Randolph AFB, Tex., 78150-4759. A recruitment representative can be contacted at: 800-699-4473 or 800-382-0893 for TDD users.

"Homegrown" AFRC Officers Get Equity

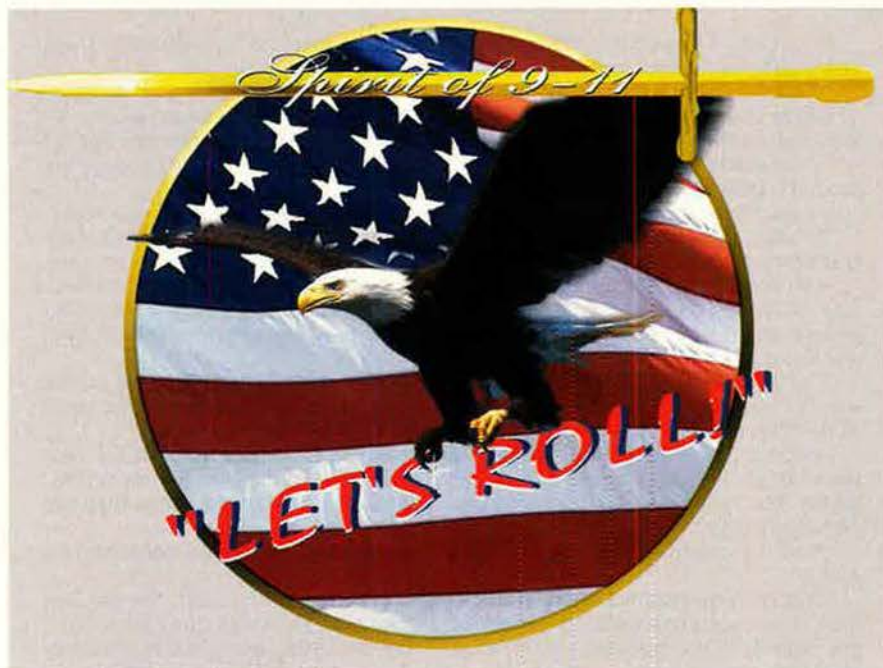
A policy change the Air Force approved Dec. 19 will make promotion opportunities for Air Force Reserve Command lieutenants relatively equal to their active duty counterparts.

The change reduces time-in-grade requirements for promotion to captain from five years to two years.

"Without this change," said Maj. Douglas A. Young, chief of the promotion and evaluation policy branch for the Office of the Air Force Reserve, "we were prohibiting our homegrown lieutenants from promotion consideration until the four-to-five-year mark, while officers in the active duty component were being considered with two years time in grade."

More than 12,000 officers have joined the Reserve in the ranks of captain or higher since 1996, Young explained. Those officers had the opportunity of mandatory promotion to captain at four years time in grade or less. During the same time frame, only about 2,000 officers who had been commissioned into the Reserve as lieutenants were considered for promotion to captain.

"This is a fairness and equity issue—especially in light of the high [operations tempo] the Reserve attained



in the past few years," Young added.

"The change will result in a one-time increase of about 300 eligibles to the grade of captain," said Young.

The new time-in-grade policy goes into effect immediately for all Fiscal 2003 captain promotion boards for all competitive categories within AFRC.

Competitive Categories for Selected Reserve

Another policy change established separate competitive categories and quotas for officers in the selected and nonselected Reserve. The change started with the majors board this month.

Selected Reserve officers—traditional reservists—participate in weekend and annual drills, are paid, accumulate points, and receive evaluation reports. Nonselected Reserve officers, on the other hand, fall into two categories: those who participate for points and evaluation reports only and those who earn membership points only.

In the past, nonselected Reserve officers were promoted against a quota established for selected Reserve officers—reducing the number of traditional reservists that could be promoted.

Separate quotas and competitive categories "would afford officers with similarities in career paths, participation, and documentation a more equitable promotion opportunity," said an AFRC official.

The competitive categories include

line officers, chaplains, judge advocates, and biomedical science, dental, medical, medical service, and nurse corps officers.

The quota for all competitive categories will be reviewed and approved annually by the Secretary of the Air Force before the board convening date, based on the needs of AFRC.

News Notes

- Marvin R. Sambur was sworn in as USAF's new acquisition chief Jan. 4. He was president and chief executive officer of ITT Defense.

- President Bush signed legislation Dec. 18 designating Sept. 11 Patriot Day. The House resolution requires the President to issue a proclamation each year and order flags at half staff.

- *Jane's Defense Weekly* reported Jan. 2 that DOC has directed the Air Force to buy eight additional AC-130 Spectres and to accelerate development of a follow-on aircraft. Use of the AC-130 in Afghanistan prompted the move.

- A USAF RQ-4A Global Hawk UAV crashed Dec. 30 on a routine mission for Enduring Freedom. Officials said the crash was not the result of enemy fire and plans were being made to recover the vehicle.

- David Chu, the Pentagon's personnel undersecretary, was named to lead a review of the military mix of active and reserve forces, according to a memo obtained by *Inside the Pentagon*.

- Eleven Air Force Special Operations Command pilots were the first

Selected USAF aircraft will begin displaying a distinctive nose art design this year. The design was created by SrA. Duane White at Air Combat Command and features the words "Let's Roll," said by Todd Beamer as he and other passengers moved to fight for control of United Airlines Flight 93 before it crashed in Pennsylvania Sept. 11. Officials believe the airliner was destined to strike either the White House or the US Capitol building.

The Air Force Thunderbirds and other demonstration teams will apply the nose art to all their aircraft, said Air Force officials. Major command and wings may each use the design on one aircraft.

to graduate from the USAF Weapons School at Nellis AFB, Nev. These 11 pilots will be the initial cadre for the special operations forces weapons school division located at Hurlburt Field, Fla. The graduates were Maj. Ian C. Jannetty, Mike McKinney, Lance A. Tilghman, Daniel J. Turner, and Craig J. Walker; and Capt. Mark T. Daley, Oscar E. Espinoza, Kevin D. Huebert, Paul H. Mullis, Robert D. Sagraves, and Herbert D. Smith.

- Brig. Gen. Stephen J. Ferrell became the first Army officer to fill the national security space architect position when he was appointed late last year.

- Airmen who are having pay problems that they cannot solve through their local military personnel flights or finance offices can contact the Air Force Personnel Center via e-mail (afpc.dpsfm@afpc.randolph.af.mil) or voice by calling 800-558-1404 or DSN 665-2949.

- Air Mobility Command announced Jan. 2 it was canceling its biennial international readiness competition—Air Mobility Rodeo—for this year because of current operations tempo. Rodeo 2003 is planned for June 21–28 at McChord AFB, Wash.

- Frank E. Herrelko Sr., an 88-year-old USAF retiree, carried the Olympic flame Dec. 21 during a special torch relay event and ceremony that paid tribute to veterans of World War II and the Korean and Vietnam Wars. Herrelko represented all the men and women who served in the armed forces during World War II. He



Members of 820th RED HORSE load equipment in January onto a C-5 bound for Enduring Freedom.

CE Sets Up Bare Base Camps

Following the Sept. 11 attacks, Air Force civil engineers began deploying to countries in Southwest Asia to establish fully functioning bare-base camps that would support personnel and air operations for Enduring Freedom.

Civil engineers began setting up or expanding existing tent cities at 13 locations in nine countries neighboring Afghanistan. At the same time, they repaired or established airfields for flight operations at 10 of the locations.

USAF has prepackaged, transportable bare-base kits, called Harvest Falcon, that contain tents, a kitchen, showers, latrines, and electrical power generation for a 1,100-person encampment. The kits also have everything needed to set up bare-base airfield operations, including portable aircraft hangars, mobile aircraft arresting systems, emergency airfield lighting systems and structures, and utilities.

Even with Harvest Falcon kits, the job was tough. The terrain was rugged.

The heavy construction equipment used for the operation came from pre-positioned stocks in Europe and Southwest Asia. Additional heavy equipment, like bulldozers, used in the theater was leased from vendors in the region for two reasons: speed and to keep USAF cargo aircraft free for other critical missions, said USAF officials.

"It was important for us to get our civil engineers in as soon as possible and establish forward basing operations because it not only reduced the distance our pilots have to fly to bring in supplies, ammunition, and equipment, it reduces the amount of time it takes to turn around aircraft, reload them with munitions, and get them back into the fight," said Lt. Col. Josuelito Worrell, contingency support director for the Air Force Civil Engineer Support Agency.

Some of the first civil engineers to arrive in the theater were Prime Base Engineer Emergency Forces members from the 366th Wing at Mountain Home AFB, Idaho, and the 820th and 823rd RED HORSE from Nellis AFB, Nev., and Hurlburt Field, Fla., respectively.

By December, more than 18,000 Air Force people were living and working in the tent cities in Southwest Asia, and hundreds of aircraft were flying in and out of the expeditionary airfields, according to officials.

was not new to the Olympics, having won some 240 medals since he started competing in the Senior Olympics at age 70.

- A reality-based series, "American Fighter Pilot," follows three Tyndall AFB, Fla., pilots training in the F-15. It is scheduled to air this month on CBS.

- Facility and unit winners of the

2001 Gen. Thomas D. White Environmental Award are: Eglin AFB, Fla., AFMC, and 181st Fighter Wing, Terre Haute, Ind., ANG, for Environmental Quality Award (nonindustrial); F.E. Warren AFB, Wyo., AFSPC, Restoration Award; Robins AFB, Ga., AFMC, Pollution Prevention Award (industrial); Fairchild AFB, Wash., AMC, Natural Resources Conserva-

tion Award (small base); Eglin, Cultural Resources Management Award; Patrick AFB, Fla., AFSPC, Pollution Prevention Acquisition Team Award and Natural Resources Conservation Award for Individual/Team Excellence.

- Individual winners of the White Environmental Award were: Joan Albury, Patrick AFB, Environmental Quality for Individual/Team Excellence; Beatrice Kephart, Vandenberg AFB, Calif., AFSPC, Restoration Award for Individual/Team Excellence.

- A New Jersey ANG F-16 crashed Jan. 10 in a heavily wooded area in the state. The pilot ejected safely. USAF officials are investigating.

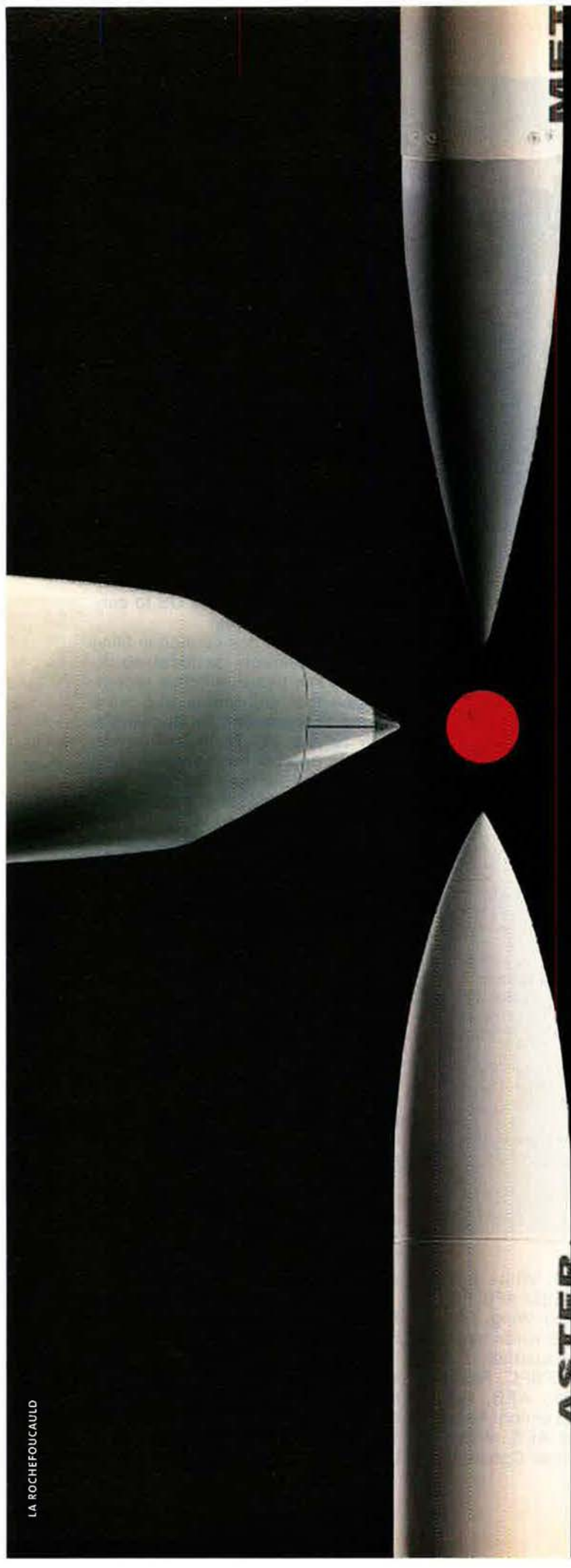
- The *Los Angeles Times* reported Dec. 18 that US forces are using their former bases in the Philippines for refueling and storage for forces participating in Enduring Freedom. USAF left Clark Air Base and the Navy Subic Bay in 1992, after Philippine legislators refused to allow the US to continue using the bases.

- DOD now urges caution in filing official documents at local courthouses. For years, officials recommended that individuals who were retiring or separating file documents such as the DD Form 214, which contains personal information, with courthouses for safekeeping. Now DOD is concerned that such action may open an individual to identity theft. Officials suggest individuals check with their local courthouses to ensure the protection of information contained in military documents.

- Defense Secretary Rumsfeld chartered a Defense Science Board task force to evaluate Enduring Freedom and develop lessons learned, according to a memo obtained by *Inside the Navy*. It will be headed by retired USAF Gen. James McCarthy.

- DOD selected Air Force employee Sheila M. Noel among 18 employees with disabilities recognized during the 21st annual DOD Disability Awards Ceremony on Dec. 11. The Air Force took the trophy for the best military department. There are approximately 6,500 persons with severe disabilities employed in DOD—more than any other federal agency, said officials. DOD plans to hire 32,000 more disabled persons over the next five years.

- Metro bus service returned to the Pentagon in December, operating from the new Pentagon Transit Center. Regular bus service had been suspended following the Sept. 11 terrorist attacks. The larger, brighter, and more security-conscious transit center, a \$36 million project funded by DOD, was designed and planned



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before Sept. 11 as part of the security upgrades set for the Pentagon's Metrobus and Metrorail facilities. Additional security upgrades at the Pentagon include construction of a new entrance building and new elevator and canopy at the Metrorail entrance—expected to be completed by this fall.

■ At a Pentagon ceremony Dec. 14, SMSgt. Andres Alvarez, lead production superintendent of the 37th Airlift Squadron, Ramstein AB, Germany, and Capt. Brian Stuart, a maintenance officer with the 33rd Rescue Squadron, Kadena AB, Japan, received the 2001 Gen. Lew Allen Jr. Trophy for top aircraft generation.

■ A prototype rocket motor booster system failed after launch from Vandenberg AFB, Calif., Dec. 13. It was part of the Ground-based Midcourse Defense System.

■ USAF selected 31 future test pilots and 11 alternates at a November board. Officials said the selectees have near-perfect flying records and high Grade Point Averages. Computed on technical courses only, the average was 3.54 for undergraduates. All but two have technical-field master's degrees with an average of 3.74. Two have doctorates in technical fields, with 3.88 GPAs.

■ China tested its newest short-range ballistic missile, the CSS-7, in mid-December, as part of ongoing tests to improve its accuracy, reported the *Washington Times*.

■ India tested an improved version of its nuclear-capable, surface-to-surface Prithvi missile, also in December.

■ Air Force Services named its top lodging performers for the 2001 Inn-keeper Awards: Mid-Atlantic Lodge from Lajes Field, Azores, and Whiteman Inn from Whiteman AFB, Mo., took best large and small lodging operations, respectively, in the unit category. Individual honors went to SSgt. Sarah Allen, Lajes; SSgt. Carmen Kubiak, Whiteman; SSgt. Eric Guitierrez, Andersen AFB, Guam; and Misty Hironaka, Hickam AFB, Hawaii.

■ The Air Force selected 3,408 first lieutenants for promotion to captain, personnel officials announced Dec. 6. The selection boards considered 3,428 first lieutenants.

■ USAF approved full-rate production of the Joint Primary Aircraft Training System, the T-6A Texan II, produced by Raytheon, officials announced in December.

■ Aerial refueling aircrews at RAF Mildenhall, UK, got their first taste of a new \$10 million KC-135 flight simu-

Fear of Terrorism Fades With War's Progress

According to a January Gallup poll, terrorism is no longer uppermost in the minds of the American public. One reason might be that Americans believe the US and its allies are winning the war.

The January poll revealed that only 35 percent chose terrorism, national security, and the war when asked what was the most important problem facing the US, as compared to 64 percent in October last year.

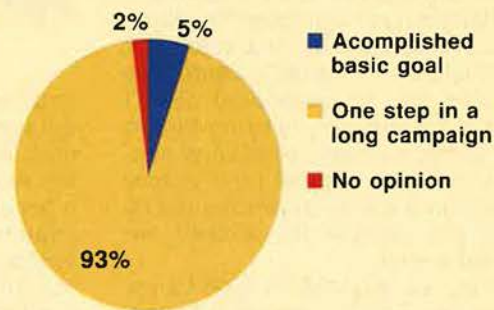
As noted by Gallup, the responses do not necessarily mean that Americans do not consider the fight against terrorism important. They may simply have the issue less on their minds now than they did in the months immediately after the Sept. 11 terrorist attacks.

And the responses are offset by a continued positive assessment of progress in the war on terrorism. When asked in January who is winning the war, 66 percent said the US and its allies. Responses to that question have shown an upward trend since October.

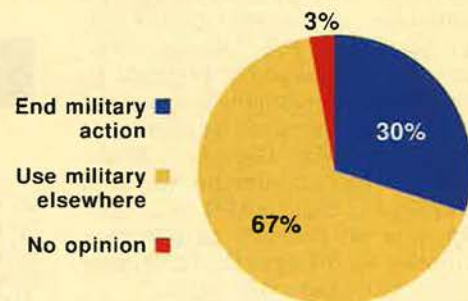
Who's winning	Jan 2002	Dec 2001	Nov 2001	Oct 2001
US and allies	66%	64%	53%	42%
Neither side	25%	28%	33%	44%
Terrorists	7%	5%	11%	11%
No opinion	2%	3%	3%	3%

Americans Expect Long War

An overwhelming number of Americans believe that the neutralization of Osama bin Laden is just a first step in a long campaign to fight terrorism. In a CNN/USA Today/Gallup poll conducted in mid-December, nine out of 10 said there was more to be done.



A similar question revealed that more than two-thirds of Americans believe that US forces should be used in other countries harboring terrorists. Just 30 percent feel that the US should bring its troops home if bin Laden is captured or killed and his terrorist network in Afghanistan destroyed.



lator, the only one outside the US, in early December. Before, crews had to return to the States for training. Officials said the savings in time and money add up on both sides of the Atlantic.

■ Personnel officials announced in December that airmen serving their first term of enlistment now have the choice to extend one year for their "personal convenience," rather than

a mission-related reason. Major command senior enlisted leaders recommended the change, said CMSAF Jim Finch, in view of the focus on retention. It is a one-time-only rule for re-enlistment eligible airmen. Officials said local personnel flights have more information on the initiative.

■ USAF awarded Honeywell a contract potentially valued at \$1.2 billion

over 15 years for upgrades to the service's satellite communications network.

■ In December, CMSgt. Kenneth F. Van Holbeck, US Transportation Command and Air Mobility Command command chief master sergeant, became the first enlisted person to accept and deliver a new C-17 airlifter. He accepted the 79th C-17 from Boeing in Long Beach, Calif., and flew on the aircraft to its home at McChord AFB, Wash. Holbeck, who retired last month, called it a tremendous honor and said, "It is a tremendous weapons system, but it is the enlisted men and women ... who make it a weapon system."

■ Air Force officials cleared the service's C-141 transport aircraft to fly within days of grounding the fleet worldwide in late December after the wing on a Tennessee ANG C-141 collapsed at Memphis Airport. Engineers decided the problem was unique to that airplane.

■ Air Force investigators determined that human and physiological factors caused the Sept. 5 crash of a T-37B training aircraft near Pine Bluff, Miss. A student pilot on a solo flight incorrectly performed a G-awareness exercise and an associated anti-G straining maneuver, causing him to lose consciousness for several seconds. He then applied right rudder and entered a spin, at which point he could not recover the aircraft but ejected safely.

■ Four earned USAF's 2001 Lance P. Sijan Air Force Leadership Award, said personnel officials. They were: Lt. Col. Carlos R. Cruz-Gonzalez, as commander of the 90th Civil Engineer Squadron, F.E. Warren AFB, Wyo.; Capt. Shawn W. Campbell, as the combat support flight commander for the 52nd Services Squadron at Spangdahlem AB, Germany; MSgt. Timothy A. Gerald from the Air Force Honor Guard, Bolling AFB, D.C.; and SSgt. Kile W. Stewart, as a rescue crew chief for the 18th Civil Engineer Squadron, Kadena AB, Japan.

■ A technical data specialist from the airborne accessories directorate at the Oklahoma City Air Logistics Center, Tinker AFB, Okla., received \$10,000 from the Air Force Innovative Development Through Employee Awareness Program for suggesting and developing the use of e-mail for the technical order sales request process.

■ Civil Air Patrol, the official auxiliary of the Air Force, marked its 60th anniversary Dec. 1. CAP became famous during World War II for

Gulf War Vets Exhibit Lou Gehrig's Disease

DOD and Veterans Affairs have found some evidence that Persian Gulf War veterans are nearly twice as likely as their nondeployed counterparts to develop Lou Gehrig's disease.

Lou Gehrig's disease is the common name for Amyotrophic Lateral Sclerosis. The Yankees baseball star of the 1920s and 1930s died from ALS, which is a fatal neurological disease that destroys the nerve cells controlling muscle movement. There is no cure for the disease.

Death usually follows diagnosis within three to five years. VA health officials said even with the new findings among Gulf War veterans, the disease is extremely rare, affecting only about one in 25,000 people. Among Gulf War veterans, it's one in 17,500.

DOD provided most of the money for the \$1.3 million epidemiological study, which began in March 2000. The investigation involved nearly 700,000 service members who served in Southwest Asia during Operations Desert Shield and Desert Storm at some time from Aug. 2, 1990, to July 31, 1991. More than 1.8 million service members who did not deploy to the Persian Gulf were also interviewed.

The study was done by researchers at the Durham VA and Duke University Medical Centers in North Carolina. It found 40 cases of ALS among the deployed veterans and 67 cases among the much larger nondeployed group.

Although the study had not yet met peer review, VA officials said the VA will provide compensation because of the progressively fatal nature of ALS.

The VA said it will contact those who were identified by the study and will help them file new claims or prosecute existing claims. It will also pay benefits retroactively to the date their claims are filed.

There is no known cause for ALS, and officials said there is currently no scientific evidence pointing to what might have caused ALS among Gulf War veterans.

coastal patrols, where civilian volunteers used privately owned aircraft to spot enemy submarines along the Atlantic and Gulf coasts. Today, it performs more than 85 percent of inland search-and-rescue missions in the continental US, as tasked by the Air Force.

■ Crews from the 353rd Special Operations Group, Kadena Air Base,

aided in Typhoon Lingling recovery in the Philippines in November. Two of the group's MC-130 Combat Shadow aircraft were in the Philippines, just two hours from the area hit, and delivered 20,000 pounds of supplies to victims. More than 130 persons died in the typhoon and hundreds fled their flooded homes, according to the Red Cross. ■

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USAF's heavy bombers dominated events in Afghanistan, but the success story was much broader than that.

Enduring Freedom

THE rapid success of Operation Enduring Freedom stemmed mainly from the unprecedented combination of massive airpower—much of it in the form of heavy bombers—with small numbers of special forces on the ground, indigenous troops, and the full press of US Intelligence, Surveillance, and Reconnaissance capabilities, according to senior US officials.

By mid-December, the operation had achieved its initial goals: breaking the terrorist-friendly Taliban militia's grip on power in Afghanistan and eliminating its ability to support and protect the al Qaeda terrorist network. After just two months of US air attacks, the Taliban had been forced from its strongholds and, with al Qaeda's foreign fighters, was in flight from American forces and those of the Afghan United Front.

The military success of Phase 1 came in the face of widespread complaints from critics who, at the outset, insisted the United States could achieve little in Afghanistan with airpower. It was a nation with few traditional infrastructure and military targets deemed valuable enough to bomb.

President Bush, in his Dec. 11 speech at The Citadel, said the blend

of "real-time intelligence, local allied forces, special forces, and precision airpower has really never been used before," but it had served to "shape and then dominate an unconventional conflict." The operation taught US leaders "more about the future of our military than a decade of blue-ribbon panels and think-tank symposiums," Bush added.

He also said, "No one would ever again doubt the value of strategic airpower."

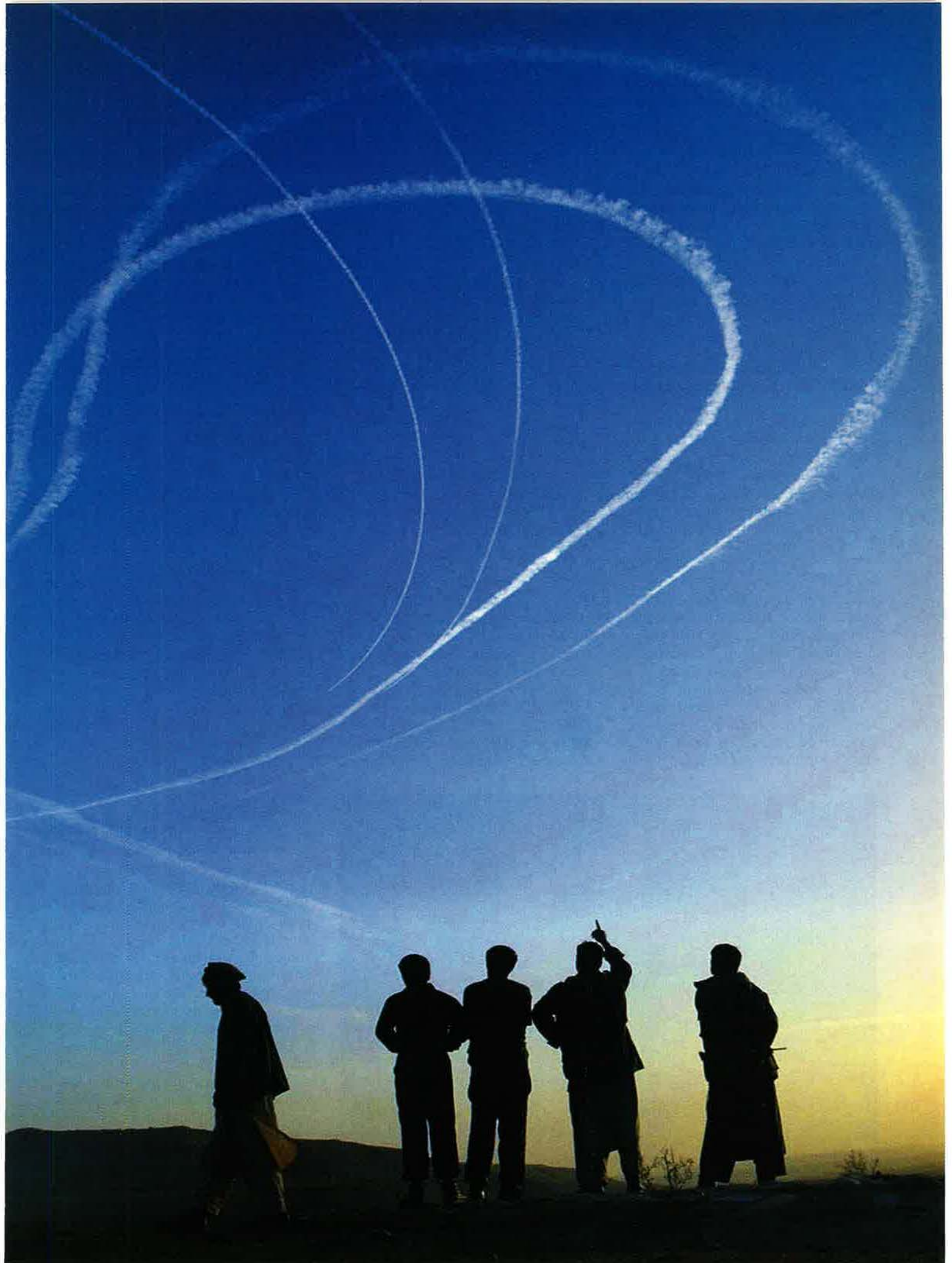
A Clutch of Firsts

Battlefield "firsts" for Enduring Freedom include the first combat deployment of the Global Hawk Unmanned Aerial Vehicle, first operational use of an armed version of the Predator UAV, and the widespread employment of the satellite-guided Joint Direct Attack Munition, which previously had only been used in combat by the stealthy B-2 bomber. The operation also saw the first combat use of the Wind-Corrected Munitions Dispenser, a vastly refined use of the Combined Air Operations Center as a weapon system in itself, and a sharp reduction in the time required to identify targets and strike them.

Enduring Freedom was also the

By John A. Tirpak, Senior Editor

Northern Alliance soldiers watch the contrails of American combat aircraft marshaling for attacks on Taliban and al Qaeda positions in Afghanistan.



first conflict in which heavy bombers loitered in the sky above ground troops and delivered pinpoint close air support when called on to do so.

The first blows of the war were struck on Oct. 7, a mere 27 days after al Qaeda's hijacking attacks on the World Trade Center and Pentagon on Sept. 11. Some USAF aircraft had gone into action even earlier. For example, Army Gen. Tommy R. Franks, the Commander in Chief of Central Command, had ordered high-flying U-2 reconnaissance aircraft to overfly Afghanistan and collect data long before the first ordnance began to fall.

American land- and sea-based aircraft struck key operational elements throughout Afghanistan. These targets, which included runways, surface-to-air missile and gun sites, warning radars, armored vehicles, and concentrations of troops, were considered the keys to the Taliban's ability to maintain control of Afghanistan and claim to be its legitimate government.

The initial strikes were delivered by Air Force bombers, Navy carrier-based fighter-attack aircraft, and cruise missiles launched from American and British warships. They were aided in their targeting by small units of US and British Special Operations Forces inside Afghanistan. These small teams collected information and used a number of methods to designate aim points for the aircraft. Within days, Air Force F-15Es and F-16s

joined the hunt, as did USAF AC-130 gunships.

All three types of Air Force heavy, long-range bombers saw action. A handful of B-2s flew record-setting, 44-hour-long missions directly from Whiteman AFB, Mo., to Afghanistan, with recovery at the British atoll of Diego Garcia 2,500 miles to the south in the Indian Ocean. The B-2s that landed at Diego kept their engines running; fresh crews came aboard and took off for the grueling flight back to Missouri.

The Air Force based another 18 heavy bombers—eight B-1Bs and 10 B-52Hs—at Diego Garcia, from which they carried out daily and nightly runs. The missions numbered about four or so per day per type, with the bombers using both “dumb” bombs and JDAM, the innovative munition that uses Global Positioning System satellites to achieve precise hits on aim points. The bombers used 2,000-pound JDAMs, Mk 82 500-pound dumb bombs, and leaflet dispensers.

The B-52s were the first to use the WCMD in combat. The weapon employs a tail kit that attaches to a cluster bomb unit. The tail kit alters the bomb's flight path to adjust for windage, resulting in accurately placed area explosions.

1,500-Mile Round-Trip

Initially, the Navy maintained four of its big-deck aircraft carriers on station in the northern Arabian Sea.

These huge ships launched fighters northward to targets throughout Afghanistan. Each mission lasted, on average, “five to seven hours, ... 750 miles one way,” according to Adm. Vernon E. Clark, Chief of Naval Operations. En route, they were refueled by Air Force tankers operating from bases throughout Europe and Southwest Asia. The majority of these strikes were flown by F/A-18 and F-14 aircraft employing laser-guided bombs and JDAMs. Marine AV-8B Harriers later joined the fight.

In time, all items on the fixed target lists were struck, and the focus of the air operation shifted to what the Pentagon called “emerging targets.” When this happened, the Navy brought home two of the four carriers, leaving the two remaining ships operating at about the same tempo, Clark said. Many aircraft were sent to areas where targets were expected to pop up but did not. This caused quite a few Navy aircraft to return with their full load of weapons.

The initial Taliban threat to US aircraft—its integrated air defenses, fighters, and command-and-control systems—was eliminated “within the first 15 minutes or so,” according to Lt. Gen. Charles F. Wald, who, as CENTCOM's Joint Force Air Component Commander, ran the bombing operation until mid-November. Wald subsequently left for Washington to become USAF deputy chief of staff for air and space operations.

Wald said the anti-aircraft systems of the Taliban were “operable” and were being used on Oct. 7 and that as many as 40 Taliban pilots were capable of getting MiG-21s and Su-17s into the air to challenge US forces. However, Taliban resistance was limited to anti-aircraft artillery, which was quickly targeted and suppressed. Air superiority was achieved almost immediately. The Taliban air force had about 50 aircraft, of which approximately half were older-vintage fighters and the rest cargo and utility fixed-wing aircraft and helicopters. All were swiftly destroyed.

Decisively putting down the threat allowed the US to put many other types of aircraft—mainly of the ISR variety, but also tankers and special operations aircraft—directly over Afghanistan, allowing the pace of operations to speed up. Strike aircraft hit at Taliban headquarters, troops, and weapons storage areas,

USAF photo by TSgt. Jack Braden



The Global Hawk made its operational debut over Afghanistan. Though still in test, it yielded useful intelligence. One was lost to a malfunction, but UAVs have proved their worth and earned a permanent place on the battlefield.

rapidly reducing the enemy's combat capabilities.

Although the carrier aircraft were an asset that required monumental assistance from aerial tankers, Wald said they played a useful role in the early campaign because they allowed the US to attack across a broad swath of the country. The naval fighters generated many sorties but accounted for a relatively small percentage of munitions on target or total tonnage.

It was "a smart thing to do" to use naval air, even in Central Asia, because "we weren't sure" what the anti-aircraft threat would be, Wald said. The availability of many aircraft early on might have made a big difference if air defenses had proved tougher.

Affirmation of EAF

The Air Force employed its Expeditionary Aerospace Force concept for the war in Afghanistan, utilizing the Aerospace Expeditionary Force "buckets of capability" exactly as envisioned, USAF officials reported.

Gen. John P. Jumper, the Air Force Chief of Staff, reported that the Sept. 11 attacks had caused many specialties to be stretched very thin. Among those working heaviest duty were force protection troops who had to cover home bases as well as forward locations, which had not previously been the case.

Jumper said the AEF rotation schedule may have to be modified as a result of the war effort. He admitted that USAF has had to "reach forward" into future AEFs for some capabilities, such as combat search and rescue. However, he added, the AEF structure is "not shot." Adjusting the rotation to deal with real-world operations is "part of the plan." He added, "That's part of how you do the rotational force. How we get that back into a rhythm now will depend on what the new steady state is."

By mid-December, when organized resistance ended, the Air Force had flown 6,800 sorties, representing nearly half of all missions flown during Enduring Freedom's Phase 1. These sorties included reconnaissance and refueling missions. Tankers accounted for half of USAF sorties at that point, while ISR missions numbered about 400. Although USAF combat airplanes had flown some 20 percent of all strike missions in Af-



USAF photo by SSGI, Shame Cuomo

The C-17's ability to haul huge items directly to the front made it possible for the Marines to set up forward operating base Rhino. Humanitarian aid also arrived over Afghanistan aboard the C-17.

ghanistan, they had delivered 6,100 tons of ordnance, or approximately 75 percent of the total.

Furthermore, more than 72 percent of the munitions that the Air Force dropped during Enduring Freedom's first two months were precision guided. This pointed up the growth in use of precision weapons in the past decade; by percentage, their use had more than doubled since Operation Allied Force in Kosovo, in which only 35 percent of weapons used were precision guided. In the 1991 Gulf War, a mere nine percent of munitions used were precision guided.

When the Navy fighters are added into the mix, the total US munitions expended against Afghan targets topped 12,000, of which 60 percent were precision guided munitions, according to CENTCOM data.

Having beaten down the radar threat, US forces then used electronic warfare and signals reconnaissance aircraft to jam the enemy's cell phones or eavesdrop on communications to better triangulate the locations of commanders and al Qaeda fighters. They also broadcast messages to the Afghan people, assuring them that the US was after military targets, the Taliban, and al Qaeda and not prosecuting a war against Afghanistan itself.

To back up the claim, the Air Force mounted relief missions to Afghanistan, dropping C-17 loads of Humanitarian Daily Rations to Afghans

starving from the combination of a long drought and years of intertribal warfare. By early December, well more than two million HDRs had been dropped to Afghan civilians by C-17s flying at very high altitudes and, initially, escorted by fighter aircraft.

Heavy Lifting

The C-17s also flew heavy equipment into Afghanistan, allowing the Marines to establish forward operating base "Rhino" to the south of the major city of Kandahar. The C-17s operated from unimproved dirt and gravel strips, functioning, as one airlift pilot observed, "like a C-130 on steroids." Camp Rhino eventually swelled to more than 1,000 Marines, plus their armored vehicles and helicopters.

C-17s and some C-130s supported troops in forward areas with drops of M-16 and AK-47 ammunition, warm clothes, and boots for special forces and Northern Alliance counterparts.

They also dropped sacks of oats for the horses, said Gen. Gregory S. Martin, commander of US Air Forces in Europe. Horses proved to be one of the most effective means of transportation for Green Berets and others moving about in mountainous regions where roads are narrow and treacherous.

Martin, in an interview, reported that the US enjoyed great support from friends in the region. The sup-

ply air bridge, once coming from both the Pacific and European theaters, quickly shifted to a European-only mode, as Turkey, Azerbaijan, and Turkmenistan all granted overflight privileges. Former adversaries offered up overflight and even basing privileges. Bulgaria played host to a dozen KC-135s at an airbase on the Black Sea.

The heavy flow of aircraft from the US to Southwest Asia moved primarily through Ramstein AB, Germany, one of USAFE's main facilities. Martin said Ramstein handled this new load, though there was "some spillover" into Rhein-Main AB near Frankfurt, Germany. "Ramstein is really the hub of this entire [airlift] operation," Martin said.

The number of heavy aircraft on the Ramstein ramp, in early December, ranged from 18 to 25 at any given time, compared to the usual six to eight aircraft.

As the conflict developed, the US began cooperating with Northern Alliance fighters and other opposition forces, who shared the American goal of unseating the Taliban. In addition to pursuing its own target list of suspected hideouts of Osama bin Laden, al Qaeda, and Taliban troops and leadership, the US began to supply advice, provisions, and close air support to the Northern Alliance.

This aid allowed the anti-Taliban forces to survive attacks from the Taliban and, in turn, besiege and

eventually capture the capital of Kabul, the northern stronghold of Kunduz, and finally Kandahar, the Taliban's headquarters and "spiritual center."

Taliban stragglers and the remnants of al Qaeda in Afghanistan—made up mostly of Muslims from other nations—ultimately retreated to a mountainous area near the eastern Afghan city of Jalalabad, where intelligence suggested that bin Laden had holed up.

Air Force officials said the 15,000-pound "Daisy Cutter" bomb—so large it must be rolled out the back of a C-130 cargo airplane—was used mainly as a demoralizing weapon and to reach into hard-to-hit places such as tunnels and caves.

Into the Caves

Taliban and al Qaeda forces were eventually reduced to the Tora Bora complex of caves near Jalalabad, where they were hunted both by aircraft and special forces, working in cooperation with anti-Taliban forces. The B-2s, which early on had been withdrawn from the fight once the need for stealth had passed, returned to Afghanistan, using three-dimensional, synthetic aperture radar to more precisely map the complex of canyons and caves into which al Qaeda had withdrawn.

On Dec. 16, a Northern Alliance commander asserted the terrorist group was "destroyed in Afghanistan," although bin Laden had not

yet, to anyone's firm knowledge, been captured or killed.

Secretary of State Colin Powell said, "We've destroyed al Qaeda in Afghanistan and we have ended the role of Afghanistan as a haven for terrorist activity," but he, too, admitted that bin Laden was still proving elusive. Despite the pronouncements that the first phase had been completed, bombing and fighting continued.

In an interview with *Air Force Magazine*, Wald said the strategic key to the campaign's rapid-fire success lay in having an understanding of the culture of the region and maintaining the support of the neighboring nations and allied parties.

Afghanistan's strategic center of gravity was and is Islam, Wald asserted. While neighboring nations could understand the need of the US to retaliate against al Qaeda and destroy its ability to make further terror attacks, support would have dried up without a scrupulously conducted campaign, he added. The US had to avoid collateral damage in any way possible.

As a result, to a far greater extent than expected, US forces made heavy use of JDAM, due to its extreme reliability and consistent accuracy of within a few feet of the target. So great was its success and such was demand for the weapon that there was concern supplies of the bomb would run out.

In late November, USAF Chief of Staff Jumper acknowledged that the Pentagon, too, was concerned about supplies of JDAM and that he was "taking steps to increase production." Inventory information was not given out after Oct. 7, but Pentagon officials noted that, at the pace of JDAM usage during the early weeks of the conflict, stocks would indeed have run out in midwinter if no adjustment had been made.

The US struggled to maintain the support of "the senior leadership level of the countries in the region" as well as "their constituencies," Wald noted.

Neutralized

There was little argument with the US attacking Taliban military capabilities, Wald said. The Taliban conventional capability gave them the edge over opposition groups in Afghanistan. He added that, in practi-

USAF photo by SSGT. Shane Cuomo



This was the first operation in which big bombers conducted close air support. Equipped with JDAMs, B-52s like this one loitered over Afghanistan, often responding in just a few minutes when a strike was called for.

cal terms, “in a matter of days or weeks, the Taliban’s ability to counter the opposition was neutralized.”

It turned out to be “fortunate” that the opposition forces were able to engage the Taliban at that time and did in fact “jump in” so quickly, Wald added.

“That was not in the cards, initially,” he said. Cooperating with the anti-Taliban forces was a practice that, in Wald’s view, “evolved over a matter of weeks.”

The cooperation was eased, however, by the fact that special forces had been working with Northern Alliance factions for some time—even before Sept. 11—and had built ties to militaries in neighboring nations, particularly Uzbekistan.

As the cooperation intensified, Wald had new equipment air-dropped to the special forces on the ground. Special binoculars equipped with laser range finders enabled the troops to determine specific geo-coordinates for the targets they were observing. These coordinates could then be relayed via “burst” signals to bombers orbiting high above, which could then enter the coordinates in their computers and send a JDAM to a particular spot—often in only a few minutes.

The success of these strikes was very impressive to the Northern Alliance, which had expected airpower to be as nearly irrelevant in this conflict as it had been for the Soviets in the 1980s. The record of successes led the Northern Alliance to trust the US and cooperate with American forces, Wald said.

Jumper, too, noted that the success of airpower owed much to the special forces on the ground who made precise target designations.

“I wish we could have done this in Kosovo,” Jumper said. “It would have made us a lot more effective.”

New technology helped enormously. A National Imagery and Mapping Agency computer program named “PowerScene” allowed US pilots, while still back at home base, to “fly” missions over areas they would attack. Scenes were rendered in high detail, obtained from high-resolution three-dimensional satellite images. With a cursor, targeters could select a point and obtain its exact coordinates. In a new wrinkle, electro-optical imagery obtained from Predators could be compared with PowerScene im-



US Navy photo by Johnny Bivera

The combination of airpower with small special forces units on the ground proved to be a winner, according to President Bush. US troops worked with indigenous forces, designated targets, and helped coordinate attacks.

ages, and the exact coordinates for tanks and troop or gun emplacements observed by the drone could be fed to orbiting bombers that could—and often did—strike them at night or through cloud cover.

Not the Good Old Days

The arrival of bombs on target through bad weather and at night had a powerful effect in destroying Taliban and al Qaeda morale, senior Pentagon officials said, quoting reports from US special forces and Northern Alliance commanders who had interrogated prisoners. Most unnerved were the veterans of the Soviet years, who had come to ignore airpower, expecting it to be applied indiscriminately and imprecisely.

Wald said this ability to have bombs come out of nowhere and hit with high precision “made a key difference in that early part, where the Taliban was defeated.”

Wald made clear that the United States had been prepared to go it alone, had that become necessary. However, having the Northern Alliance on the ground—equipped with its own armor and artillery—made demolition of the Taliban that much more successful, Wald said.

Wald had been dispatched to Southwest Asia shortly after the Sept. 11 attacks. On that day, senior Air Force officials, seeing the carnage in Manhattan on television, had ordered B-2 pilots “into crew rest,”

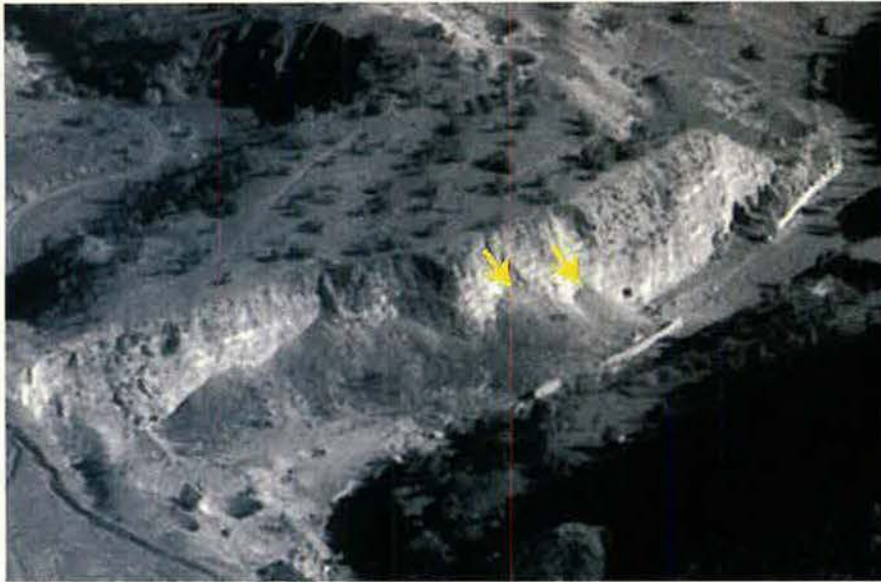
one noted. Service leaders anticipated that the White House might order swift retaliation.

However, planning was more deliberate. Wald said that, although al Qaeda camps in Afghanistan had been hit in response to the 1998 bombings of the US embassies in Kenya and Tanzania, not much of the Taliban’s order of battle had been established by fall of 2001. A clear picture of Taliban capabilities was not available until “a couple of days prior to the initial attacks on Oct. 7,” Wald said. The U-2 flights in the first days of October provided the necessary detail.

It was also lucky the US has just completed the construction of a new, state-of-the-art Combined Air Operations Center in the region. The facility, housed in a country that Washington refuses to publicly identify, had access to high-bandwidth commercial satellites and served as a collection point for data coming in from all intelligence sources and interpretation points.

Because this CAOC was in operation, bombers could be launched and receive their target information while en route to a site. This greatly reduced the time required to mount an attack against a target that popped up unexpectedly.

Jumper said the “kill chain” of finding, identifying, tracking, and attacking a given target had been sharply reduced in Enduring Freedom. Previously, he had set a goal of



Later air strikes centered on caves to which al Qaeda and Taliban fighters fled. Though vaunted as untouchable, the caves proved to be graves for many of the enemy. Repeated bombings collapsed them, as in the photos above.

having the capability to routinely hit emerging targets in “single-digit minutes.” The Chief of Staff, referring to this goal, told reporters, “We’re not there, yet,” although he observed that, in some cases, that it

had been done in “as a matter of fact, less than one, two, or three minutes.”

The general voiced his desire to equip all USAF shooter aircraft with digital data-sharing systems, to elimi-

nate the time necessary to pass target coordinates and verification by voice. In Jumper’s view, a special forces member on the ground should be able to designate a target with a laser range finder, obtain coordinates, and digitally transmit them to an aircraft overhead.

Fratricide

A senior USAF official said it was precisely this action of stopping and involving humans in what should be a quick and routine transmission of numbers that was probably the cause of an incident of fratricide on Dec. 5. On that day, a B-52 dropped a 2,000-pound JDAM in response to a request for close air support by Army Green Berets. The bomb hit within 100 yards of American special forces and Northern Alliance fighters, killing three Green Berets and five Afghans.

“I can’t believe it was the JDAM” that failed, the official said. “The accuracy of the bomb has been so phenomenal, and the weapon itself so reliable, the feeling is that the guy calling in the air strike may have

Bombing the Caves

When Osama bin Laden and his al Qaeda leadership withdrew to a complex of caves in the Tora Bora region of eastern Afghanistan, it wasn’t necessarily the smart thing to do as a way of avoiding US bombing.

Buried and hardened targets pose a problem the Air Force has been working on since the beginning of the Cold War, and a variety of weapons have been developed to address them.

Repeated attack with simple iron bombs can cause tunnels and caves—or their entrances—to collapse. Bombing by B-52s and B-1Bs with unguided 500-, 1,000-, and 2,000-pound bombs was carried out in Tora Bora, and special forces troops reported finding a number of collapsed tunnels.

Gen. Tommy R. Franks, the Commander in Chief of US Central Command, proposed searching them one by one for the remains of bin Laden or clues to his whereabouts.

Air Force officials said that B-2s, which were taken out of the fight when the need for stealth was eliminated, returned to Afghanistan in December to use their 3-D, synthetic aperture radar to more accurately map the cave areas. The B-2 can establish not only Global Positioning System coordinates of a target with its radar but also the altitude of a target, the better to attack caves in a mountainous region.

A 15,000-pound bomb—the so-called Daisy Cutter—was employed in Tora Bora, both to cause tunnel-collapsing concussion and to act as an oxygen vacuum. The sudden eruption of the fireball resulting from the bomb’s detonation can suck all the oxygen out of the air for nearly 600 feet in all directions. Even if the blast did not kill the cave’s occupants, they may have died of asphyxiation.

For penetrating rock and hardened bunkers, the Air Force has a number of precision munitions equipped with durable steel warheads that can cut through stone and with sensors that help the bomb fuze at the right depth. The fuzes can tell when the bomb has gone through rock and emerged in an

empty space. Reportedly, these bombs can penetrate as deeply as 100 feet of unreinforced earth and several meters’ worth of the toughest hardened concrete.

A recent version of the air launched cruise missile, designated AGM-83D, is also intended to be used as a hard-target weapon, with its penetrating warhead and special fuzing, combined with the ability to hit the target with extreme precision—i.e., within 10 feet of the aim point.

A similar precision-fuzing capability is available on the 3,000-pound, TV-guided AGM-130 rocket-and-glide bomb. The TV guidance is augmented with GPS guidance for extreme precision, even in the typical bad weather of an Afghanistan winter.

The GBU-28 is a 5,000-pound weapon used only a couple of times during the endgame of the Gulf War, as a way to get at deeply buried command posts. It can be carried by the F-15E or the larger bombers but has laser guidance, requiring good weather for use.

Some of the caves used by al Qaeda were simply natural formations, but some were elaborate affairs dug into the rock with multiple levels, communications rooms, ammunition storage areas, and sleeping quarters, equipped with sophisticated ventilation systems. These caves also reportedly had several back doors.

The US has not employed a fuel-air explosive in Operation Enduring Freedom for use as an asphyxiation weapon, officials said, because there were none in the inventory.

However, on Dec. 21, Pentagon acquisition chief Edward C. Aldridge told reporters that DOD had developed a new fuel-air explosive “that is particularly designed for tunnels.” He said the “thermobaric” weapon had been tested on a laser guided bomb that exploded in a tunnel with “a significant growth in overpressure for the tunnel and temperature.

“It’s something that we clearly have a need for in Afghanistan, and they’re on their way over there.”

entered the [coordinates] wrong or radioed it in wrong, or the guy in the plane punched in the wrong numbers on the keypad in the [bomber's] computer. That's why we need to get these machine-to-machine interfaces."

The CAOC was able to direct Predator "streaming video" directly into the cockpits of some aircraft. This enabled AC-130 gunships to rain fire down precisely on some targets in Kunduz without inflicting much damage on neighboring areas.

"I think the CAOC is a new weapon system itself," Wald asserted. "It would have been extremely difficult, if not almost impossible, to have run the campaign in Afghanistan without the CAOC." The command center enabled Wald to have an "air picture over Afghanistan" showing all friendly aircraft, their objectives, and flight paths "within two days of when we arrived."

In the command center, for example, Wald and his targeters were able to look at imagery coming live from U-2s and hear specialists at Beale AFB, Calif., interpret the images as they were coming in.

Wald suggested that the information available to him in the first days of Enduring Freedom rivaled the information available to Operation Desert Storm air commander Gen. Charles A. Horner after six months of preparation in theater.

The pace of the air campaign, Wald said, went "just as planned,"

but no one at CENTCOM could have predicted the Taliban would have "folded as fast as they did, even with the Northern Alliance attacking them."

Martin emphasized that point. "We are not getting much play out of the fact that the Taliban didn't just collapse because they are weak," said the USAF commander. "They collapsed because the Northern Alliance was given good information at the right time. The people who were with them were identifying targets of value. We were striking targets of significant value and they were being cut off from the world. They ran."

U-2 Supplement

Global Hawk was dispatched to the theater to provide high-altitude imagery and signals intelligence, and because it was still, as Jumper said, "in test mode," it supplemented the U-2 but did not replace it.

Jumper reported having signed roughly a dozen mission needs statements, or requirements for new capabilities, as a result of shortfalls encountered during the Afghan campaign but also noted that many of these referred to refinements of existing weapons or systems.

Martin said there is some "concern" among senior military leaders that there is no structural commander for a global enemy, as there are regional Commanders in Chief for various parts of the world. There are

seams between CINC areas of responsibility, and the Afghanistan operation drew that fact into sharp relief.

Martin noted, for example, that Afghanistan, Uzbekistan, Pakistan, Turkmenistan, and Tajikistan all fall within CENTCOM's area of responsibility, but the former Soviet republics in the group are involved in the NATO Partnership for Peace program, within European Command's area. Jurisdictional issues might cause something to fall through the cracks, Martin said. He added that there may be a new division of labor along mission area lines. No one, however, is planning to scrap the current "CINC-doms," he said.

Martin also said, at the end of Phase 1, that the US military had done "about five [Major Theater Wars'] worth of planning" for whatever step was to come after destruction of the Taliban, al Qaeda, and their top leaders. Some options being looked at for the broader fight against terrorism with a global reach might require "three MTWs' worth of some of our capabilities, with about an MTW-and-a-half or an MTW of support," he said.

Wald said he could see that, after Afghanistan, there might be a need to "rethink our force structure."

Enduring Freedom is being run with no letup in support for operations in the Balkans or Northern and Southern Watch in Iraq, Martin and Wald noted. Because of that, the force structure is there to shift attention elsewhere in the region if necessary.

However, Martin noted that Air Force troops would hit a "crunch point" after about three months on the rotation. He said the cycles may be extended, but one of the highest priorities would be to figure out how to establish a steady-state mode for the troops.

He predicted USAF would defer some exercises, competitions, and deployments. Air Force leadership also gave some thought to doubling the 90-day deployment schedule to 180 days for all AEFs but that the troops affected would not go again for 30 months. Martin does not like this solution and expected the extension would be more like 30 days. USAF might also make an early call on some later AEFs. Without a change, Martin concluded, the EAF concept "is busted." ■

USAF photo by SSgt. Sean M. Worrell

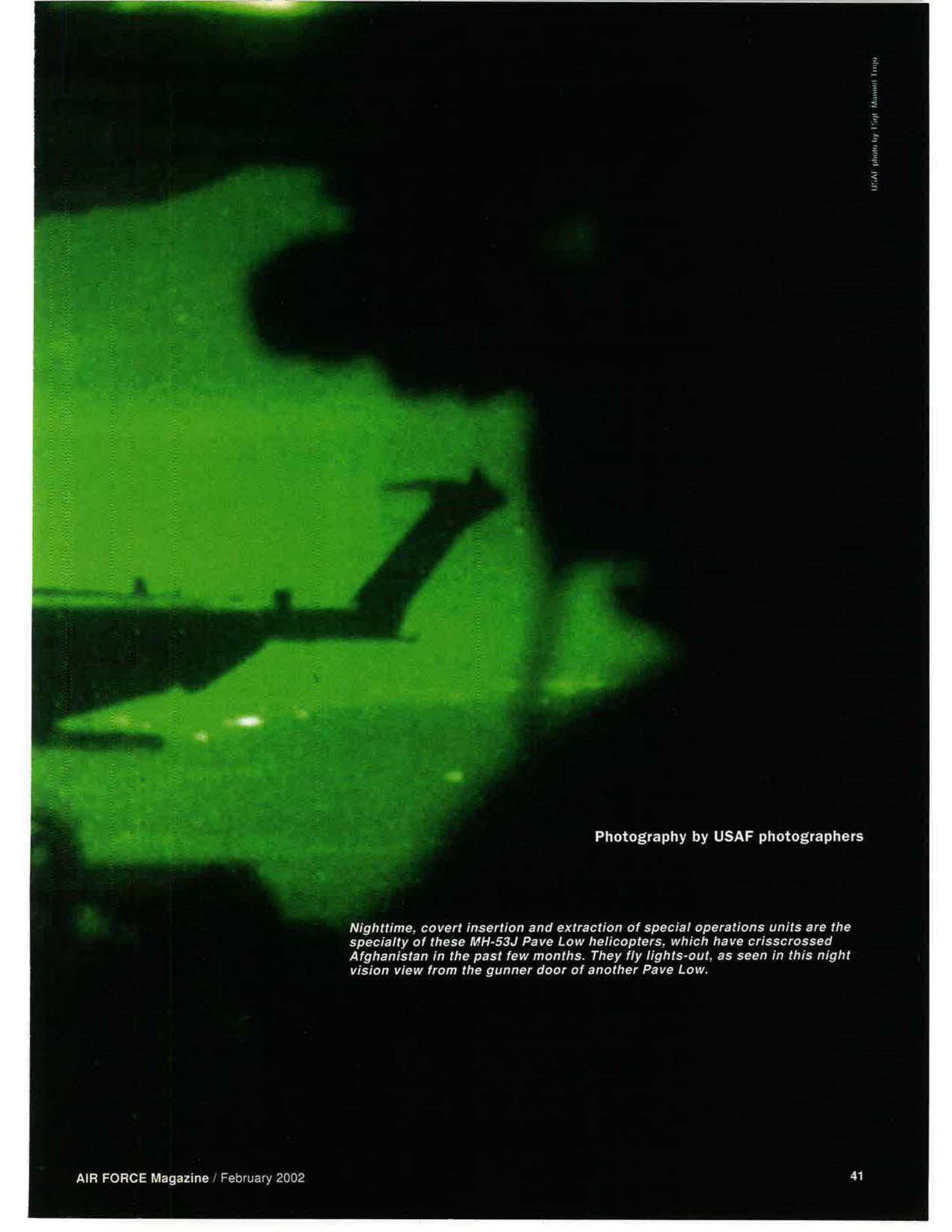


Now in its fifth major armed conflict, the U-2 proved invaluable in determining the Taliban order of battle prior to Oct. 7. Though UAVs seem destined for an ever larger role, the U-2's timely performance showed why it's still in demand.



Seeking Terrorists

US and coalition forces continue to search out pockets of resistance in Afghanistan and maintain combat air patrols in the States.



Nighttime, covert insertion and extraction of special operations units are the specialty of these MH-53J Pave Low helicopters, which have crisscrossed Afghanistan in the past few months. They fly lights-out, as seen in this night vision view from the gunner door of another Pave Low.

Photography by USAF photographers

A Pave Low takes on fuel from a special ops MC-130 Combat Talon. Besides serving as transportation for special ops troops, pararescuemen, and combat air controllers, Pave Lows sometimes conduct surveillance with their sophisticated night vision gear.

To reduce the need for refueling and to expand speed and capability, the Air Force hopes to replace the MH-53J with the tilt-rotor CV-22 sometime this decade.



USAF photo by TSgt. Manuel Trejo

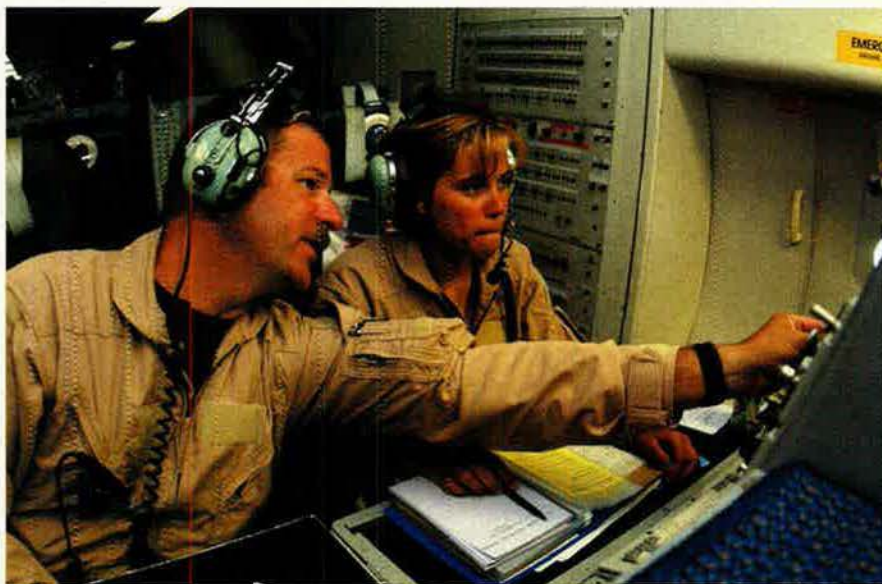
USAF photos by TSgt. Scott Reed



An MC-130 lowers the refueling drogue for a hookup with a Pave Low. The MC-130s perform many classified missions besides refueling special operations choppers. At left, a gunner at the rear of an MH-53. Pave Low crews routinely land in "hot" areas and must be prepared to defend themselves.

Airborne Warning and Control System aircraft crew members, such as these two at right with the 405th Air Expeditionary Wing, have the critical job of managing the airspace over the battlefield. Fourteen-hour days are typical, as there are never enough AWACS aircraft to go around.

As can be seen here, even on intelligence, surveillance, and reconnaissance "heavies," crews fly without name tags and patches—just in case.



USAF photo by TSgt. Cedric H. Rudisill



The EC-130E Commando Solo, with its distinctive pods and antennas, is operated only by the Pennsylvania Air National Guard. The aircraft is a flying TV and radio station broadcasting the real story of what's happening to anyone in range. It also serves as a listening post in the sky.

Above, crews work their electronic magic from the "capsule" in the EC-130's cargo bay. In the first three months of Enduring Freedom, Commando Solo crews broadcast more than 1,100 hours over Afghanistan.

At right, gassing up behind a tanker.



When a B-1B went down in the Indian Ocean, rescue crews jumped into action. At right, the medical element discusses their part before heading out to USS Russell, which picked up the downed fliers.

Below, two of the four rescued crew members—all were safely recovered—get a medical check.



USAF photo by SSgt. Shane Cuomo

USAF photo by SSgt. Shane Cuomo



USAF photo by TSgt. Cedric H. Rudisill

Loss of the B-1 was due to malfunctions, but officials deemed no grounding was necessary and the other B-1Bs continued to fly.

A captured Taliban or al Qaeda fighter is strip-searched by two US troops. With several prisoner uprisings resulting in Northern Alliance and American deaths, prisoners are treated with the utmost caution. Although complaints were made about the shackling and restraint of prisoners flown to Guantanamo Bay, Cuba, USAF Gen. Richard B. Myers, Joint Chiefs of Staff Chairman, noted one uprising where a prisoner used a grenade or other explosive to blow himself up, taking anyone nearby. He said, "These are very, very dangerous people, and that's how they're being treated."



USAF photo by TSgt. Cedric H. Rudisill



USAF photo

Where there's an airfield, there's a way: Mighty C-5 Galaxys deliver troops, equipment, vehicles, and humanitarian aid to Afghanistan via Kyrgyzstan. Operating out of former Soviet republics has helped build new friendships in the region.

Note the all-terrain vehicles and humvees being shipped in for use by special forces. Afghanistan has some extremely rough terrain and often quite a harsh climate.



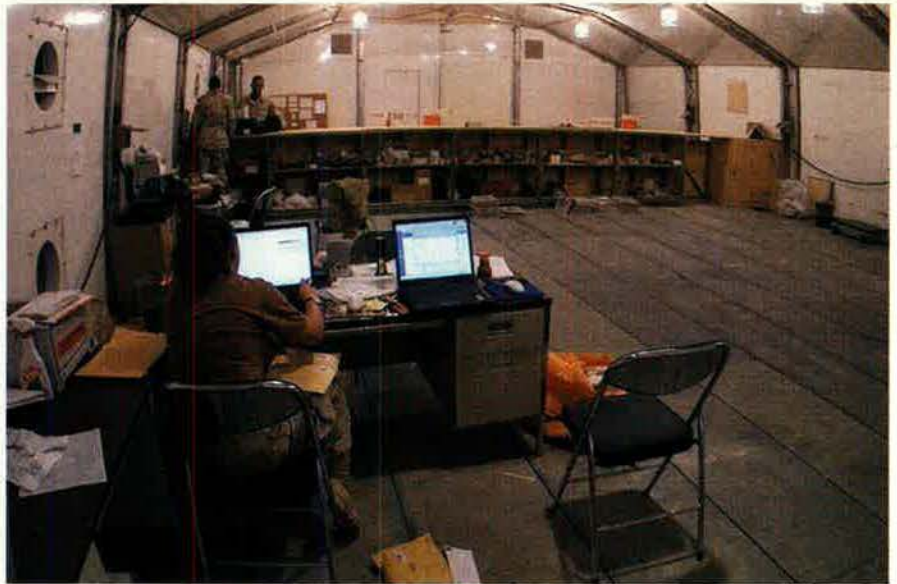
USAF photos by TSgt. Efrain Gonzalez



While the C-17 has often grabbed the airlift spotlight in Operation Enduring Freedom, the C-5s—from both active and Air Force Reserve Command units—have been pulling their share of the load.

Mail call has a decidedly different flavor nowadays. In previous wars, families might wait anxiously for weeks without word from their troops at the front, but thanks to the Internet, many now stay in daily contact. E-mail stations provide a way to stay in touch with home while half a world away.

USAF photo by MSgt. Blake R. Borsic



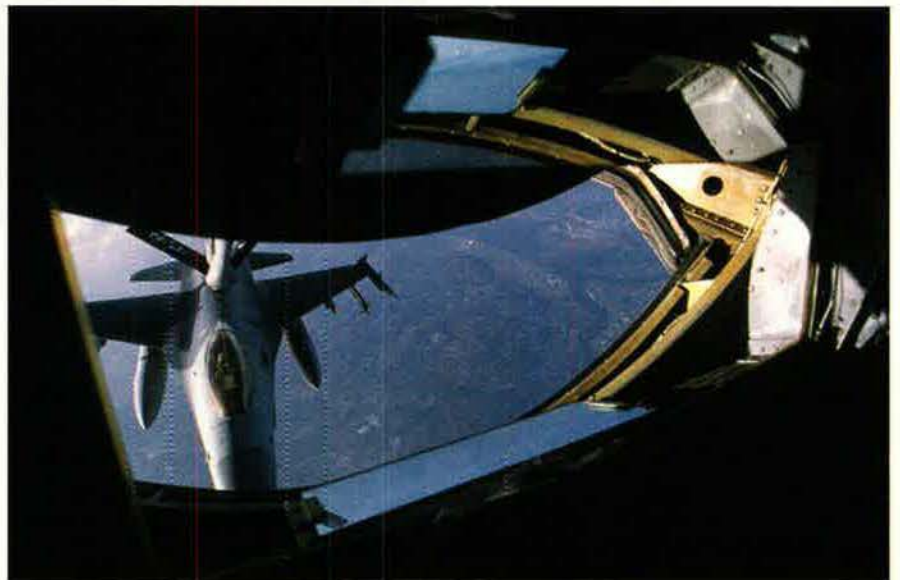
USAF photo by TSgt. Jack Braden

USAF photo by TSgt. Michael R. Nixon



RED HORSE civil engineering units have been busy improving austere locations. Often they must use whatever is at hand, for instance materials bought on the local economy or recycled items such as packing crates. Their ingenuity is matched only by their hard work.

Meanwhile on the home front, active and reserve units routinely fly combat air patrol over dozens of American cities for Operation Noble Eagle. The flights are intended to dissuade further air attacks like those on Sept. 11 and to provide a quick response if a threat materializes.



USAF photo by Scott H. Spitzer



Operation Enduring Freedom brought the first sustained combat for the B-1B in its 15-year career. The success of the missions show that long training has paid off in reliable strikes across a wide range of targets. The Air Force insists that it still wants to reduce the size of the B-1B fleet, but Congress has ordered further review of the plan, especially in light of the aircraft's operational success.

At left, the crew discusses last-minute details before a sortie. The round-trip from Diego Garcia to targets in Afghanistan lasts about six hours.



At left, a crew chief watches as "his" airplane, lent to the flight crew, taxis toward takeoff.

Air Force personnel are now deployed in nearly a dozen countries supporting Enduring Freedom and are committed to getting the job done. ■



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C-17
There's only one

Practically invisible since the Cold War, North American Aerospace Defense Command is now a daily presence over American cities.

The Return of NORAD

IN the Cold War years, North American Aerospace Defense Command was known far and wide for standing watch against nuclear attack. Hollywood popularized a vivid image of NORAD operators, tense and forever on alert, peering into their radar screens for signs of Soviet bombers or missiles flying over the pole.

Then the Cold War ended. In the 1990s, NORAD's work went on, but it became virtually forgotten by the public.

The invisibility ended Sept. 11, as the terrorist strikes against New York and Washington, D.C., suddenly thrust NORAD back into the spotlight with a major new mission—defense of sovereign US air space from internal threats. Now, this bilateral US-Canadian command is at the center of Combat Air Patrol missions over US cities.

F-15 and F-16 fighters chopped to NORAD have carried out intensive patrolling operations since the attacks. E-3 Airborne Warning and Control System aircraft—from USAF and NATO—have been flying around the clock, ready to direct action against hostile aircraft. Large num-

bers of KC-10 and KC-135 aerial tankers have been engaged.

The mission in the first three months of the operation—code-named Noble Eagle—generated some 10,000 USAF sorties.

The September attacks and their aftermath made it only too clear that aerospace control constitutes a vitally important piece of US security. These events established—publicly, visibly—that the Commander in Chief of NORAD, USAF Gen. Ralph E. Eberhart, is a warfighting commander.

On Sept. 11 Eberhart assumed direction of the first-ever Combat Air Patrols flown over US cities. The CINC, said a NORAD spokesman, is “directing the actions of all fighter aircraft performing Combat Air Patrols” over New York, Washington, and many other cities.

Down to Seven Bases

Like every government organization, NORAD was caught off guard on Sept. 11. The monitoring of threats went on as usual that day but NORAD operators were looking outward from US borders, seeking incoming danger. NORAD did not anticipate at-

By Adam J. Hebert

NORAD directs CAPs that are now flying over several US cities. Here, North Dakota ANG F-16s and an F-15 from Langley AFB, Va., fly over the Washington, D.C., area.

USAF photo by SSgt. Greg L. Davis



tacks in which civil airliners would be hijacked from domestic airports and turned into weapons against US targets.

At the time of the attacks, only seven locations—around the perimeter of the United States—were engaged in the air defense mission. Each was assigned a pair of Air National Guard fighter aircraft ready to scramble if US airspace were threatened.

These alert locations had F-15 or F-16 fighters on the runways, fueled, and ready to take off in fewer than 15 minutes.

It was, however, a greatly diminished presence, said Maj. Gen. Paul A. Weaver Jr., now retired, who was at the time the director of the Air National Guard. He said that, during the Cold War, the air defense force structure was much more robust. Fighters sat fueled and ready to take off, if directed by NORAD, at “well over 100 alert sites.”

Weaver said the number of sites was reduced because it was widely believed the threat to the United States had essentially disappeared. Some questioned the need to maintain even the seven alert bases. “Based upon the threat, seven sites was [considered] adequate for the outward threat,” he said. “Never did we believe the threat would come from within.”

The seven air bases with aircraft on permanent alert Sept. 11 were arranged around the Pacific, Gulf,

and Atlantic coastlines. This perimeter arrangement was a reflection of pre-attack thinking that was focused on external threats.

When word came on Sept. 11 that airliners had been hijacked, air defense fighters scrambled at Otis ANGB, Mass., and Langley AFB, Va., and went off to intercept the airliners. However, according to a NORAD fact sheet released shortly after the attacks, the fighters simply had no chance to intercept the four hijacked airliners.

The first notification that something was wrong came in at 8:40 a.m., and at 8:46 a.m. a fighter scramble order was sent to Otis. Only seconds after the scramble order, American Airlines Flight 11 out of Boston slammed into the World Trade Center’s north tower. The two Otis F-15s did not take to the air until six minutes later.

Next, at 9:02 a.m., United Airlines Flight 175 from Boston crashed into the WTC south tower. At the time of this impact the Otis-based F-15s were still 71 miles outside of New York City, meaning they were about eight minutes away.

Shortly thereafter, at 9:24 a.m., NORAD got reports of additional hijackings and immediately scrambled two F-16s of the 119th Fighter Wing, a North Dakota ANG unit that keeps a permanent detachment at Langley. The Langley fighters took off at 9:30 a.m., but once again the Air Force lacked enough time to avert catas-

trophe. American Flight 77 out of Dulles Airport hit the Pentagon at 9:37 a.m. The Langley fighters were still 12 minutes and 105 miles away from Washington, D.C.

The fighters outside Washington and New York continued to patrol because there was word of another hijacking. United Flight 93 out of Newark, N.J., had turned toward Washington, but it crashed in Pennsylvania countryside at around 10:03 a.m., after a revolt by passengers who had figured out what was happening.

F-16s patrolling the Washington area were in a position to have intercepted this airliner. During these tense moments, the fighter pilots had permission to shoot down hijacked airliners if they were to threaten more targets. The authority came directly from President Bush.

The damage was done, but within hours of the hijackings, almost every civilian airliner over the United States had been grounded or rerouted to Canada, and Combat Air Patrols had been launched under NORAD direction to cover more than 30 locations. The CAP fighters protected the airspace “over every major center” on Sept. 11, said a senior NORAD officer.

Constant Vigilance

Since the events of Sept. 11, NORAD and USAF have beefed up the domestic combat patrols considerably. The number of alert bases has been increased from seven to 26, with four fighters at each site ready to go, said senior Air Force officers.

The CAP missions continue unabated. In addition to round-the-clock operations over New York and Washington, NORAD directs missions over other undisclosed urban centers selected in response to threats or on a random basis, said Lt. Gen. Ken R. Pennie, NORAD deputy CINC and the top Canadian official at NORAD.

A senior Air Force official said that, on any given day, the CAPs are in place over eight to 12 American cities.

These patrols will be continued in part to create uncertainty in the minds of potential terrorists. Pennie noted that NORAD also has more on-alert aircraft “by a factor of seven” than was the case Sept. 11.

A senior Air Force official said that, since Sept. 11, the service has made available 120 to 130 fighters,

USAF photo by SSgt. Greg L. Davis



Before Sept. 11, air defense focused on external threats. Now, NORAD-controlled aircraft, like these North Dakota ANG F-16s, keep constant watch internally, as well.

from 50 to 75 KC-10 and KC-135 tankers, and 10 E-3 AWACS, backed up by five NATO-owned AWACS sent to the US for temporary duty. The work has required 11,000 airmen to maintain more than 250 aircraft.

"At this point, we don't know" how long the CAP missions will continue, Pennie added, but the number of flights will probably decline over time as NORAD gets "more comfortable" with what it takes to maintain domestic air sovereignty.

Without question, however, the increase in flight activity has been dramatic, according to Eberhart's recent testimony to the Senate Armed Services Committee.

For example, in the year 2000, during the period Sept. 10 through



USAF photos by TSgt. Shaun Withers



CAP responsibility now extends to activities such as protecting a space shuttle launch, like the Florida ANG F-15 above with Endeavor in December. Here, an ANG F-15 refuels from a KC-135 over Florida.

Oct. 10, NORAD scrambled fighters a total of seven times (counting exercises). A year later, during the same Sept. 10 through Oct. 10 period, fighters were scrambled 41 times. In addition, officers diverted 48 Combat Air Patrols to tracks of interest, for a total of 89 events.

All signs are that the scramble activity, while it may have tapered off somewhat, still runs at a high level.

Moreover, all units supporting Noble Eagle experienced a significant increase in NORAD-related sorties. Normally, units fly four to six sorties a month in support of the NORAD air defense mission. Since Sept. 11, however, several units such

as the one at Otis flew more than 100 sorties per month.

Flying such a large number of sorties is an expensive business, said Pennie, who acknowledged that over time portions of the CAP mission will likely transition to fighters on "ground alert posture."

Picturing US Airspace

In addition, the US military is moving out to make significant changes in the way it acquires information about domestic air activity.

On Sept. 11, NORAD was unaware that a problem existed until the Federal Aviation Administration, the civilian agency in charge of US air

traffic, notified the command. For some time, the FAA had been the lead agency for handling events of "air piracy." NORAD and the FAA had a cooperative arrangement that left control of domestic airspace in the hands of the FAA. Domestic airliners were considered "friendly by origin," said a NORAD spokesman.

In the wake of the attacks, NORAD has been closely monitoring all potential threats both inside and outside of US borders. Each day military detection and tracking systems designed to watch for bombers and missiles monitor 7,000 aircraft approaching the United States.

NORAD officials said the command does not have constant access to the "interior" radar displays used by the FAA and said this is a potential area of improvement. In fact, the command is now working to achieve a more comprehensive level of vigilance that will not require reliance on the FAA for help monitoring domestic air traffic, Pennie said.

"We need better connectivity" to guarantee access to domestic air traffic information generated by the FAA and its Canadian counterpart, he said.

Civilian air traffic radars are separate from NORAD's "fence" of radars focused on external threats, Pennie explained. The rationale for this arrangement was that not only were Sept. 11-style hijackings not expected, but the Cold War mind-set was that "once a bomber got that far [past the NORAD fence] ... things were pretty bad."

Unfortunately, Pennie reported,



Massachusetts ANG F-15s fly over the Cape Cod area, returning from a CAP mission for Operation Noble Eagle, which amassed some 10,000 USAF sorties alone in its first three months.

NORAD “simply can’t connect all the radars” and create an all-inclusive radar monitoring facility. The technology simply does not exist to do this, and building an all-new radar system from the ground up would be time consuming and prohibitively expensive.

For the time being, “working closely with the air traffic authorities” in the United States and Canada “is the way to go,” Pennie said.

The ANG’s 1st Air Force, based at Tyndall AFB, Fla., is NORAD’s main CONUS operating unit. NORAD has deployed air battle managers to FAA sectors to improve liaison and flow of information. Moreover, NORAD has opened a direct telephone line to the FAA to make it possible to hold a swift teleconference among aviation officials.

Lt. Col. Steve Ruggles, chief of NORAD’s Aerospace Warning Operations Branch on Sept. 11, said the command is only too aware of its radar limitations.

“We have an urgent need to replace that system with a new more advanced system that will allow us to display more radars so that we can develop our own interior air picture,” Ruggles, now retired, told *Inside the Air Force*.

For the time being, initial warnings of possible threats will come from the FAA. But unlike the pre-Sept. 11 situation when “the last thing [the FAA] would do is call NORAD,” the agencies now operate under a

new realization of the terrorist threat and have closer relations, Pennie said.

Additionally, Eberhart told the Senate, NORAD has positioned around the United States a number of portable air control radars to more rapidly respond to FAA requests for assistance. NORAD moved about a dozen of these units around the country.

Pulling the Trigger

The terror attacks have also brought a major change in the rules of engagement for using force against airborne threats. Civilian airliners with large numbers of American citizens are no longer exempt from military attack.

In a Sept. 16 interview with NBC’s “Meet the Press,” Vice President Dick Cheney said unequivocally that fighters eventually were authorized to shoot down airliners as a last resort. Cheney said he had recommended this course of action to President Bush, who had accepted the advice.

It is widely believed the last hijacked airliner, and the only one that could have been intercepted by NORAD-controlled fighters, was being flown back to Washington, with the intent to strike the White House or Capitol.

“It doesn’t do any good to put up a Combat Air Patrol if you don’t give them instructions to act,” explained Cheney. “If the plane would not divert, if they wouldn’t pay any attention to instructions to move away from the city, as a last resort our pilots were authorized to take them out.”

NORAD has procedures in place to deal with intercepting, identifying, and classifying unknown aircraft and it is prepared to engage aircraft that pose a threat to the United States, even if they are airliners within US airspace.

The fighters under NORAD’s command “will employ a graduated response if any aircraft poses a threat to the civil population or our national assets,” a spokesman explained. He added, “Shooting an aircraft [a civilian airliner] down is not out of the question.”

In a recent interview with the *New York Times*, Eberhart pointed out that three senior officers might in some future crisis have the authority to order the shutdown of an airliner.

He said “If there’s time, we’d go all the way to the President” for approval to shoot down an airliner. “Otherwise, the standing orders have been pushed down.”

In the continental US, the task belongs to Maj. Gen. Larry K. Arnold, commander of 1st Air Force. In Alaska, the man on the spot would be Lt. Gen. Norton A. Schwartz, a three-star officer at Elmendorf Air Force Base there. In Hawaii, Adm. Dennis C. Blair, head of Pacific Command, would have the authority.

Anyone forced to make that decision would indeed face a moment of truth. “You have to ask yourself,” said Cheney, “‘If we had had a Combat Air Patrol up over New York and we’d had the opportunity to take out the two aircraft that hit the World Trade Center, would we have been justified in doing that?’ I think absolutely we would have.”

Weaver said: “This [potential for firing on a civilian airliner] is new territory for all of us. Aircrew members are going through a lot of soul-searching.” ■

Adam J. Hebert is senior correspondent for *InsideDefense.com*, an Internet defense information site, and for *Inside the Air Force*, a Washington, D.C.-based defense newsletter. His most recent article for *Air Force Magazine*, “The Search for Asian Bases,” appeared in the January 2002 issue.

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A photograph of a B-2 Spirit bomber aircraft inside a large hangar. The aircraft is dark and sleek, with the words "SPIRIT OF KITTY HAWK" visible on its side. The hangar floor is concrete with several circular lights. In the background, a large open bay door reveals a bright, green field and a runway under a clear sky. The lighting is dramatic, with the interior of the hangar being dimly lit compared to the bright outdoor scene.

A B-2 in Operation Enduring Freedom carried out the longest combat sortie in history.

The American Spirits

Maj. Scott Vilter, a B-2 pilot with the 509th Bomb Wing, stands near one of the B-2 Spirits at Whiteman AFB, Mo.



Photography by Paul Kennedy

WARNING

ECP

During the first three days of *Enduring Freedom*, six B-2s flew nonstop from Whiteman to Afghanistan, then recovered at Diego Garcia, a British-owned atoll in the Indian Ocean. One B-2's mission lasted more than 44 hours—a record for a combat sortie.

Once at Diego Garcia, some 2,500 miles from Afghanistan, the B-2s were on the ground for about an hour for an engine-running crew change. The fresh crews then flew the bombers more than 30 hours home to Whiteman.



Photos by Paul Kennedy



Composite materials, coatings, and the B-2's flying-wing design combine to give the multirole heavy bomber stealth qualities. Materials repair specialists such as SrA. Eric Lucas, at left, are key to maintaining the low observability of the aircraft.

Improvements to materials that give the stealth aircraft a reduced radar signature are in the works. The aim is to scale down the time and labor now required to restore low observable qualities during routine maintenance.

At right, A1C Tony Grindle maintains the skin on a B-2.





The B-2 Spirit is 17 feet high and 69 feet long, with a wingspan of 172 feet. Above, one of the huge landing gear doors bears the tail code for this tailless aircraft. Intakes show where air enters for the four engines buried deep inside the wing. At right, a back view shows where and how the exhaust is ducted to help reduce the B-2's signature.

The B-2 first appeared on public display in November 1988. The first operational B-2 arrived in December 1993 at the 509th. In 1999, the B-2s faced their first combat test in Operation Allied Force in the Balkans.

For those missions, the B-2s flew 30-hour nonstop round-trip missions from Whiteman to Yugoslavia, attacking in all weather.



The bombers were armed with Joint Direct Attack Munitions and had the highest rate of target destruction of any aircraft in the war.

B-2s on the first missions to Afghanistan for Enduring Freedom dropped 16 JDAMS, some labeled "NYPD" and "FDNY."

At right, TSgt. Neal Venette, SSgt. William Gutierrez, and A1C Wesley Peel train on a full-scale mock up, with, below, loader driver A1C Ioane Maiava.



Photos by Paul Kennedy



The B-2 is powered by four GE F118-GE-100 turbofans, each with more than 17,000 pounds thrust. It can carry a payload of more than 40,000 pounds and has an unrefueled range of more than 6,000 miles.

A1C Joseph Weir (left) and SrA. Peter Engebretsen conduct maintenance on a B-2 engine.

The stealth bomber is crewed by two pilots, who take turns sleeping on a folding chaise lounge tucked in back of the cockpit for lengthy missions. Some B-2 pilots have flown missions as long as 50 hours in the 509th's flight simulator.

Their training also includes a parachute descent simulator, complete with a virtual reality headset and computer software to simulate conditions encountered after ejection.

At right, an officer in a parachute harness demonstrates the system, while MSgt. David Wilson watches over the computer program.





At Whiteman, each of the bombers has its own hangar to provide protection from the weather and prying eyes and to ease the work of the maintainers. USAF has been testing deployable shelters and contracted for delivery of the first of four this spring. The shelters will allow ground crews to maintain the B-2's low observable qualities at forward bases.

Using forward bases would be ideal, however the 509th took its long flights for Enduring Freedom in stride. In fact, Brig. Gen. Anthony F. Przybyslawski, 509th wing commander, said the Afghan missions were simpler than training. One reason is comprehensive pre-mission planning. The B-2 pilots prepared ahead of time for conditions in the theater, taking into account the combat situation, threat location, weather, jamming operations, refueling procedures, and other factors.



Last fall, Defense Secretary Donald Rumsfeld flew to Whiteman for a daylong visit with B-2 pilots and support crews. He told them, "You accomplish an amazing feat each time a B-2 bomber lifts off from the plains of Missouri and crosses oceans and continents, undetected, to deliver justice." ■

Verbatim

By Robert S. Dudley, Executive Editor

Lost Minds

"I just think any country in the world that would knowingly harbor [Osama] bin Laden would be out of their minds. ... They've seen what happened to the Taliban."—*Deputy Secretary of Defense Paul Wolfowitz, Dec. 18 news conference.*

It Could Be Worse

"Reports that al Qaeda and Taliban prisoners due to be transferred to a US base in Guantanamo, Cuba, may be drugged, hooded, and shackled during the 20-hour transportation flight are worrying."—*Amnesty International news release, Jan. 10.*

No Regrets

"In the name of Allah, I do not have anything to plead. I enter no plea. Thank you very much."—*Zacarias Moussaoui, terror defendant, at Jan. 2 hearing in Alexandria, Va., federal court.*

No Quarter

"For states that support terror, it's not enough that the consequences be costly; they must be devastating. The more credible this reality, the more likely that regimes will change their behavior."—*President Bush, in Dec. 11 speech at The Citadel in Charleston, S.C.*

No Witches

"We want this commission to be nonpartisan and independent. It must be a hunt for the truth, not a witch hunt."—*Sen. Joseph Lieberman (D-Conn.), in Dec. 20 statement calling for a full-scale investigation of the Sept. 11 terrorist attacks.*

No Kidding

"God may strike me dead right on this spot if I were offering this amendment for political purposes."—*Sen. Robert Byrd (D-W.Va.), in Dec. 4 remarks about charges that Democrats had stuffed the 2002 defense bill with pork-barrel projects.*

Poor Dears

"They say the bombing was terrible, and when they sleep they talk

about hearing aircraft."—*An Afghani translator, referring to 18 wounded al Qaeda terrorists who were captured and hospitalized, quoted in Dec. 23 New York Times.*

Workers' Paradise

"I didn't want to leave the United States to go to some hellhole like Russia or China."—*David Greenglass, top Soviet atomic spy from the 1940s, on why he didn't flee the US to avoid arrest. From Dec. 5 broadcast of CBS's "60 Minutes II."*

Ashcroft's Retort

"Charges of 'kangaroo courts' and 'shredding the Constitution' give new meaning to the term, 'the fog of war.' ... We need honest, reasoned debate, not fear-mongering. To those who pit Americans against immigrants, and citizens against noncitizens, to those who scare peace-loving people with phantoms of lost liberty, my message is this: Your tactics only aid terrorists—for they erode our national unity and diminish our resolve. They give ammunition to America's enemies and pause to America's friends. They encourage people of goodwill to remain silent in the face of evil."—*Attorney General John Ashcroft, Dec. 6 testimony to Senate Judiciary Committee.*

Dis-Jointed

"The Navy and Marine Corps has [sic] served as the backbone of Operation Enduring Freedom. ... I want to note the contribution of the sister services, especially the Air Force's heavy bombers [sic], that dropped most of the strategic ordnance. ... They made a vital contribution to this effort. But the key support was provided by tactical aircraft, close air support for our troops, provided overwhelmingly by the Navy."—*Rep. Mark S. Kirk (R-Ill.), a lieutenant commander in the US Naval Reserve, in Dec. 20 floor speech.*

"A" For Effort, Anyway

"What the Navy is flying is more Desert Drizzle than Desert Storm, in

terms of tonnage being dropped, the amount of firepower being provided. But it's interesting to see them putting their best foot forward."—*Defense analyst Andrew Krepinevich, quoted in Dec. 17 Defense Week.*

Beyond Parody

"What makes the President—I'm taking note of his wide-swinging threats in speeches recently—what makes him think that he has the right to go into a sovereign country and bomb the people? ... Does he think he can go beyond Afghanistan or anywhere else? ... What gives him the authority to go into other countries and bomb them, which is what he is threatening to do?"—*Questions by reporter Helen Thomas, put to White House spokesman Ari Fleischer at Dec. 5 news conference.*

From the Reptile Cage

"We calculated in advance the number of casualties from the enemy, who would be killed based on the position of the tower. We calculated that the floors that would be hit would be three or four floors. I was the most optimistic of them all. ... [D]ue to my experience in this field, I was thinking that the fire from the gas in the plane would melt the iron structure of the building and collapse the area where the plane hit and all the floors above it only. This is all that we had hoped for. ... We had notification since the previous Thursday that the event would take place that day. We had finished our work that day and had the radio on. It was 5:30 p.m. our time. ... We turned the radio station to the news from Washington. The news continued and no mention of the attack until the end. At the end of the newscast, they reported that a plane just hit the World Trade Center. ... After a little while, they announced that another plane had hit the World Trade Center. The brothers who heard the news were overjoyed by it."—*bin Laden, transcript of videotaped remarks, released by the Pentagon on Dec. 13.* ■

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Both Asian and Islamic, Turkey has been a reliable and increasingly important US ally.

Turkey Stands Forward

By Peter Grier

In the third month of Operation Enduring Freedom, some Hollywood stars decided they wanted to do their part in the war effort. George Clooney, Matt Damon, Andy Garcia, Brad Pitt, and Julia Roberts let it be known that they were interested in visiting a US overseas military base involved in the war on terrorism.

The Pentagon agreed but did not direct them to Saudi Arabia, Kuwait, or Diego Garcia. Instead, they flew on a 757 chartered by Warner Bros. to a large Air Force installation on the dividing line between Europe and the Mideast—Incirlik Air Base in Turkey.

It was an entirely appropriate choice. For one thing, the trip reflected the importance of Incirlik and Turkey to the battles in Afghanistan. From Sept. 11 onward, Ankara had been staunchly in the US corner, offering Washington everything from overflight rights and moral support to special units trained for anti-terror operations and large numbers of troops for peace-keeping forces.

In a larger sense, the fight against al Qaeda has given Turkey the chance to demonstrate anew its strategic importance to the West. In the Cold War, it was the strong, largely silent NATO bulwark on the southern flank of the Soviet Union. Today, it is a predominantly Muslim nation openly offering help of the kind that Egypt, Saudi Arabia, Jordan, and other Arab states are too fastidious or too nervous to provide.

When other Islamic nations hesitated in the wake of the Sept. 11



USAF photo by Sra. Matthew Hammen

Some 3,500 USAF personnel are now at Incirlik AB, Turkey, where this tent city houses more than 1,000 people. Although austere, the tents do have air-conditioning, a television room, and porches, among other amenities.

attacks, seeking further proof of Osama bin Laden's involvement, Turkey did not blink. On Oct. 3, Turkish Prime Minister Bulent Ecevit had this to say about the state of the case: "The fact that the US found [the evidence] persuasive, persuades us also."

Ataturk's Way

Modern Turkey was founded in 1923 upon the ruins of the once mighty Ottoman Empire. The empire, which had been sagging for decades, finally collapsed under the pressure of World War I, in which it chose the wrong side and was allied with Germany and Austria-Hungary. Out of the defeat and dismemberment of the empire arose

Mustafa Kemal Ataturk, a ruthless leader who was determined to turn Turkey into a secular state, oriented in most ways toward Europe and the West rather than Islam and the East. It is a path that has been followed more or less without interruption ever since.

A major development occurred in the late 1940s, when the pro-Western governments of both Turkey and its neighbor and arch rival Greece were threatened by the rise of the Soviet Union and the spread of its influence over Eastern Europe and the Balkan states. President Truman in 1947 extended guarantees of support and aid—an action viewed by most historians as the start of the Cold War.

Through coming decades, Turkey played a key role in the containment of Soviet power. It provided NATO's second largest army and tied down some 24 Soviet divisions on its front. It offered the US key listening posts from which to monitor Warsaw Pact military activity and compliance with arms agreements. It also provided forward bases, including Incirlik, which since 1954 has served as a site for both forward deployed combat forces and surveillance and reconnaissance aircraft.

Today, some 3,500 US Air Force personnel are present at Incirlik. The host 39th Wing is dedicated to NATO and to general USAFE support. The 39th Air and Space Expeditionary Wing conducts Operation Northern Watch, the enforcement of a no-fly zone in Iraq north of the 36th parallel. Northern Watch is intended to protect Kurdish tribesmen from Iraqi dictator Saddam Hussein. Operation Southern Watch similarly controls the skies in the southern part of the country, operating from bases in Saudi Arabia and its Gulf neighbors, as well as carriers at sea.

The demand for Air Force assets since Sept. 11 has affected Northern Watch operations. Air National Guard and Air Force Reserve Command units are the bulwark of Northern Watch, and in the past, their deployments lasted about two weeks. Now they last more than 90 days.

Weeks before US air operations over Afghanistan began, Turkish authorities readily agreed to allow use of Incirlik as a transit point and logistics center for Operation Enduring Freedom. Its distance from



USAF photo by TSgt. Kevin J. Gruenwald

Two Guardsmen from Stateside locations provide security for AWACS aircraft on Incirlik's flight line. Despite its distance from Afghanistan, Turkey has served as an Enduring Freedom transit point and logistics center.

Afghanistan precluded its use as a front-line combat base except on a limited basis.

A NATO operations center at Eskisehir was also considered as a command center for the bombing campaign in Afghanistan, when the Pentagon initially had problems using another facility in the region.

Did They Hunt?

As to their own assets, Turkish authorities offered 90 special forces troops highly trained in anti-terrorist operations. In that particular field, Turkish units are counted among the best in the world, largely as a result of Ankara's 17-year-long fight with Kurdish rebels in the country's south-east region. It has long provided special forces training units in Uzbekistan, the Balkans, and Georgia.

Whether Turkish ground troops actually joined in the hunt for al Qaeda and Osama bin Laden is an open question. Islamic opposition elements of the Turkish parliament charged that they had indeed been deployed for that purpose, while both the US and the Turkish government denied it.

Unquestionably, Turkey has been eager to join in postwar Afghan policing and redevelopment, via both troop deployments and political support. Turkey was one of the first nations to re-establish a foreign mission in Kabul after the collapse of the Taliban. On Dec. 17, Turkish Foreign Minister Ismail Cem became the first senior foreign diplomat to

visit the Afghan capital following the Taliban's ouster.

"Our message to the Afghan people is that they should know that we are with them and we are determined to bring our expertise to bear ... in civilian and military restructuring," said Cem.

Turkey is the only NATO nation with a majority Muslim population. It is also the only member of the Islamic Conference Organization that is a member of the Western alliance. Despite its heritage of autocratic and military rule, today it has a government that is a functioning democracy.

In many ways, Turkey is ideally positioned to act as the West's interlocutor in Afghanistan. It has historic ties with the Turkic-speaking tribes of the Afghan north, as well as with Turkmenistan and much of the rest of the swath of nations that stretches from China's border to the Caspian Sea. It has similarly had good relations with both civilian and military governments of Pakistan.

As such, Ankara could put continued pressure on Pakistan to pursue its opposition to remnants of al Qaeda elements within that country.

Afghanistan was the first nation to recognize the formation of the Turkish Republic. In turn, in following years Turkey sent teachers and other aid workers to help Afghanistan modernize.

These links did not extend to the Taliban, which considered the Turk-

ish style of Islam to be heretical. In recent years, Turkey instead offered aid and comfort to some elements of the Northern Alliance rebels.

Turkey's military, with its NATO background, would also offer the organization and firepower that might be needed to keep order in a nation still awash in rifles and the impulse for retribution. Other nations that have traditionally served in large numbers in UN peacekeeping efforts in recent years, such as Bangladesh, might not be able to offer the same capability.

The Rewards

What might Turkey gain from its support of US policy in the region? Quite a bit, from Ankara's point of view.

First of all, it may now regain the position of strategic importance that it held at the height of Soviet power. It could become the geopolitical, political, and military pivot point for all of Central Asia—a position Turkish leaders have long considered their natural role.

Second, Turkey might want to use increased influence in Washington to smooth over troubles it is having with Europe. Membership in the European Union has long been a primary goal of Turkish foreign policy, but its application has to this point been blocked, in part because of European concerns about Turkish human rights policies and Turkey's occupation, since 1974, of northern Cyprus.

Cyprus itself is now up for EU membership. Neither the US nor Europe recognizes the self-styled Turkish Republic of Northern Cyprus, and it is therefore possible that Turkey could be put in the strange position of occupying part of a nation that has been admitted to an exclusive club it also wants to join.

In the past, Washington has said it would prefer the long-running Cyprus situation be resolved before the island becomes an EU member. If the US can't lean on Europe to accept Turkey itself into the EU, it might at the very least be able to block the ascension of Cyprus, in Ankara's view.

Third, as part of a new anti-al Qaeda coalition Turkey might gain more worldwide recognition for what it considers its own long struggle against terrorist violence. For nearly 20 years, the Marxist Kurdistan Workers Party (PKK) has engaged in a bloody campaign to establish an independent Kurdish homeland in a corner of southeastern Turkey. Turkey's apprehension and trial of PKK leader Abdullah Ocalan has undercut the group, but it remains a real threat. To a lesser extent, Ankara is also concerned about radical Islam in Central Asia, which it sees not so much as a threat to the Turkish state as a threat to Turkish influence in the region.

Finally, Turkey might reasonably hope for economic help in return for

aiding Washington's overarching anti-terror campaign.

The Turkish economy has been in a deep slump since huge domestic debt led to a devastating currency devaluation in early 2001. A combination of US support and a Turkish promise of domestic reforms led the International Monetary Fund to rush in with \$10 billion of loan guarantees earlier this year, in an effort to ease the crisis.

There was a perception that Ankara, faced with domestic opposition, was delaying implementation of some of the reforms. This was enough to cause the IMF to hold up additional help. Then, in mid-November, the IMF agreed in principle to a further \$10 billion in guarantees—a sudden move that many in the world of international finance took as a sign that the US was leaning on the fund to help out its new anti-terrorist ally.

One possible obstacle to an activist Turkish role in the new war against terrorism is domestic opinion.

After the beginning of US military operations on Oct. 7, Turkish polls showed substantial majorities opposed to deployment of their own troops in the fight. While the political leadership seems to stand squarely with the US at the moment, it must pay attention to the public's wishes. Prime Minister Ecevit's ruling coalition is already somewhat unstable, as it combines ultranationalists with leftists and liberals in an uneasy political marriage.

The Down Side

Not all officials in Washington are happy about working closely with Turkey. Members of Congress, many of them pro-Greek, have complained about Turkish human rights abuses, which are said to include torture of political dissidents and common criminals. Treatment of suspected Kurdish separatists has been particularly harsh. Moreover, political corruption is a fact of life.

Thus the history of recent relations between the US and Turkey, pre-Sept. 11, did not always run smoothly. In 1996, for instance, Ankara canceled a purchase of 10 AH-1 Cobra attack helicopters after Congress held up delivery due to human rights concerns. More recently, similar legislative objections postponed Turkey's purchase of three US frigates. Clinton

USAF photo by Sra. Ashley Sorrels



Incirlık's role in Enduring Freedom comes on top of its duties for Northern Watch, the enforcement of the northern Iraq no-fly zone. Here, an F-16 from Misawa AB, Japan, on tap for Northern Watch, refuels from a New Jersey ANG KC-135.

Administration officials eventually won the frigates' release.

Over the last decade, Turkey has become worried enough about access to modern weapons that it has turned to other countries, particularly its new friend Israel, for defense technology and support.

"Turkey and the United States must take great care to be sensitive to the pressures and constraints each confronts," notes Brookings Institution fellow Steven A. Cook in a recent analysis of US-Turkish relations in the context of the war on terrorism.

Furthermore, it's an open question whether Turkey's support of post-Sept. 11 US policies will convince many other Muslim nations that Washington's war is with terrorists, not Islam.

In the 1920s, Ataturk dealt with the Islamic legacy of the Ottoman Empire by dismantling it and imposing an aggressive political secularism in its place. Far earlier than Saudi Arabia or Egypt, Turkey saw fundamentalist Islam as a threat and took steps to try to make sure that it would never undermine the stability of the state.

Thus, many mainstream Saudis and Egyptians likely consider Turkey to be not particularly Islamic. To followers of the fundamentalist Islamic clerics, Turkey is as heretical as the West and might as well be Christian.

The Iraq Dimension

Iraq loomed as a problem. The Turkish government for months was careful not to rule out support of any US-led action to topple its troublesome neighbor, Saddam Hussein, but since the Gulf War, Ankara had warned the US that it believes a hasty ouster of Saddam might splinter Iraq and leave Turkey to deal with the shards. In particular, Turkey opposed any Kurd homeland that might combine the Kurdish areas of Iraq and Turkey into one.

Indeed, Turkish leaders opposed even formation of a smaller Kurdish state in Iraq that would leave the current border untouched, fearing that such a rump state would inevitably become a base of operations for Kurdish terror attacks against Turkey.



USAF photo by A1C Tanaya M. Harms

Among Incirlik's facilities is a large hospital, where an assistant nurse manager from Travis AFB, Calif., checks a medical readout. A key forward base for decades, Incirlik's stature may grow further as Europe's new "frontline" state.

They also question whether the threat posed by Saddam Hussein has actually grown in recent years or whether the US actually wants to take advantage of its new war against terrorism to finish old Gulf War business. In January, Gen. Huseyin Kivrikoglu, chief of the Turkish general staff, asked reporters: "Is there any new mistake committed by Iraq? Or are accounts of 10 years ago being settled?"

Ankara has made clear its objections not only to Bush Administration officials but also to key US lawmakers. Members of the Senate Armed Services Committee who went on a January fact-finding trip to Turkey came away convinced that Ankara's objections were stronger than previously thought.

For similar reasons, Turkey was likely to look askance at any US raids into Iran or Syria in the name of terror eradication. In December, Secretary of State Colin Powell visited Ankara in part to assure Turkish leaders that President Bush had as yet made no decisions about any second phase of the war on terrorism. Ecevit's planned trip to Washington was viewed as a chance to assess progress of the US-led campaign and then at least address Turkey's concerns about where things go from here.

Despite the disclaimers, speculation about a US-led attack on Iraq was in late 2001 the uppermost concern in the minds of Turkish policymakers and commentators, who fear a war on their southern border would have devastating economic consequences on their country.

"Since Sept. 11, the Turkish leadership has fashioned a policy that can only be characterized as guarded—receptive to Washington in some areas but clearly wary of others," concludes Cook. But from the US point of view, the strategic importance of Turkey is likely to only increase in the years ahead. As access becomes constrained in the crucial Gulf region, Incirlik and other Turkish bases offer stability and shorter flight times to the northern Gulf than similar US facilities on the Arabian peninsula.

As the Air Force becomes increasingly expeditionary in character, a reliable, northern route for power projection into the Gulf, hopscotching through Turkey, Israel, and perhaps Jordan, could become the Pentagon's best regional option. It's possible that Turkey is in fact Europe's new "frontline" state, insists former assistant secretary of state Richard C. Holbrooke.

RAND analyst Zalmay Khalilzad, in a recent study of the future of Turkish-Western relations, remarked, "Some have even argued that Turkey's role in the new era could be as important as Germany's during the Cold War." ■

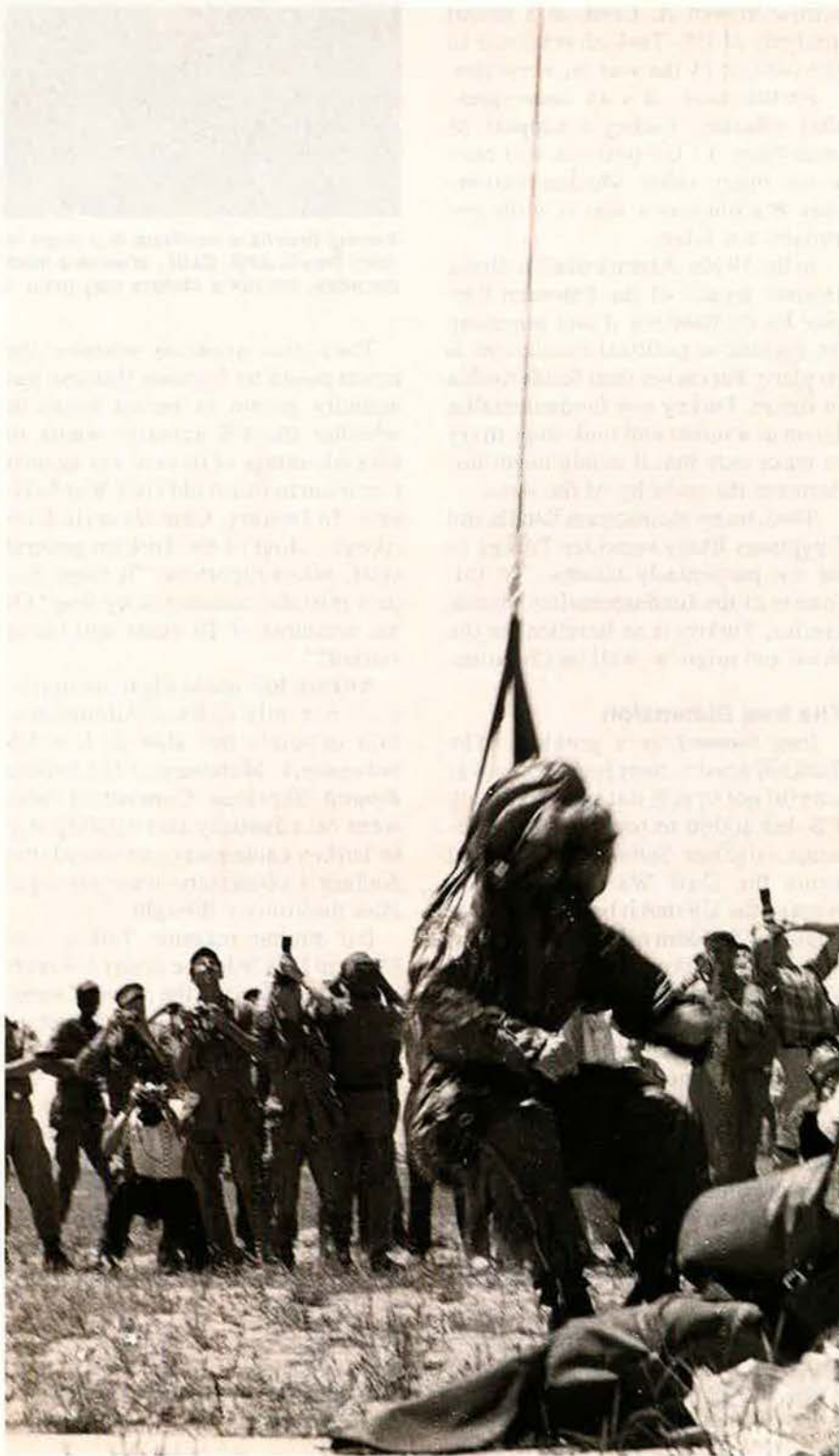
Peter Grier, a Washington, D.C., editor for the Christian Science Monitor, is a longtime defense correspondent and regular contributor to Air Force Magazine. His most recent article, "The Winning Combination of Air and Space," appeared in the January 2002 issue.


Fulton Star



The Fulton Surface-to-Air Recovery system helped special operations forces pull cargo and people out of dicey situations. It took skill, training, and teamwork for successful pickups, though. First, an aircraft air-dropped the necessary equipment: a harness attached to high-strength line, a helium bottle, and a balloon that then raised the line about 500 feet into the air. The aircraft—here an MC-130 Combat Talon equipped with a yoke on its nose—snagged the line. A hydraulic winch pulled it in, and the crew hooked the package to pull it aboard.

In early experiments with the concept, acceleration on pickup reportedly reached 17 Gs. In one test, a sheep strangled in the harness, and in another a pig began spinning round and round as it was lifted into the air. Inventor Robert Edison Fulton Jr. worked such kinks out of the system in the 1950s, and in 1966 special operations crews began training in its use (shown at right, a 1968 demonstration at Nha Trang AB, South Vietnam). A fatality in 1982 and increased availability of long-range MH-53J Pave Low and MH-47E Chinook helicopters led to the system's demise in 1996.





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The State Department provides a partial list of terror events since 1961.

4 Decades of Worldwide Terrorism

The State Department released a chronology Oct. 31 that was prepared by the Office of the Historian in the Bureau of Public Affairs as a general listing of major terror events in the period 1961 through 2001. As with the original listing, this extract is not held out as a complete or comprehensive account of all terrorist incidents during these years.

1961-82

First US Aircraft Hijacked, May 1, 1961: Puerto Rican-born Antuilo Ramirez Ortiz forced at gunpoint a National Airlines airplane to fly to Havana, where he was given asylum.

Ambassador to Guatemala Assassinated, Aug. 28, 1968: US Ambassador to Guatemala John Gordon Mein was murdered by a rebel faction when gunmen forced his official car off the road in Guatemala City and raked the vehicle with gunfire.

Ambassador to Brazil Kidnapped, Sept. 3, 1969: US Ambassador to Brazil Charles Burke Elbrick was kidnapped by the Marxist revolutionary group MR-8.

US Agency for International Development Advisor Kidnapped, July 31, 1970: In Montevideo, Uruguay, the Tupamaros terrorist group kidnapped USAID police advisor Dan Mitrione; his body was found Aug. 10.

"Bloody Friday," July 21, 1972: Irish Republican Army (IRA) bomb attacks killed 11 people and injured 130 in Belfast, Northern Ireland. Ten days later, three IRA car bomb attacks in the village of Claudy left six dead.

Munich Olympic Massacre, Sept. 5, 1972: Eight Palestinian "Black September" terrorists seized Israeli athletes in the Olympic Village in Munich, West Germany.

Ambassador to Sudan Assassinated, March 2, 1973: US Ambassador to Sudan Cleo A. Noel and other diplomats

were assassinated at the Saudi Arabian Embassy in Khartoum by members of the Black September organization.

Consul General in Mexico Kidnapped, May 4, 1973: US Consul General in Guadalajara, Terrence Leonhardy, was kidnapped by members of the People's Revolutionary Armed Forces.

Domestic Terrorism, Jan. 27-29, 1975: Puerto Rican nationalists bombed a Wall Street bar, killing four and injuring 60; two days later, the Weather Underground claims responsibility for an explosion in a bathroom at the US Department of State in Washington, D.C.



A hooded member of the Palestinian terror group Black September at the Munich Olympic Village, 1972.

Entebbe Hostage Crisis, June 27, 1976: Members of the Baader–Meinhof Group and the Popular Front for the Liberation of Palestine (PFLP) seized an Air France airliner and its 258 passengers. They forced the airplane to land in Uganda, where on July 3 Israeli commandos successfully rescued the passengers.

Assassination of Former Chilean Diplomat, Sept. 21, 1976: In Washington, D.C., exiled Chilean Foreign Minister Orlando Letelier was killed by a car bomb.

Kidnapping of Italian Prime Minister, March 16, 1978: Premier Aldo Moro was seized by the Red Brigade and assassinated 55 days later.

Iran Hostage Crisis, Nov. 4, 1979: After President Carter agreed to admit the Shah of Iran into the US, Iranian radicals seized the US Embassy in Tehran and took 66 American diplomats hostage. Thirteen hostages were soon released, but the remaining 53 were held until their release Jan. 20, 1981.

Grand Mosque Seizure, Nov. 20, 1979: 200 Islamic terrorists seized the Grand Mosque in Mecca, Saudi Arabia, taking hundreds of pilgrims hostage. Saudi and French security forces retook the shrine after an intense battle in which some 250 people were killed and 600 wounded.

US Installation Bombing, Aug. 31, 1981: The Red Army exploded a bomb at the US air base at Ramstein, West Germany.

Assassination of Egyptian President, Oct. 6, 1981: Soldiers who were secretly members of the Takfir Wal-Hajira sect attacked and killed Egyptian President Anwar Sadat during a troop review.

Murder of Missionaries, Dec. 4, 1981: Three American nuns and one lay missionary were found murdered outside San Salvador, El Salvador. They were believed to have been assassinated by a right-wing death squad.

Assassination of Lebanese Prime Minister, Sept. 14, 1982: Premier Bashir Gemayel was assassinated by a car bomb parked outside his party's Beirut headquarters.

1983–85

Bombing of US Embassy in Beirut, April 18, 1983: Sixty-three people, including the CIA's Middle East director, were killed and 120 were injured in a 400-pound suicide truck-bomb attack on the US Embassy in Beirut, Lebanon. The Islamic Jihad claimed responsibility.

Naval Officer Assassinated in El Salvador, May 25, 1983: A US Navy officer was assassinated by the Farabundo Marti National Liberation Front.

North Korean Hit Squad, Oct. 9, 1983: North Korean agents blew up a delegation from South Korea in Rangoon, Burma, killing 21 persons and injuring 48.



British soldiers aid rescue efforts at the bomb-ravaged US Marine Corps command center in Beirut, 1983.

Bombing of Marine Barracks, Beirut, Oct. 23, 1983: Simultaneous suicide truck-bomb attacks were made on American and French compounds in Beirut, Lebanon. A 12,000-pound bomb destroyed the US compound, killing 242 Americans, while 58 French troops were killed when a 400-pound device destroyed a French base. Islamic Jihad claimed responsibility.

Naval Officer Assassinated in Greece, Nov. 15, 1983: A US Navy officer was shot by the 17 November terrorist group in Athens, Greece, while his car was stopped at a traffic light.

Kidnapping of Embassy Official, March 16, 1984: The Islamic Jihad kidnapped and later murdered political officer William Buckley in Beirut, Lebanon. Other US citizens not connected to the US government were seized over a succeeding two-year period.

Restaurant Bombing, April 12, 1984: Eighteen US servicemen were killed and 83 people were injured in a bomb attack on a restaurant near a US air base in Torrejon, Spain. Responsibility was claimed by Hezbollah.

Golden Temple Seizure, June 5, 1984: After Sikh terrorists seized the Golden Temple in Amritsar, India, 100 people died when Indian security forces retook the Sikh holy shrine.

Assassination of Prime Minister Gandhi, Oct. 31, 1984: The Indian premier [Indira Gandhi] was shot to death by members of her security force.

TWA Hijacking, June 14, 1985: A Trans World Airlines flight was hijacked en route to Rome from Athens by two Lebanese Hezbollah terrorists and forced to fly to Beirut. The eight crew members and 145 passengers were held for 17 days, during which one American hostage, a US Navy sailor, was murdered. After being flown twice to Algiers, the aircraft was returned to Beirut after Israel released 435 Lebanese and Palestinian prisoners.

Air India Bombing, June 23, 1985: A bomb destroyed an Air India Boeing 747 over the Atlantic, killing all 329 people aboard. Both Sikh and Kashmiri terrorists were blamed for the attack.

Soviet Diplomats Kidnapped, Sept. 30, 1985: In Beirut, Lebanon, Sunni terrorists kidnapped four Soviet diplomats. One was killed, and three were later released.

Achille Lauro Hijacking, Oct. 7, 1985: Four Palestinian Liberation Front terrorists seized the Italian cruise liner in the eastern Mediterranean Sea, taking more than 700 hostages. One US passenger was murdered before the Egyptian government offered the terrorists safe haven in return for the hostages' freedom.

Egyptian Airliner Hijacking, Nov. 23, 1985: An EgyptAir airplane bound from Athens to Malta and carrying several US citizens was hijacked by the Abu Nidal group.

1986-88

Aircraft Bombing in Greece, March 30, 1986: A Palestinian splinter group detonated a bomb as TWA Flight 840 approached Athens Airport, killing four US citizens.

Berlin Discotheque Bombing, April 5, 1986: Two US soldiers were killed and 79 American servicemen were injured in a Libyan bomb attack on a nightclub in West Berlin. In retaliation, US military jets bombed targets in and around Tripoli and Benghazi, Libya.

Kimpo Airport Bombing, Sept. 14, 1986: North Korean agents detonated an explosive device at Seoul's Kimpo Airport, killing five persons and injuring 29 others.

Bus Attack, April 24, 1987: Sixteen US servicemen riding in a Greek air force bus near Athens were injured in an apparent bombing attack, carried out by the revolutionary organization known as 17 November.

Downing of Airliner, Nov. 29, 1987: North Korean agents planted a bomb aboard Korean Air Lines Flight 858, which subsequently crashed into the Indian Ocean.

Servicemen's Bar Attack, Dec. 26, 1987: Catalan separatists bombed a Barcelona bar frequented by US servicemen, resulting in the death of one US citizen.

Kidnapping of William Higgins, Feb. 17, 1988: US Marine Corps Lt. Col. W. Higgins was kidnapped and murdered by the Iranian-backed Hezbollah group while serving with the United Nations Truce Supervisory Organization (UNTSO) in southern Lebanon.

Naples USO Attack, April 14, 1988: The Organization of Jihad Brigades exploded a car bomb outside a USO Club in Naples, Italy, killing one US sailor.

Attack on US Diplomat in Greece, June 28, 1988: The defense attaché of the US Embassy in Greece was killed when a car bomb was detonated outside his home in Athens.

Pan Am 103 Bombing, Dec. 21, 1988: Pan American

Airlines Flight 103 was blown up over Lockerbie, Scotland, by a bomb believed to have been placed on the aircraft in Frankfurt, West Germany, by Libyan terrorists. All 259 people on board were killed.

1989-94

Assassination of US Army Officer, April 21, 1989: The New People's Army (NPA) assassinated Col. James Rowe in Manila. The NPA also assassinated two US government defense contractors in September.

US Embassy Bombed in Peru, Jan. 15, 1990: The Tupac Amaru Revolutionary Movement (MRTA) bombed the US Embassy in Lima, Peru.

US Soldiers Assassinated in the Philippines, May 13, 1990: The NPA killed two US Air Force personnel near Clark Air Base in the Philippines.

Attempted Iraqi Attacks on US Posts, Jan. 18-19, 1991: Iraqi agents planted bombs at the US ambassador to Indonesia's home residence and at the US Information Service library in Manila.

Kidnapping of US Businessmen in the Philippines, Jan. 17-21, 1992: A senior official of the corporation Philippine Geothermal was kidnapped in Manila by the Red Scorpion Group, and two US businessmen were seized independently by the National Liberation Army and by Revolutionary Armed Forces of Colombia (FARC).

Bombing of the Israeli Embassy in Argentina, March 17, 1992: Hezbollah claimed responsibility for a blast that leveled the Israeli Embassy in Buenos Aires, Argentina, causing the deaths of 29 and wounding 242.

World Trade Center Bombing, Feb. 26, 1993: The World Trade Center in New York City was badly damaged when a car bomb planted by Islamic terrorists exploded in an underground garage. The bomb left six people dead and 1,000 injured. The men carrying out the attack were followers of Umar Abd al-Rahman, an Egyptian cleric who preached in the New York City area.

Attempted Assassination of President Bush by Iraqi Agents, April 14, 1993: The Iraqi intelligence service attempted to assassinate former US President George Bush during a visit to Kuwait. In retaliation, the US launched a cruise missile attack two months later on the Iraqi capital of Baghdad.

Hebron Massacre, Feb. 25, 1994: Jewish right-wing extremist and US citizen Baruch Goldstein machine-gunned Moslem worshippers at a mosque in the West Bank town of Hebron, killing 29 and wounding about 150.

FARC Hostage-taking, Sept. 23, 1994: FARC rebels kidnapped US citizen Thomas Hargrove in Colombia.

Air France Hijacking, Dec. 24, 1994: Members of the

Algerian Armed Islamic Group (GIA) seized an Air France flight. The four terrorists were killed during the rescue effort.

1995

Attack on US Diplomats in Pakistan, March 8, 1995: Two unidentified gunmen killed two US diplomats and wounded a third in Karachi, Pakistan.

Tokyo Subway Station Attack, March 20, 1995: Twelve persons were killed and 5,700 were injured in a Sarin nerve gas attack on a crowded subway station in the center of Tokyo. A similar attack occurred nearly simultaneously in the Yokohama subway system. The Aum Shinri-kyu cult was blamed for the attacks.

Bombing of the Federal Building in Oklahoma City, April 19, 1995: Right-wing extremists Timothy McVeigh and Terry Nichols destroyed the Federal Building in Oklahoma City with a massive truck bomb that killed 166 and injured hundreds more in what was up to then the largest terrorist attack on American soil.

Kashmiri Hostage-taking, July 4, 1995: In India, six foreigners, including two US citizens, were taken hostage by Al-Faran, a Kashmiri separatist group. One non-US hostage was later found beheaded.

Jerusalem Bus Attack, Aug. 21, 1995: Hamas claimed responsibility for the detonation of a bomb that killed six and injured over 100 persons, including several US citizens.

Attack on US Embassy in Moscow, Sept. 13, 1995: A rocket-propelled grenade was fired through the window of the US Embassy in Moscow, ostensibly in retaliation for US strikes on Serb positions in Bosnia.

Saudi Military Installation Attack, Nov. 13, 1995: The Islamic Movement of Change planted a bomb in a Riyadh military compound that killed one US citizen, several foreign national employees of the US government, and more than 40 others.

Egyptian Embassy Attack, Nov. 19, 1995: A suicide bomber drove a vehicle into the Egyptian Embassy compound in Islamabad, Pakistan, killing at least 16 and injuring 60 persons. Three militant Islamic groups claimed responsibility.

1996

IRA Bombing, Feb. 9, 1996: An Irish Republican Army (IRA) bomb detonated in London, killing two persons and wounding more than 100 others, including two US citizens.

Hamas Bus Attack, Feb. 26, 1996: In Jerusalem, a suicide bomber blew up a bus, killing 26 persons, includ-

ing three US citizens, and injuring some 80 persons, including three other US citizens.

Dizengoff Center Bombing, March 4, 1996: Hamas and the Palestine Islamic Jihad (PIJ) both claimed responsibility for a bombing outside of Tel Aviv's largest shopping mall that killed 20 persons and injured 75 others, including two US citizens.

Manchester Truck Bombing, June 15, 1996: An IRA truck bomb detonated at a Manchester, UK, shopping center, wounding 206 persons, including two German tourists, and caused extensive property damage.

Khobar Towers Bombing, June 25, 1996: A fuel truck carrying a bomb exploded outside the US military's Khobar Towers housing facility in Dhahran, killing 19 US military personnel and wounding 515 persons, including 240 US personnel. Several groups claimed responsibility for the attack.

ETA Bombing, July 20, 1996: A bomb exploded at Tarragona International Airport in Reus, Spain, wounding 35 persons, including British and Irish tourists. The Basque Fatherland and Liberty (ETA) organization was suspected.

Bombing of Archbishop of Oran, Aug. 1, 1996: A bomb exploded at the home of the French archbishop of Oran, killing him and his chauffeur. The attack occurred after the archbishop's meeting with the French foreign minister. The Algerian Armed Islamic Group (GIA) is suspected.

PUK Kidnapping, Sept. 13, 1996: In Iraq, Patriotic Union of Kurdistan (PUK) militants kidnapped four French workers for Pharmaciens Sans Frontieres, a Canadian United Nations High Commissioner for Refugees (UNHCR) official, and two Iraqis.

Paris Subway Explosion, Dec. 3, 1996: A bomb exploded aboard a Paris subway train as it arrived at the Port Royal station, killing two French nationals, a Moroccan, and a Canadian and injuring 86 persons. Among those injured were one US citizen and a Canadian. No one claimed responsibility for the attack, but Algerian extremists are suspected.

Abduction of US Citizen by FARC, Dec. 11, 1996: Five armed men claiming to be members of the FARC kidnapped and later killed a US geologist at a methane gas exploration site in La Guajira Department.

Tupac Amaru Seizure of Diplomats, Dec. 17, 1996: Twenty-three members of the Tupac Amaru Revolutionary Movement (MRTA) took several hundred people hostage at a party given at the Japanese ambassador's residence in Lima, Peru. Among the hostages were several US officials, foreign ambassadors and other diplomats, Peruvian government officials, and Japanese businessmen. The group demanded the release of all MRTA members in prison and safe passage for them and the hostage-takers. The terrorists released most of the hostages in December but held 81 Peruvians and Japanese citizens for several months.

1997

Egyptian Letter Bombs, Jan. 2–13, 1997: A series of letter bombs with Alexandria, Egypt, postmarks were discovered at Al-Hayat newspaper bureaus in Washington, D.C., New York City, London, and Riyadh. Three similar devices, also postmarked in Egypt, were found at a prison facility in Leavenworth, Kan. Bomb disposal experts defused all the devices, but one detonated at the Al-Hayat office in London, injuring two security guards and causing minor damage.

Empire State Building Sniper Attack, Feb. 23, 1997: A Palestinian gunman opened fire on tourists at an observation deck atop the Empire State Building in New York City, killing a Danish national and wounding visitors from the US, Argentina, Switzerland, and France before turning the gun on himself. A handwritten note carried by the gunman claimed this was a punishment attack against the “enemies of Palestine.”

FARC Kidnapping, March 7, 1997: FARC guerrillas kidnapped a US mining employee and his Colombian colleague who were searching for gold in Colombia. On Nov. 16, the rebels released the two hostages after receiving a \$50,000 ransom.

Hotel Nacional Bombing, July 12, 1997: A bomb exploded at the Hotel Nacional in Havana, injuring three persons and causing minor damage. A previously unknown group calling itself the Military Liberation Union claimed responsibility.

Israeli Shopping Mall Bombing, Sept. 4, 1997: Three suicide bombers of Hamas detonated bombs in the Ben Yehuda shopping mall in Jerusalem, killing eight persons, including the bombers, and wounding nearly 200 others. A dual US–Israeli citizen was among the dead, and seven US citizens were wounded.

Murder of US Businessmen in Pakistan, Nov. 12, 1997: Two unidentified gunmen shot to death four US auditors from Union Texas Petroleum Corp. and their Pakistani driver after they drove away from the Sheraton Hotel in Karachi. The Islami Inqilabi Council, or Islamic Revolutionary Council, claimed responsibility in a call to the US Consulate in Karachi. In a letter to Pakistani newspapers, the Aimal Khufia Action Committee also claimed responsibility.

Tourist Killings in Egypt, Nov. 17, 1997: Al-Gama’at al-Islamiyya (IG) gunmen shot and killed 58 tourists and four Egyptians and wounded 26 others at the Hatshepsut Temple in the Valley of the Kings near Luxor.

1998

UN Observer Abductions, Feb. 19, 1998: Armed supporters of late Georgian President Zviad Gamsakhurdia abducted four UN military observers from Sweden, Uruguay, and the Czech Republic.

FARC Abduction, March 21–23, 1998: FARC rebels kidnapped a US citizen in Sabaneta, Colombia. FARC members also killed three persons, wounded 14, and kidnapped at least 27 others at a roadblock near Bogota. Four US citizens and one Italian were among those kidnapped, as well as the acting president of the National Electoral Council (CNE) and his wife.

Somali Hostage-takings, April 15, 1998: Somali militiamen abducted nine Red Cross and Red Crescent workers at an airstrip north of Mogadishu. The hostages included a US citizen, a German, a Belgian, a French, a Norwegian, two Swiss, and one Somali. The gunmen were members of a subclan loyal to Ali Mahdi Mohammed, who controlled the northern section of the capital.

IRA Bombing, Banbridge, Aug. 1, 1998: A 500-pound car bomb planted by the Real IRA exploded outside a shoe store in Banbridge, Northern Ireland, injuring 35 persons and damaging at least 200 homes.

US Embassy Bombings in East Africa, Aug. 7, 1998: A bomb exploded at the rear entrance of the US Embassy in Nairobi, Kenya, killing 12 US citizens, 32 Foreign Service Nationals (FSNs), and 247 Kenyan citizens. About 5,000 Kenyans, six US citizens, and 13 FSNs were injured. The US Embassy building sustained extensive structural damage. Almost simultaneously, a bomb detonated outside the US Embassy in Dar es Salaam, Tanzania, killing seven FSNs and three Tanzanian citizens and injuring one US citizen and 76 Tanzanians. The explosion caused major structural damage to the US Embassy facility. The US government held Osama bin Laden responsible.

IRA Bombing, Omagh, Aug. 15, 1998: A 500-pound car bomb planted by the Real IRA exploded outside a local courthouse in the central shopping district of Omagh, Northern Ireland, killing 29 persons and injuring more than 330.

Colombian Pipeline Bombing, Oct. 18, 1998: A National Liberation Army (ELN)–planted bomb exploded on the Ocesa pipeline in Antioquia Department, killing approximately 71 persons and injuring at least 100 others. The pipeline is jointly owned by the Colombia state oil company Ecopetrol and a consortium including US, French, British, and Canadian companies.

Armed Kidnapping in Colombia, Nov. 15, 1998: Armed assailants followed a US businessman and his family home in Cundinamarca Department and kidnapped his 11-year-old son after stealing money, jewelry, one automobile, and two cell phones. The kidnappers demanded \$1 million in ransom. On Jan. 21, 1999, the kidnappers released the boy.

1999

Ugandan Rebel Attack, Feb. 14, 1999: A pipe bomb exploded inside a bar, killing five persons and injuring 35 others. One Ethiopian and four Ugandan nationals

died in the blast, and one US citizen working for USAID, two Swiss nationals, one Pakistani, one Ethiopian, and 27 Ugandans were injured. Ugandan authorities blamed the attack on the Allied Democratic Forces (ADF).

Greek Embassy Seizure, Feb. 16, 1999: Kurdish protesters stormed and occupied the Greek Embassy in Vienna, taking the Greek ambassador and six other persons hostage. Several hours later the protesters released the hostages and left the embassy. The attack followed the Turkish government's announcement of the successful capture of the Kurdistan Workers Party (PKK) leader Abdullah Ocalan. Kurds also occupied Kenyan, Israeli, and other Greek diplomatic facilities in France, Holland, Switzerland, Britain, and Germany over the following days.

FARC Kidnappings, Feb. 25, 1999: FARC kidnapped three US citizens working for the Hawaii-based Pacific Cultural Conservancy International. On March 4, the bodies of the three victims were found in Venezuela.

Hutu Abductions, March 1, 1999: 150 armed Hutu rebels attacked three tourist camps in Uganda, killed four Ugandans, and abducted three US citizens, six Britons, three New Zealanders, two Danish citizens, one Australian, and one Canadian national. Two of the US citizens and six of the other hostages were subsequently killed by their abductors.

ELN Hostage-taking, March 23, 1999: Armed guerrillas kidnapped a US citizen in Boyaca, Colombia. The National Liberation Army (ELN) claimed responsibility and demanded \$400,000 ransom. On July 20, ELN rebels released the hostage unharmed following a ransom payment of \$48,000.

ELN Hostage-taking, May 30, 1999: In Cali, Colombia, armed ELN militants attacked a church in the neighborhood of Ciudad Jardin, kidnapping 160 persons, including six US citizens and one French national. The rebels released approximately 80 persons, including three US citizens, later that day.

AFRC Kidnappings, Aug. 4, 1999: An Armed Forces

Revolutionary Council (AFRC) faction kidnapped 33 UN representatives near Occra Hills, Sierra Leone.

Burmese Embassy Seizure, Oct. 1, 1999: Burmese dissidents seized the Burmese Embassy in Bangkok, Thailand, taking 89 persons hostage, including one US citizen.

2000

Diplomatic Assassination in Greece, June 8, 2000: In Athens, Greece, two unidentified gunmen killed British Defense Attaché Stephen Saunders in an ambush. The revolutionary organization 17 November claimed responsibility.

ELN Kidnapping, June 27, 2000: In Bogota, Colombia, ELN militants kidnapped a 5-year-old US citizen and his Colombian mother, demanding an undisclosed ransom.

Kidnappings in Kyrgyzstan, Aug. 12, 2000: In the Kara-Su Valley, the Islamic Movement of Uzbekistan took four US citizens hostage. The Americans escaped Aug. 12.

Attack on USS Cole, Oct. 12, 2000: In Aden, Yemen, a small dinghy carrying explosives rammed the destroyer USS Cole, killing 17 sailors and injuring 39 others. Supporters of Osama bin Laden were suspected.

Manila Bombing, Dec. 30, 2000: A bomb exploded in a plaza across the street from the US Embassy in Manila, injuring nine persons. The Moro Islamic Liberation Front was likely responsible.

2001

BBC Studios Bombing, March 4, 2001: A car bomb exploded at midnight outside of the British Broadcasting Corp.'s main production studios in London.

Bus Stop Bombing, April 22, 2001: A member of Hamas detonated a bomb he was carrying near a bus stop in Kfar Siva, Israel, killing one person and injuring 60.

Tel Aviv Nightclub Bombing, June 1, 2001: Hamas claimed responsibility for the bombing of a popular Israeli nightclub that caused over 140 casualties.

Hamas Restaurant Bombing, Aug. 9, 2001: A Hamas-planted bomb detonated in a Jerusalem pizza restaurant, killing 15 people and wounding more than 90.

Terrorist Attacks on US Homeland, Sept. 11, 2001: Two hijacked airliners crashed into the twin towers of the World Trade Center. The Pentagon was struck by a third hijacked airplane, and a fourth hijacked airplane crashed into a field in southern Pennsylvania. More than 5,000 US citizens and other nationals were killed as a result of these acts. ■

US Navy photo by PHC Johnny R. Wilson



The heavy-lift ship Blue Marlin carries the damaged USS Cole home from Yemen in December 2000.

Books

Compiled by Chequita Wood, Editorial Associate

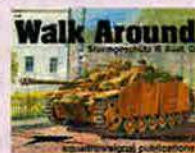
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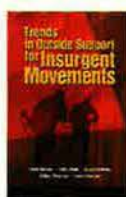
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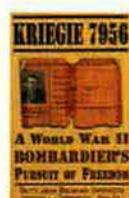


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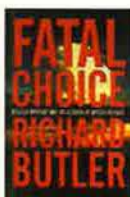
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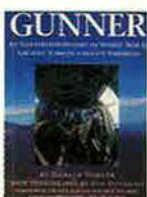
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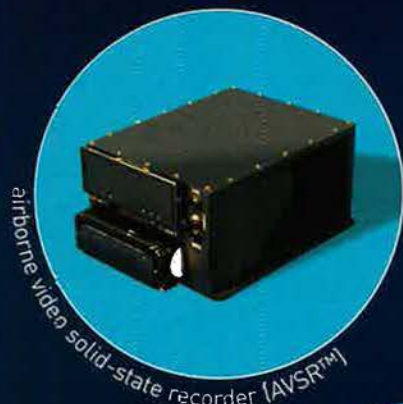
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One problem led to another, and the Apache helicopters never flew a combat mission in Kosovo.

TASK FORCE HAWK

By Benjamin S. Lambeth



An Army AH-64 Apache in Albania. At right, a line of Apaches in Bosnia.

Only days after Operation Allied Force commenced in March 1999, Gen. Wesley K. Clark, NATO's Supreme Allied Commander Europe, asked the United States Army to deploy a contingent of its AH-64 Apache attack helicopters to the combat zone to provide a better close-in capability against enemy tanks and armored personnel carriers than that offered by fixed-wing fighters, which remained restricted to operating at medium altitudes as a general rule. Clark initially had hoped to deploy this force to Macedonia, where the roads and airfields were better and the terrain was less challenging. The Macedonian government, however, declined to grant permission because it was already swamped by the flood of Kosovar refugees, so Albania was sought instead as the best available alternative.

Within four hours, NATO approved Clark's request. It took more than a week, however, for the US and Albanian governments to en-

dorse the deployment. That approval finally came on Day 12 of Allied Force. The US Defense Department at first indicated that it would take up to 10 days to deploy the package. In the end, it took 17 days just to field the first battalion of Apaches, which arrived in Albania on April 21.

At first glance, the idea of using Apaches to reinforce NATO's fixed-wing aircraft seemed entirely appropriate, considering that the AH-64 had been acquired by the Army expressly to engage and destroy enemy armor. As Pentagon spokesman Kenneth Bacon put it in announcing the deployment, they would offer NATO "the type of tank-killing capability that the bad weather has denied us. It will give us the capability to get up close and personal to the Milosevic armor units in Kosovo." In a normal weapons load, the Apache mounts up to 16 Hellfire anti-tank missiles, 76 folding-fin anti-personnel rockets, and 1,200 rounds of 30 mm armor-piercing ammunition.



With that armament, it gained deserved distinction by destroying more than 500 Iraqi armored vehicles during Operation Desert Storm. Yet in Desert Storm, the Apaches had deployed as an organic component of two fully fielded US Army corps. In this case, the Army was being asked by SACEUR to cobble together an ad hoc task force designed to operate essentially on its own, without the backstopping support of a fielded US ground combat presence in the theater. The Army is not configured to undertake such ad hoc deployments, and its units do not train for them. Instead, an Apache battalion normally deploys only as a part of a larger Army division or corps, with all of the latter's organically attached elements.

Apaches, and More

Accordingly, the Army was driven by its own standard operating procedures to supplement the two Apache battalions with a heavy additional contingent of ground forces, air de-

fenses, military engineers, and headquarters overhead. As the core of this larger force complement, now designated Task Force Hawk, the Apaches were drawn from the Army's 11th Aviation Brigade stationed at Illesheim, Germany. The deployment package included, however, not only the two battalions of AH-64s but also 26 UH-60L Black Hawk and CH-47D Chinook helicopters from the 12th Aviation Regiment at Wiesbaden, Germany. Additional assets whose deployment was deemed essential for supporting the Apaches included a light infantry company; a Multiple Launch Rocket System platoon with three MLRS vehicles; a high-mobility multipurpose wheeled vehicle (humvee) anti-tank company equipped with 38 armed utility vehicles; a military intelligence platoon; a military police platoon; and a combat service support team. The Army further determined a need for its Apaches to be accompanied by a mechanized infantry company equipped with 14 Bradley armored fight-

ing vehicles; an armor company with 15 M1A2 Abrams main battle tanks; a howitzer battery with eight 155 mm artillery pieces; a construction engineer company; a short-range air defense battery with eight more Bradley armored fighting vehicles armed with Stinger infrared surface-to-air missiles; a smoke generator platoon; a brigade headquarters complement; and diverse other elements. In all, to backstop the deployment of 24 attack helicopters to Albania, Task Force Hawk ended up being accompanied by a support train of no fewer than 5,350 Army personnel.

To be sure, there was a legitimate force-protection rationale behind this accompanying train of equipment and personnel. Unlike the Marines, who deployed 24 F/A-18D fighters to Hungary only a few weeks thereafter and had them flying combat missions within days with nothing even approaching Hawk's overhead and support baggage, Army planners had to be concerned about the inherent risks of deploying a comparable num-

ber of Apaches on terrain that was not that of a NATO ally, that lacked any semblance of a friendly ground force presence, and that could easily have invited a VJ (for Vojska Jugoslavskaya, the Serb army) cross-border attack in the absence of a US ground force sufficient to render that an unacceptable gamble for VJ commanders.

That said, it bears noting that the threat of Serbian forces coming across the Albanian border did not appear to be a matter of great concern to anyone in the Allied Force command hierarchy before the arrival of Task Force Hawk, even though there were US troops already on the ground. The troops, who were not provided with any comparable force protection package, were in Albania as a part of Joint Task Force Shining Hope, the Albanian refugee relief effort.

Baggage Problems

As one might have expected with that much additional equipment and personnel, however, the Apache deployment soon encountered the predictable consequences of the Army's decision to accompany the AH-64s with such a surfeit of arguably unnecessary extra baggage. It was at first estimated that 200 USAF C-17 transport sorties would be needed to airlift the assorted support elements with which the Apaches had been burdened. (The airport at Tirana, Albania, lacked the required taxi-

way and ramp specifications to accommodate the more capacious C-5.) In the end, it took more than 500 C-17 sorties, moving some 22,000 short tons in all, to transfer Hawk in its entirety. Commenting later on the deployment, one Army officer complained that the Army is "still organized to fight in the Fulda Gap." Even the outgoing Army Chief of Staff, Gen. Dennis J. Reimer, admitted in an internal memo to senior Army staff officers once the deployment package had finally been assembled in theater that the manifold problems encountered by Hawk had underscored a "need for more adaptive force packaging methodology."

In all events, 23 Apaches with their attached equipment and personnel arrived in Albania in late April. (The 24th Apache had developed hydraulic trouble en route and remained on the ground in Italy.) No sooner had the Army declared all but one of the aircraft ready for combat on April 26 when, only hours later, one crashed at the Tirana airfield in full view of reporters who had been authorized to televise the flight. Neither crew member was injured, but the accident made for an inauspicious start for the widely touted deployment. Less than two weeks later, on May 5, a second accident occurred, this time killing both crew members during a night training mission some 46 miles north of Tirana. The aircraft was carrying a full load of weapons and extra fuel. A subsequent investiga-

tion concluded that the first accident had been caused by the pilot's having mistakenly landed short of his intended touchdown point. The second was attributed to an apparent failure of the tail rotor, considering that the aircraft had been observed to enter a rapid uncontrolled spiral during the last moments before its impact with the ground.

Rising Costs

As of May 31, the cost of the Task Force Hawk deployment had reached \$254 million, much of that constituting the expense for the hundreds of C-17 sorties that had been needed to haul all the equipment from Germany to Albania, plus the additional costs of building base camps and port services and conducting mission rehearsals. Yet despite SACEUR's intentions to the contrary, the Apaches flew not a single combat mission during the entire remainder of Operation Allied Force. The reason given by then-JCS Chairman Army Gen. Henry H. Shelton was that Serb air defenses in Kosovo, although noticeably degraded by early May, remained effective enough to warrant keeping the Apaches out of action until suppression of enemy air defenses operations had "reduced the risk to the very minimum."

In a final coda to the Army's plagued Task Force Hawk experience, Shelton conceded later in a written response to questions from the Senate Armed Services Committee that "the anticipated benefit of employing the Apaches against dispersed forces in a high-threat environment did not outweigh the risk to our pilots." Shelton added that by the time the Apache deployment had reached the point where it was ready to engage in combat, VJ ground formations were no longer massed but had become dispersed and well hidden. Moreover, he went on to note, the weather had improved, enabling Air Force A-10s and other fixed-wing aircraft to hunt down dispersed and hidden enemy forces while incurring less risk from enemy infrared SAMs, anti-aircraft artillery, and small-arms fire than the Apaches would have faced.

Beyond these problems created by the Army's decision to bring along so much additional overhead, there was a breakdown in joint doc-

USAF photo by SrA. Michelle Leonard



The estimate was for 200 sorties. In fact, C-17s flew more than 500 to haul 23 Task Force Hawk Apaches and their support elements from Germany to Albania.

trine for the combat use of the helicopters that was disturbingly evocative of the earlier competition for ownership and control of coalition air assets that had continually poisoned the relationship between the Joint Force Air Component Commander and the Army's corps commanders during Desert Storm. The issue stemmed in this case from the fact that the Army has traditionally regarded its attack helicopters not as part of a larger airpower equation with a theaterwide focus but rather as an organic maneuver element fielded to help support the ground maneuver needs of a division or corps. Apache crews typically rely on their own ground units to select and designate their targets. Yet in the case of Allied Force, with no Army ground combat presence in-theater to speak of, they would either have had to self-designate their targets or else rely on Air Force forward air controllers flying at higher altitudes to designate for them. The idea of using Apaches as a strike asset in this manner independently of US ground forces was simply not recognized by prevailing Army doctrine. On the contrary, as prescribed in Army Field Manual 1-112, *Attack Helicopter Operations*, an AH-64 battalion "never fights alone. ... Attacks may be conducted out of physical contact with other friendly forces," but they must be "synchronized with their scheme of maneuver." FM 1-112 expressly characterizes deep attack missions of the sort envisaged by Clark as "high-risk, high-payoff operations that must be exercised with the utmost care."

Emerging Rift

In light of this, the Army's V Corps commander, Lt. Gen. John W. Hendrix, was willing to have the Apaches included in the European Command Air Tasking Order, but he demurred on having them incorporated as well in the separate NATO ATO, notwithstanding the insistence of the NATO air commander, Lt. Gen. Michael C. Short, that such inclusion would be essential in any situation in which the attack helicopters were ever committed to actual combat. Apart from that, however, Short never sought operational control of the Apaches or attempted to task them. He also offered to provide Task



US Army photo by Spc. Daniel Ernst

An Army mechanic works on an Apache. The Army support tail for Task Force Hawk included 5,350 personnel.

Force Hawk as much operational support (including EA-6B Prowler jamming support) as possible and even went so far as to propose to subordinate himself and his Combined Air Operations Center as a supporting (as opposed to supported) combat element to Hendrix, who as V Corps commander was also the ultimate commander of Hawk.

An agreement was finally reached that nominally included the Apaches with all other ATO missions, yet which left to Hendrix's discretion much essential detail on mission timing and tactics. A window was provided in the ATO such that the Apaches would be time-deconflicted from friendly bombs falling from above and also assured of some fixed-wing air support. However, the agreement reached in the end was so vague that it allowed each service to claim it maintained tactical control over the Apaches in the event they were ever committed to combat. For their part, Army officers insisted that fire support for the AH-64s would come *only* from MLRS and Army Tactical Missile Systems positioned on the Albanian side of the border. That doctrinal stance was enough all by itself to ensure that the Apaches would never see combat, considering that the massive MLRS and ATACMS fires envisaged for any AH-64 operations would have rained literally multiple thousands of cluster bomb unit submunitions all over Kosovo in an indiscriminate attempt

to suppress enemy AAA and infrared SAMs, a tactic that was out of the question from the very start, given NATO's determination to avoid any significant incidence of noncombatant casualties. In contrast, Air Force planners maintained that excluding the Apaches from CAOC control would increase their level of risk by depriving them of support from such key battlespace awareness assets as Joint STARS, Rivet Joint, Compass Call, and the EA-6B. As a USAF officer attached to Hendrix's deep operations coordination cell wrote in an e-mail obtained by *Inside the Pentagon*, "They do not know, nor do they want to know, the detailed integration required to get the Prowler to jam the priority threats, provide acquisition jamming on the correct azimuth, etc. The benefits of integrating with platforms like Compass Call, Rivet Joint, and others are off their radar scope."

In his memoirs, Clark later scored the press article that reported this material. He criticized its author for "personally attacking Jay Hendrix and claiming, among other accusations, that he would not allow the Apache sorties to appear on Short's Air Tasking Order." Clark made no attempt to refute that accusation, however, but merely dismissed it as the complaint of a "disgruntled Air Force officer."

After Allied Force ended, USAF Maj. Gen. John R. Dallager, the assistant chief of staff for operations

and logistics at Supreme Headquarters Allied Powers Europe, touched the heart of the overriding interests and equities at stake here when he stated, during a briefing at a NATO Reaction Force Air Staff conference on JFACC issues: "Clearly the JFACC's authority must not infringe upon operational C² [Command and Control] relationships within and between national or service commands and other functional commands. But to ensure deconfliction of simultaneous missions and to minimize the risk of fratricide, all air operations within the [joint operating arena] must be closely coordinated by the JFACC through the ATO ... process. This last point may be difficult to swallow for land and maritime commanders, but if air history teaches us anything, it is that air, the truly joint activity, needs to be coordinated centrally if we are to make efficient use of scarce resources and if we are to avoid blue-on-blue."

The Headquarters View

Interestingly, the Army leadership in the Pentagon seemed far more disposed than Hendrix, at least in principle, to assign operational control of the Apaches to the CAOC. According to *Inside the Army*, the incoming Army vice chief of staff, Lt. Gen. John M. Keane, frankly commented at an Army aviation symposium in May 1999 that "it boggles my mind, but we still have senior leaders, people who wear stars, ...

who don't recognize that if you are going to fly Apaches at a distance and range, it's got to be on the Air Tasking Order." Keane added that the Apaches had to be under the operational control of the JFACC in the Army's "self-interest" because that arrangement offered a more effective way of employing them in this particular instance: "The JFACC should determine what the Apache targets are as a result of the entire responsibility he has in conducting that air campaign." He further noted that the JFACC had the comparative advantage of being able to retask combat assets based on real-time intelligence, something the Army could take advantage of as well if it could get itself out of "this business of being myopic about ground operations." In closing, he acknowledged that in the Army, "we've got this nagging fear that somehow, if we turn over our organization to somebody in another uniform, that that organization is going to suffer as a result of that. And I just fundamentally disagree with that."

In yet further testimony to the ill-fated character of the Army's Task Force Hawk experience, it was acknowledged in an internal Army memorandum after Allied Force ended that the aircrews that had been sent with the Apaches had been both undertrained and under-equipped for their intended mission. In the memo—obtained by Legi-Slate News Service—to the in-

coming Chief of Staff, Gen. Eric K. Shinseki, Brig. Gen. Richard A. Cody, the Army's director of operations, resources, and mobilization, warned that because of those shortcomings, "we are placing them and their unit at risk when we have to ramp up for a real-world crisis." Cody, who earlier had planned and executed the Army's highly successful Apache operations during the 1991 Gulf War, noted that more than 65 percent of the assigned aviators in Task Force Hawk had less than 500 hours of flight experience in the Apache and that none were qualified to fly missions requiring night vision goggles. He further noted that the radios in the deployed Apaches had insufficient range for conducting deep operations and that the crews were, in the absence of night vision goggles, dependent solely on their Forward-Looking Infrared sensors. Given the rugged terrain, unpredictable weather, and poorly marked power lines that crisscrossed Kosovo, relying on FLIR alone, he suggested, "was not a good option." Moreover, he added, in order for the Apaches to have flown the required distances and crossed the high mountains of Kosovo, Hellfire missiles would have had to be removed from one of their two wing mounts to free up a station for auxiliary fuel tanks. As for the man-portable air defense system threat, Cody remarked that "the current suite of ASE [Aircraft Survivability Equipment] is not reliable enough and sometimes ineffective."

The Task Force Hawk experience underscored how little the US Army, by its own leadership's candid admission, had done since Desert Storm to increase its capacity to get to an emergent theater of operations rapidly and with sufficient forces to offer a credible combat presence. Shortly after the Gulf War, the Army's leadership for a time entertained the thought of reorganizing the service so it might become more agile by abandoning its structure of 10 combat divisions and opting instead for 25 "mobile combat groups" of around 5,000 troops each. Ultimately, however, the Army backed away from that proposed reform, doing itself out of any ability to deploy a strong armored force rapidly and retaining the unpalatable alternatives of either airlifting several thousand lightly armed in-

US Army photo by Spc. Christopher R. Selazar



US forces catalogue SA-7B surface-to-air missiles found in a Serbian storage facility. JCS Chairman Shelton said the Apaches faced greater risk from Serb air defenses than fixed-wing aircraft.

fantrymen to a threatened theater within days or shipping a contingent of 70-ton M1A2 Abrams main battle tanks over the course of several months.

Poorly Prepared

On his second day in office as the Army's new Chief of Staff, Shinseki acknowledged that the Army had been poorly prepared to move its Apaches and support overhead to Albania. Part of the problem, he noted fairly, was that the only available deployment site that made any operational sense had poor rail connections, a shallow port, and a limited airfield capacity that could not accommodate the Air Force's C-5 heavy airlifter. However, he admitted that the Army all the same was overdue to develop and act on a plan to make its heavy forces more mobile and its lighter forces more lethal. In what presaged a major shift in Army force development policy for the years ahead, he declared: "Our heavy forces are too heavy and our light forces lack staying power. Heavy forces must be more strategically deployable and more agile with a smaller logistical footprint, and light forces must be more lethal, survivable, and tactically mobile. Achieving this paradigm will require innovative thinking about structure, modernization efforts, and spending."

One positive role played by Task Force Hawk once the counteroffensive by the paramilitary Kosovo Liberation Army began registering effects in late May was the service provided by the former's counterbattery radars in helping NATO fixed-wing pilots pinpoint and deliver munitions against enemy artillery positions. Its TPQ-36 and TPQ-37 firefinder radars were positioned atop the hills adjacent to Tirana to spot Serb artillery fire and backtrack the airborne shells to their point of origin. Army EH-60 helicopters and RC-12 Guardrail electronic intelligence aircraft were further able to establish the location of VJ com-



USAF photo by TSgt. Cesar Rodriguez

They didn't fly in combat, but Apache intelligence, surveillance, and reconnaissance assets aided allied fixed-wing targeting toward the end of Allied Force.

mand posts whenever the latter transmitted. Although Hawk's Apaches and other combat assets never saw action, its intelligence, surveillance, and reconnaissance assets exerted a significant influence on the air effort at one of its most crucial moments. The KLA's counteroffensive had forced the VJ to mass their forces and maneuver, to communicate by radio, and to fire artillery and mortars to protect themselves. In response, the sensors of Task Force Hawk, operating in conjunction with the Army's Hunter unmanned aerial vehicles, spotted VJ targets and passed that information on to those in the command loop who could bring air-delivered ordnance to bear in a timely manner. "The result," wrote Theodore G. Stroup Jr., a retired Army three-star general, "was that NATO airpower was finally able to target precisely and hit the Serb army in the field. The Kosovars acted as the anvil and TF Hawk as the eyes and ears of the blacksmith so that the hammer of airpower could be effective." Echoing this conclusion, then-US Air Forces in Europe commander, Gen. John P. Jumper, confirmed that

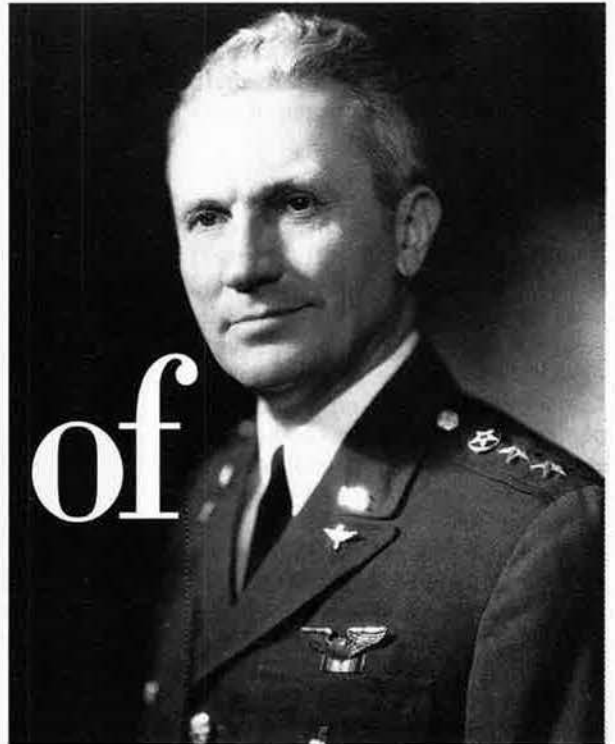
the counterbattery radars of Task Force Hawk had played "a very big part" in allied targeting during the final stages of Allied Force.

Another bright spot in the otherwise troubled Hawk experience was the USAF air mobility system's outstanding performance in opening up the Rinas Air Base in Albania and flowing forces and relief supplies into it. The combined efforts of USAFE's Air Mobility Operations Command Center, the Allied Force Air Mobility Division, USAFE's 86th Contingency Response Group at Ramstein AB, Germany, and multiple supporting Air Mobility Command entities resulted in a standout success amid the generally dismal story of Hawk's immobility and the Army's persistent go-it-alone approach when it came to command relations and putting the Apaches into the ATO. Simply put, the C-17 made the Task Force Hawk movement possible. No other aircraft could have done the job, yet another testimonial to the direct-delivery concept that shaped the aircraft's design and got it through one of the most hard-fought acquisition battles in USAF's history. Thanks to the ultimate success of the C-17 acquisition, Hawk got in and many thousand Albanian refugees survived, two signal accomplishments of what the commander of the US Army Europe, Gen. Montgomery C. Meigs, later called one of the most successful airlift operations in history. ■

*Benjamin S. Lambeth is a senior staff member at RAND. He received the Air Force Association's Gill Robb Wilson Award in arts and letters for 2001 for his book *The Transformation of American Air Power* (Cornell University Press, 2000). This article is derived from his study, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (RAND, 2001), written as a contribution to a larger RAND Project Air Force series on *Operation Allied Force for the United States Air Force*. Lambeth's most recent article for *Air Force Magazine* was "Profiles in Russian Airpower" in the March 1997 issue.*

Along with Arnold, he prepared the way for the rise of airpower in World War II.

The Influence of Frank Andrews



By H.O. Malone

IN early 1943, Lt. Gen. Frank M. Andrews was killed in the crash of his B-24 Liberator just as he stood on the threshold of playing a key role in the Allied victory in Europe. Andrews, at the time of his death, was commander of United States forces in the European Theater of Operations and as such was in charge of the overall direction of the US strategic bombing campaign as well as planning for the invasion of the Continent.

The death of Andrews was a major blow. Even before the war ended Gen. Henry H. "Hap" Arnold, Commanding General of the Army Air Forces, renamed the Army Air Field at Camp Springs, Md., for the fallen airman. For decades Andrews Air Force Base has been the "gateway to the capital" for Presidents and foreign leaders, and today it is far more famous than the person for whom it was named. Most are unaware that Andrews was one of the founding fathers of the Air Force.

The significance of his career does not revolve around the circumstances of his death or what "might have been" had he lived longer. It rests instead on the unique role he actu-

ally played during his military service. He was responsible for orchestrating sweeping changes to the pre-war Army Air Corps. He prepared the way for the wartime Army Air Forces and postwar US Air Force.

Andrews was commissioned in 1906 at West Point and served in the cavalry until 1917. He transferred to aviation as a major during World War I and earned his pilot's wings in 1918. Later, he served in Air Service staff and command billets at home and overseas, as well as on the War Department General Staff. In 1928, he finished the Air Corps Tactical School at Langley Field, Va., and, unlike most airmen, graduated from both the Army Command and General Staff School and the Army War College.

The court-martial in December 1925 and resignation in February 1926 of Army Brig. Gen. William L. "Billy" Mitchell was a turning point for the Army air arm. In the wake of that episode, experienced Army airmen such as Majors Andrews and Arnold concluded that the overall goal of building a separate Air Force—Mitchell's goal and theirs—could be achieved only by means of

an evolutionary process from within the War Department.

They believed two intermediate steps lay between the status quo Air Corps of the interwar years and an independent Air Force of the future. First, they recognized that the air arm would have to consolidate all domestic Army air combat forces under the central command of a single air officer. Second, the air arm would have to gain a large measure of autonomy in the War Department and use it to demonstrate the capabilities of airpower.

In both cases, Andrews was to play a leading role.

GHQ Air Force

Following World War I, centralized command of Army air combat units was the subject of a major debate. The Chief of the Air Service was neither a commander of combat forces nor a member of the War Department General Staff. Like the Chief of Infantry, he headed an Army combat arm but possessed no actual command authority over combat units in the field. Higher command over air combat units was fragmented among the nine Army corps area commanders, none of whom were air officers.

In the interwar period, a series of outside blue-ribbon advisory panels studied this issue for the Secretary of War. The work culminated in 1934 when the Baker Board recommended the consolidation of the Air Corps combat units under a single air officer. That "air force" commander would operate in wartime directly under the commander of Army field forces, working from a command post called General Headquarters, or GHQ, that would be created during wartime. The proposed combat air command would be the GHQ Air Force.

To prevent the de facto development of an autonomous air component within the War Department, the General Staff insisted that the proposed GHQ Air Force commander be independent of the Office of the Chief of the Air Corps. Thus, Maj. Gen. Benjamin D. Foulois, an airman who was the Chief of the Air Corps, would not gain command of GHQ Air Force but would continue to have oversight of noncombatant Air Corps functions, such as individual training,



Andrews and members of his General Staff observe a flyby at Langley Field in honor of the activation of GHQ Air Force in March 1935. He would serve four years as commander.

equipment development, and personnel management.

The Army Chief of Staff, Gen. Douglas A. MacArthur, approved this concept with its implied acknowledgment that the "air force" had a legitimate interest in conducting independent operations quite apart from support for land forces.

However, everyone recognized that these air combat units could not be created overnight, after wartime mobilization began, and so they would have to be in place in peacetime—prior to activation of the Army's wartime GHQ. The critical question was this: What would happen to command arrangements in times of peace when no GHQ even existed? The solution was that the designated commander of GHQ Air Force would report to the Army Chief of Staff, just like Foulois, the Chief of the Air Corps.

Thus the Army's air arm would be subdivided into a combat component (GHQ Air Force) and a support component (the Office of the Chief of the Air Corps), each independent of the other. Few believed that the division of command would yield the most effective employment of air assets. Still, centralized command under a single air officer of all air combat forces was itself a major step forward, allowing for rapid concentration of air combat units against a threat.

In the mid-1930s, the Army air combat contingent comprised only

32 squadrons, parceled out to nine combat groups. One of the groups was the historic 1st Pursuit Group at Selfridge Field, Mich., which was commanded by Andrews, who was well-prepared for the task of shaping up an effective air combat arm.

In late 1934, the Army cut short Andrews's command tour at the 1st Pursuit Group and detailed him back to the General Staff to work on the GHQ Air Force project. Not long after his return to Washington, MacArthur selected Andrews to organize and command GHQ Air Force at Langley Field.

MacArthur activated GHQ Air Force on March 1, 1935, with Andrews as commander, a move that brought Andrews a double promotion to the temporary grade of brigadier general. Col. Hugh J. Knerr was his chief of staff and Lt. Col. George C. Kenney his G-3 (operations staff officer). As consolidated under GHQ Air Force, each of the nine combat groups—based at eight different locations coast to coast—was assigned to one of three composite wings. These bombardment, attack, and pursuit groups represented GHQ Air Force's strategic, tactical, and air defense missions.

Arnold, newly promoted to brigadier, led the 1st Wing at March Field, Calif., with one attack and two bombardment groups. On the Atlantic coast, the 2nd Wing, with two bombardment and two pursuit groups,

was the largest of the three subordinate commands, consisting of 15 flying squadrons and headquarters at Langley Field. In the south, the 3rd Wing, smallest of the three, operated from Barksdale Field, La. It had one pursuit and one attack group.

By December 1935 Army leadership had turned over, with MacArthur succeeded by Gen. Malin Craig. Andrews—who answered to Craig—was promoted to temporary major general. Foulois retired in that same month and his assistant, Oscar Westover, a former balloonist, became Chief of the Air Corps. Hap Arnold, who begged to stay at March Field with the flying units, was sent to Washington to become Westover's assistant.

Amid all of the bureaucratic shuffling, Andrews faced a major problem: He had no truly effective long-range, heavy bombers to carry out the kinds of independent air missions fundamental to the GHQ Air Force concept. Solving that problem was one of his most pressing tasks, and it was only because of the persistence and tenacity of Andrews and his chief of staff, Knerr, that Boeing's new, four-engine B-17 bomber reached full deployment status. It was a fight that nearly ended his career.

The first B-17 Flying Fortresses were assigned in 1937 to the 2nd Bomb Group at Langley, led by Lt. Col. Robert Olds. The 2nd BG served, in effect, as the operational test bed

for this important weapons system. One of Olds's operations officers, 1st Lt. Curtis E. LeMay, was not only a pilot but also an expert navigator and bombardier.

Bomber Demonstrations

Andrews was fond of demonstrating the capabilities of the big bomber. For instance, in February 1938, six B-17s from the 2nd BG under Olds's command made a 5,225-mile Goodwill Flight that included stops from Miami to Buenos Aires and the return to Langley. Later, on May 12, 1938, during Army-Navy war games, Andrews proved that a B-17 could intercept an "enemy aircraft carrier" (the role was played by an Italian ocean liner) when three of the big bombers located the ship more than 700 miles offshore in the Atlantic. The lead navigator was LeMay.

By the summer of 1938, however, the B-17 was in trouble, with the War Department threatening to shut down production in a cost-cutting effort. Senior Army officers believed that larger numbers of short- and medium-range, twin-engine bombers could do a better job than smaller numbers of large, expensive, long-range bombers with four engines.

Andrews, still a temporary major general, invited Brig. Gen. George C. Marshall, new chief of war plans on the General Staff, for an all-day briefing at his Langley Field headquarters. Marshall accepted and was favorably impressed.

Shortly afterward, Marshall accompanied Andrews on an extended inspection trip to GHQ Air Force combat units across the country, as well as visits to Air Corps support installations and several aircraft manufacturing plants. A crucial stop came at the Boeing plant in Seattle, where Marshall was allowed to see firsthand the B-17 production line. Marshall became convinced that the aircraft was not only useful but critical to US defenses. Marshall's opinion eventually went a long way toward saving the controversial aircraft, which Army officers derided as "Andrews's Folly."

Moreover, Marshall's trip with Andrews marked the beginning of a professional relationship between the two that would be of great importance to the future of the Army air arm.

Andrews spent four crucial years as head of GHQ Air Force. His actions did not sit well with Craig, the Chief of Staff of the Army. On March 1, 1939, Andrews completed his command tour at GHQ Air Force, but Craig declined to offer Andrews a new assignment in a general officer's post. He thus was forced to revert to his permanent grade of colonel and was sent to San Antonio, as VIII Corps air officer, finding himself in exactly the same job as that to which Billy Mitchell had been relegated in 1925. Craig's decision, however, could not change the fact that the consolidation of air combat units under Andrews in GHQ Air Force represented an important milestone in the strategic development of American airpower.

FDR's Surprise

Unlike Mitchell, however, Andrews did not see his career collapse in Texas. Four months after his exile, on July 1, 1939, Craig went on terminal leave prior to his planned Sept. 1 retirement. Craig could not have known that President Franklin D. Roosevelt would pass over scores of more senior generals to reach down and select Marshall to become the new Army Chief of Staff, but that is what happened.

Marshall took charge immediately as acting Chief of Staff. One of his first actions—taken despite fierce objections from Craig—was to recall Andrews to Washington in August as the assistant chief of staff for



Known as "Andrews's Folly," the B-17 Flying Fortress was almost scrapped. Here, in March 1937, a B-17 arrives at Langley, the headquarters for GHQ Air Force and home to the 2nd Wing.



In a 1938 demonstration of the big bomber's potential, three B-17s—with lead navigator Curtis LeMay—intercepted this "enemy aircraft carrier" (an Italian ocean liner) more than 700 miles out to sea.

operations and training, the G-3 of the entire Army. Andrews also was promoted to the permanent grade of brigadier general.

In this remarkable turn of events, Andrews, who had for so long had to fight the War Department General Staff in trying to build an effective air combat force, held a position of first among equals on the General Staff. It was a historic appointment; he was the first airman to head a General Staff division. It was especially important in light of the fact that, in just over a month, war erupted in Europe.

In that key post within, Andrews was able to formulate Army-wide policy on important issues of concern to the air arm, such as doctrine for close air support of ground forces. And, for the first time, air officers were assigned in significant numbers to the War Department General Staff. Andrews was also able to advise Marshall on a whole range of issues regarding further development of the nation's airpower, as it became increasingly evident that the United States would not be able to avoid involvement in the war.

Building an effective air force also required a large measure of autonomy for airmen. Andrews never had it during his time as the commander of GHQ Air Force, but during his Langley years and later in Washington, he played a key role in laying the foundation for virtual autonomy.

Now it was time for him to leave Washington. Issues of Western hemisphere defense came to the forefront in fall 1940, and Marshall decided to reassign Andrews to the Canal Zone to organize air defenses of the Panama Canal. His Panama Canal Air Force became the prototype for all subsequent overseas air forces.

With the departure of Andrews from the General Staff, Marshall took another bold step, this one involving Hap Arnold, who had become Air Corps Chief, succeeding Westover when the latter died in a crash in 1938. Marshall gave Arnold

the additional title of acting deputy chief of staff for air. That appointment enhanced Arnold's standing considerably within the War Department and enabled him to fill the gap on Marshall's staff created by Andrews's reassignment.

Now, Army Air Forces

Six months later, in March 1941, the GHQ Air Force flag at Langley was shifted to Bolling Field, D.C. Marshall soon approved the concept of an umbrella organization to coordinate operations of both GHQ Air Force and the Office of the Chief of the Air Corps, to be called Army Air Forces.

On June 20, 1941, Arnold was reassigned as Chief, Army Air Forces. Simultaneously, GHQ Air Force became Air Force Combat Command.

Late in 1941, on the eve of America's entry into World War II, Marshall took two steps to enhance further the standing of the air arm within the War Department. First, he advanced Andrews to lieutenant general and reassigned him as commander of Caribbean Defense Command, making him the first airman to head a unified theater command overseas. Andrews's pioneering work as a joint forces commander established valuable precedents both for directing theater commands overseas in wartime and for integrating air forces in such commands.

Second, Marshall approved a plan to reorganize the War Department



Arnold (left) and Andrews (center) appear together in 1943, about the time Andrews was tapped to head US forces in the European Theater at which post he was to direct aerial bombing of Germany and plan a land invasion.



In March 1943, Andrews inspects members of the 303rd Bomb Group, stationed in England. A few months later, Andrews died in a B-24 crash on a mountaintop in Iceland.

so as to give the Army Air Forces parity with ground components. However, the Japanese attack at Pearl Harbor delayed implementation a few months. The restructuring finally went into effect March 9, 1942, introducing fundamental changes of great significance to the air arm.

Both the Office of the Chief of the Air Corps and Air Force Combat Command (GHQ Air Force) were abolished. Their functions were merged into the Army Air Forces, whose Chief, Arnold, became Commanding General. Furthermore, a new Air Staff, separate from the War Department General Staff, was created for the Army Air Forces, which emerged with a standing in the Department equal to the new Army Ground Forces and Army Services of Supply.

Arnold's post as deputy chief of staff of the Army for air put the Army Air Forces on a level different from the other two components in the War Department. Consequently, Marshall arranged for the AAF to have a seat at both the Anglo-American Combined Chiefs of Staff and US Joint Chiefs of Staff. Thus, the AAF finally achieved the virtual autonomy that GHQ Air Force needed but never had. This was the second major step on the road toward a separate Air Force. It rested on the perceptive understanding Marshall had of airpower, fostered by his close association with Andrews.

Late in 1942, Marshall moved Andrews from Caribbean Defense Command to leadership of US forces in the Middle East. Andrews was in that post for only a short time but he established Ninth Air Force within his Middle East command, the first "tactical" air force to drop bombs in Europe.

Early in 1943, at the Casablanca Conference, Marshall nominated Andrews as commander of the US European Theater of Operations, to direct the American aerial bombing campaign against Germany and plan for the eventual land invasion of the European continent. It was Andrews's third joint theater command.

On the other side of the world, Andrews's former G-3 at Langley, George Kenney, was leading the air war for MacArthur in the Southwest Pacific Theater. Elsewhere, other veterans of the GHQ Air Force era occupied important positions in the command structure, at home and overseas. GHQ Air Force had indeed, as Arnold recognized, been the forerunner of the Army Air Forces, laying the foundation for its success in wartime. During World War II he wrote, "Today, when American bombers fly a successful

mission in any theater of war, their achievement goes back to the blueprints of the General Headquarters Air Force. Our operations were based on the needs and problems of our own hemisphere, with its vast seas, huge land areas, great distances, and varying terrains and climates. If we could fly here, we could fly anywhere, and such has proved to be the case."

For Andrews, promotion to full general was on the horizon. The end, however, came abruptly on May 3, 1943, when he died on a rugged mountaintop in Iceland. An editorial in the *New York Times* compared Andrews to Billy Mitchell, noting that "not even General Mitchell plugged harder for the Army air arm."

At a memorial service for Andrews in the chapel at Ft. Myer, Va., Marshall himself gave the eulogy. He reminded the mourners, "No Army produces more than a few great captains." He added, "General Andrews was undoubtedly one of these."

Andrews's dream of a separate Air Force needed four more years to come to fruition, but his contemporaries knew well the importance of the role he had played. In July 1947, President Harry Truman signed the National Security Act authorizing a separate Air Force within a unified National Military Establishment. That bill transferred the dormant statutory functions of the Commanding General of GHQ Air Force to the Chief of Staff of the new US Air Force. Forty-five years later, in June 1992, domestic air combat units—bombardment, attack, and fighter—were once again consolidated under a single air officer at Langley comparable to what had happened there in 1935.

Air Combat Command, directed from the same historic building from which Andrews led GHQ Air Force, shares a striking conceptual similarity to Andrews's major air command. That parallel can serve as a reminder of the unique role Andrews played in shaping the course of events that transformed the Army air arm into the United States Air Force. ■

H.O. Malone was an aviation cadet and flew F-86 Sabres in Europe. He taught European history at Texas Christian University and spent 21 years in the Department of Defense, retiring in 1994 as chief historian, Army Training and Doctrine Command. This is his first article for Air Force Magazine.



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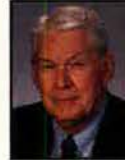
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TENNESSEE (Chattanooga, Knoxville, Memphis, Nashville, Tullahoma): **Joseph E. Sutter**, 5413 Shenandoah Dr., Knoxville, TN 37909-1822 (phone 423-588-4013).

TEXAS (Abilene, Amarillo, Austin, Big Spring, College Station, Commerce, Dallas, Del Rio, Denton, Fort Worth, Harlingen, Houston, Kerrville, San Angelo, San Antonio, Wichita Falls): **Dennis Mathis**, P.O. Box 8244, Greenville, TX 75404-8244 (phone 903-455-8170).

UTAH (Clearfield, Ogden, Salt Lake City): **Brad Sutton**, 5221 West Rendezvous Rd., Mountain Green, UT 84050-9741 (phone 801-721-7225).

VERMONT (Burlington): **Dick Strifert**, 4099 McDowell Rd., Danville, VT 05828 (phone 802-338-3127).

VIRGINIA (Alexandria, Charlottesville, Danville, Langley AFB, McLean, Norfolk, Petersburg, Richmond, Roanoke, Winchester): **Bill Anderson**, 3500 Monacan Dr., Charlottesville, VA 22901-1030 (phone 804-295-9011).

WASHINGTON (Seattle, Spokane, Tacoma): **Tom Hansen**, 8117 75th St. S.W., Lakewood, WA 98498-4819 (phone 253-984-0437).

WEST VIRGINIA (Charleston, Fairmont): **Samuel Rich**, P.O. Box 444, White Sulphur Springs, WV 24986 (phone 304-536-4131).

WISCONSIN (Madison, Milwaukee, General Mitchell IAP/ARS): **Chuck Marotske**, 5406 Somerset Ln., S., Greenfield, WI 53221-3247 (phone 414-325-9272).

WYOMING (Cheyenne): **Stephan Pappas**, 2617 E. Lincolnway, Ste. A, Cheyenne, WY 82001 (phone 307-637-5227).

By Frances McKenney, Assistant Managing Editor

Los Angeles Ball

The 30th annual Air Force Ball in November in Los Angeles celebrated "Space Partnerships for the New Millennium."

The black-tie gala that culminates the week-long Los Angeles Space Celebration is sponsored by the Air Force Association, the **Gen. B.A. Schriever Los Angeles Chapter**, **General Doolittle Los Angeles Area Chapter**, and the **Orange County/Gen. Curtis E. LeMay Chapter**.

Nelson F. Gibbs, assistant secretary of the Air Force for installations, environment, and logistics, joined USAF Chief of Staff John P. Jumper and Gen. Lester L. Lyles, commander of Air Force Materiel Command, on the list of honored guests.

AFA leaders included National Chairman of the Board Thomas J. McKee and National President John J. Politi. The Aerospace Education Foundation was represented by its Chairman of the Board, Jack C. Price, and President, Richard B. Goetze Jr. Apollo 11 astronaut Buzz Aldrin was also among the VIPs.

Lt. Gen. Brian A. Arnold, commander of Space and Missile Systems Center, served as the ball's military host. Albert E. Smith, executive vice president of Lockheed Martin Space Systems Co., represented Lockheed Martin, the general chair of the ball.

In his remarks, Smith noted that air and space integration and the partnership between the government and commercial sectors of space require "a vigorous investment in research and development, as well as a continued commitment to work together."

During awards presentations, Smith was designated a Gen. Bernard A. Schriever fellow, along with James F. Albaugh, senior vice president at Boeing, and Lt. Gen. Roger G. DeKok, Air Force Space Command vice commander.

The ball has raised more than \$4 million through three decades to benefit the Aerospace Education Foundation, the Schriever Education Foundation, and other aerospace education activities.



At the Air Force Ball in Los Angeles, Gen. Ralph E. Eberhart, commander in chief of NORAD and of US Space Command, receives the Gen. Thomas D. White Space Award from Thomas McKee (left), AFA National Chairman of the Board, and G. Wesley Clark (right), master of ceremonies at the event. The award is sponsored by the Gen. B.A. Schriever Los Angeles Chapter.

Time for an Update

"I have in my possession a copy of the 'Guide to USAF Bases at Home and Abroad' published in *Air Force Magazine*, May 1960," read an e-mail from Michael Woodrow.

A product support engineer for Hamilton Sundstrand Aerospace in Rockford, Ill., Woodrow's job puts him on the road about once a month, working with customers of the constant speed drives and integrated drive generators used on Air Force and Navy aircraft.

He had been consulting his 41-year-old copy of the magazine—given to him by a former coworker—to determine what city he should fly in to and to figure out (from the type of aircraft at a base) if he could visit several customers in one trip. He said his magazine was still in good condition but asked if, after more than four decades, the magazine had produced an update to the Guide to Bases.

The USAF Almanac first appeared in September 1951 and was called

the "Anniversary Issue." It included what we now call the "Guide to Air Force Installations Worldwide." In August 1958, the term "Almanac" appeared on the magazine cover, and it included the "Gallery of USAF Weapons" and summaries of major commands. But it was in May 1970 that the issue began its tenure as the "May Almanac," and three years later it took on the form it exists in today.

Speaking Up—A Revitalization Story

As part of efforts to revitalize the **Portland (Ore.) Chapter**, John C. Moore, chapter president, organized a speakers bureau of about eight volunteers. Various organizations immediately tapped this new community resource.

On Veterans Day, MSgt. Timothy B. Horn spoke to children at Marshall Elementary School in Vancouver, Wash., just across the Columbia River from Portland. Horn is USAF advisor to a communications squadron of the Air National Guard's 142nd Fighter

USAF photo by Ron Hall

Wing in Portland. He is a chapter vice president for legislative affairs.

That same day, Moore addressed more than 1,000 students at Ridgefield High School in Ridgefield, Wash.

In the most high-profile event, Michelle Eastman, a cadet chapter member, delivered the opening remarks for the Veterans Day ceremony at the University of Portland. More than 200 attended the gathering, which received coverage by three local television stations, front-page treatment in the school newspaper, and mention in other publications.

In other speaking engagements, Moore, former commander of AF-ROTC cadets at the University of Portland, was guest speaker for an Arnold Air Society Area Conclave. Maj. Bryon R. Fessler, chapter vice president for communications, participated in a university forum, discussing biological warfare.

The Sandy, Ore., Kiwanis Club called on AFRC Lt. Col. Scott Nielson to speak about the mission of the 939th Rescue Wing, based at Portland Airport. The unit has HH-60 helicopters and HC-130 aircraft and, according to a local newspaper, is called out on rescue missions at least once a month, especially during the summer season. Nielson is chapter co-vice president for legislative affairs.

All this took place within two months after the speakers bureau got off the ground. Other inquiries have come from the Portland Rotarians and a high school that wants Moore to speak about opportunities to serve in the Air Force. "The more we do, the more we get asked," he said.

To help spread the word, he has led the public affairs office of the Air National Guard at Portland Airport know about the chapter's speakers bureau, whose volunteers offer expertise in B-52s, special operations, communications, airborne warning and control system aircraft, as well as experience from the Vietnam War, the Gulf War, the Balkans, and countless operations.

Voice of Experience

Col. H.M. "Bud" West (Fla.) Chapter members learned about the world of terrorism from someone who helped investigate one of its worst military incidents.

Retired Marine Corps Lt. Gen. Lawrence F. Snowden addressed the November meeting, which was attended by 55 chapter members and many guests. Snowden had served on a commission to investigate the Oct. 23, 1983, bombing of the US Marine barracks in Beirut, Lebanon.



USAF Chief of Staff John Jumper and AFA National Board Chairman Thomas McKee attended a membership luncheon for the Donald W. Steele Sr. Memorial (Va.) Chapter in November. Other guests of honor included Air Force service members who have been recommended for awards because of selfless actions during the Sept. 11 attack on the Pentagon.

The suicide truck-bomb killed nearly 250 Americans. A simultaneous attack that day on a French base there killed nearly 60. The US Embassy in Beirut had been hit with a truck-bomb attack in April that year, as well.

According to John Schmidt, chapter secretary, Snowden spoke about terrorism from the time of the Beirut bombings up to the attacks of Sept. 11. Snowden brought perspective to his talk, having served for more than 37 years in the military, beginning with World War II combat in the South Pacific and on through the Korean War and Vietnam War. He retired from the Marines in 1979.

The meeting was attended by many in uniform: AFROTC cadets from Florida State University; AFJROTC cadets from a local high school; and Schmidt's sons, John and Daniel, in uniform as a lieutenant and captain, respectively, from the county sheriff's office. They are also both chapter members.

Congressman in Danville

The **Danville (Va.) Chapter**, led by Chapter President Gerald L. Hovatter, pulled in an important guest to address their November chapter meeting. Rep. Richard M. Burr (R-N.C.) spoke to the group as part of the area's Veterans Day observance.

Burr is a four-term Congressman and, among other committees, serves on the House Select Committee on Intelligence and its Terrorism and Homeland Security subcommittee. Before the chapter meeting, he told a

local newspaper that he would tell the audience, "The American people have shown their resolve that we haven't seen in a while. Some would call it patriotism; I would say it's a lesson for all of us who either have not served and who might get to serve."

Among the 50 veterans and other honored guests at the meeting was William Anderson, Virginia state president.

A Roundup

In October, the **Palm Springs (Calif.) Chapter** sponsored its annual Stearman Roundup, in conjunction with the Palm Springs Air Museum.

Sixteen of the colorfully painted World War II trainer aircraft were gathered on the flight line outside the museum, which sits on the east side of Palm Springs Airport. Five of the Stearmans came from Arizona, while the others were flown in from California.

Twice a day on Oct. 19 and 20, they were flown on a 23-mile-long westward route, from Palm Springs up and down the Coachella Valley. Advanced newspaper and radio publicity brought crowds of observers out to watch these flyovers.

Chapter member Gene Ramirez coordinated the event, and all the Stearman pilots were led on the 45-minute flights by Roger Parrish, a **Phoenix Sky Harbor (Ariz.) Chapter** member and former member of the USAF Aerial Demonstration Squadron, the Thunderbirds.



Rep. Ike Skelton (D-Mo.) receives the **Midwest Region's Outstanding Contributor award** from **AFA National President John Politi (right)**. Skelton is the ranking member of the House Armed Services Committee. The award recognizes his support for the USAF mission, especially its quality-of-life issues.

The Stearman pilots "love that formation flying," commented John W. Lynch, Palm Springs Chapter president.

More AFA/AEF News

■ With help from chapter member and local insurance agent John H. Nix, the **Frank Luke (Ariz.) Chapter** arranged for the Luke Air Force Base theater to show two first-run movies for free to dormitory residents on the two days after Christmas. Publicity for the showing of "Shallow Hal"—starring Gwyneth Paltrow—and "Heist"—with Gene Hackman and Danny DeVito—was aimed specifically at airmen living

in dorms on base; however, nondorm residents who showed up were admitted to the theater, too, said Chapter President Harry Bailey. In addition, the chapter and Nix both spent \$350 for holiday entertainment and food for airmen in the dorms.

■ Marvin R. Sambur, confirmed as assistant secretary of the Air Force for acquisition on Nov. 25, addressed the **Donald W. Steele Sr. Memorial (Va.) Chapter** just two days later. The event was billed as a "Salute to the Air Force Acquisition Warriors." About 200 guests from the USAF acquisition community and defense industry attended the reception at Ft. Myer, Va., to

recognize 17 outstanding performers. AFA National Chairman of the Board Thomas J. McKee and Chapter President Jim Hannam joined Sambur in presenting the awards. Also on hand was Lt. Gen. Stephen B. Plummer, principal deputy, Office of the Assistant Secretary of the Air Force for Acquisition.

■ Robert Perry, president of the **Brig. Gen. James R. McCarthy (Fla.) Chapter**, presented the top trophy at the sixth annual drill meet for AFJROTC units in central Florida. Cadets Joshua Thompson and Ryan Groth took the award home to Sandalwood High School in Jacksonville, Fla. Twenty high schools participated in the meet, held at Pine Ridge High School (Deltona, Fla.), where the senior aerospace science instructor is chapter member John R. Vick. AFROTC senior cadets from Embry-Riddle Aeronautical University in Daytona Beach served as judges.

■ AFA National President John J. Politi was guest speaker at the Civil Air Patrol's Sedalia, Mo., cadet squadron in December. The awards dinner also made note of the 60th anniversary of CAP.

■ Robert S. Pandis, a Northrop Grumman B-2 program manager in Arlington, Va., was guest speaker at a combined meeting of Pennsylvania's western region chapters. Pandis provided an update on the stealth bomber. Among those attending the meeting were Robert L. Carr, national director, and Patricia Accetta, **Total Force (Pa.) Chapter** president.

■ The **Central Florida Chapter** provided financial support for a drill competition in Orlando, Fla., in De-



Arthur F. Kelly (1913-2001)

Former AFA National President and Chairman of the Board Arthur F. Kelly died Nov. 20, 2001, in Washington state. He was 88 years old.

Kelly served as AFA National President from 1952 to 1953 and as Board Chairman from 1953 to 1954. He was a charter member of AFA.

Born in Tombstone, Ariz., he grew up in Salt Lake City and graduated from the University of Utah in 1933. He became executive secretary of the Salt Lake City Airport Commission, then worked for United Airlines and, beginning in 1937, Western Air Lines.

Kelly entered the US Army Air Forces in 1942. He attained the rank of colonel during World War II, serving as deputy chief of staff, European Division, Air Transport Command.

He returned to Western Air Lines after the war, becoming its president and chief executive officer in 1973. He was married to the late Sally Payne, an actress who appeared in more than 40 films in the 1930s and -40s and later in the TV series "I Married Joan."

When Delta Air Lines absorbed Western Airlines in 1987, he retired as chairman emeritus. A longtime resident of Los Angeles, he had moved to Port Orchard, Wash., to live with his son, Arthur F. "Chip" Kelly II.

ember. Richard A. Ortega, state and chapter vice president for aerospace education, presented the first-place Battered Boot trophy at the meet. Cadets from West Orange High School got to take the large plaque topped by a bronzed combat

boot back to their school in Winter Garden, Fla. More than 250 cadets from six high schools competed for awards. The judging was done by noncommissioned officers assigned to the area as recruiters for all four uniformed services.

Have AFA/AEF News?

Contributions to "AFA/AEF National Report" should be sent to *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Phone: (703) 247-5828. Fax: (703) 247-5855. E-mail: afa-ae@aaf.org. ■

Unit Reunions

reunions@afa.org

7th Air Commando Sq and 7th Special Operations Sq (1964-2001). Sept. 26-29 at the Ramada Beach Resort Hotel in Fort Walton Beach, FL. **Contact:** Max Friedauer, 10 Ridgelaque Dr., Mary Esther, FL 32569 (850-243-1343) (Emax@friedauer.net).

19th Air Refueling Sq, 8th AF (SAC), including all who served at Homestead AFB, FL, and Otis AFB, MA. Sept. 22-25 at the Shoreway Acres Resort in Falmouth, MA. **Contacts:** Gerry (561-495-5481) (gdornfeld@aol.com) or Frank (850-862-4279) (fszemere@gnt.net).

65th Troop Carrier Sq. July 31-Aug. 4 in Houston. **Contact:** Willis Cooper, 7435 Maple Tree, Houston, TX 77088 (281-996-3862).

86th Fighter-Bomber Wg, Germany (1951-55). Aug. 28-Sep. 1 at the Honeysuckle Inn in Branson, MO. **Contact:** William Merritt, 3009 Meadow Forest Dr., Jackson, MS 39212-1720 (601-352-1124) (rustynail999@aol.com).

100th Bomb Wing, Pease AFB, NH. Oct. 3-6 in Portsmouth, NH. **Contacts:** Ron Freeze, 18 Glendale Rd., Rye, NH 03870-2813 (603-431-6330) (freeze@tlc.net) or Joe Falletti, 75 Fern Ave., Rye, NH 03870 (603-964-5988) (jbfalletti@mediaone.net).

367th Fighter Group. Sept. 26-29 in Charleston, S.C. **Contact:** Jack Curtis, 8004 Cedar Dr., Rogers, AR 72756-7729 (jcurtis@ipa.net).

448th Bomb Group, 2nd ADA (WWII). April 10-13 at the Doubletree Hotel Lakeside in New Orleans. **Contact:** Cater Lee, PO Box 1850, Foley, AL 36536-1850 (251-943-7000) (clee@vulcaninc.com).

551st Airborne Early Warning & Control Wg, Otis AFB, MA, including Texas Towers and N. Truro Radar Station. Oct. 31-Nov. 2 at the Sheraton Inn in Plymouth, MA. **Contact:** Floyd Shank (508-746-5713) (easy12@adelphia.net).

556th Recon Sq. April 5-6 in Las Vegas. **Contacts:** Donald Chase (402-493-5612) or Don Hein (949-454-8986).

AAF Thomasville, GA, Fighter Training Base, 1943-45, including the 54th FG, Aleutians, the 59th FG, Panama, and the 339th Combat Crew Tng Gp. May 10-12 at the Hampton Inn in Thomasville, GA. **Contact:** Robert Dawson (770-535-1793) (Calendar@bellsouth.net).

Assn of Air Force Missileers. Oct. 23-27 at the Santa Maria Inn in Santa Maria, CA. **Contact:** Charles Simpson, AAFM, Box 5693, Breckenridge, CO 80424 (phone or fax: 970-453-0500) (aafm@afmissileers.org).

B-47 Stratojet Assn. Sept. 18-22 in Seattle. **Contact:** Alex Alexander (210-653-5361) (sigmund.alexander@worldnet.att.net).

Jolly Green Assn. May 3-4 at the Ramada Beach Resort in Fort Walton Beach, FL. **Contact:** Lee Massey (850-863-3131) (leetmassey@earthlink.net).

Pilot Class 49-B. April 23-27 at the Broadwater Resort in Biloxi, MS. **Contact:** Jack Stolly, 11323 Cotillion Dr., Dallas, TX 75228 (972-681-8290) (flyingjack@juno.com).

Pilot Class 56-G. Sept 19-21 in Dayton, OH. **Contact:** Porter Jones, 7614 Bidwell Rd., Jeolton, TN 37080 (615-876-0450) (porterj@aol.com).

Pilot Class 62-G, Moody AFB, GA. April 28-May 5 cruise to Alaska. **Contact:** Pete Gissing, 116 Sonoma Ct., Roseville, CA 95747 (916-771-7589) (petenpat@lanset.com).

Raven Forward Air Controllers, Laos, including ground crews. Oct. 24-27 in Universal City/Randolph AFB, TX. **Contact:** Ed Gunter (830-560-2522) (edgunter@aol.com).

SAC, all former members. May 16-18 at the Mighty Eighth AF Heritage Museum, Savannah, GA. **Contact:** Tommy Harrison (407-886-1922) (TGHarrison@aol.com).

SAC Airborne Command Control Assn. Oct. 9-13 in St. Louis. **Contact:** Steve Leazer, 6141 Bagley Ave., Twentynine Palms, CA 92277-2502 (leazersd@thegrid.net).

USAF flight nurses, who served in the Korean War's December 1950 airlift evacuation from the Chosin Reservoir. Aug. 28-31 in San Antonio. **Contact:** Paul Fritz, 3740 Lost Creek Blvd., Austin, TX 78735 (512-328-6963) (PaulC47@aol.com).

WWII bombardiers, all units. April 25-27 at the Ramada Inn in Tucson, AZ. **Contact:** Bob Thompson, 280 Sharon Dr., Pittsburgh, PA 15221 (412-351-0483).

Seeking members of **USAF OCS Class 59-A** for a reunion. **Contact:** Don Weber, 927 Royal Oak Blvd., Leesburg, FL 34748 (afocs59a@cs.com).

Seeking all who served in the **667th, 932nd, 933rd, and 934th Aircraft Control & Warning Radar Sqs,** Iceland, for a reunion. **Contact:** William Chick, 104 Summit Point Ct., Chapin, SC 29036 (803-932-9596) (littlechick@msn.com). ■

Mail unit reunion notices four months ahead of the event to "Unit Reunions," *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Please designate the unit holding the reunion, time, location, and a contact for more information. We reserve the right to condense notices.



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Pieces of History

Photography by Paul Kennedy

Like a Pea in a Pod



The B-58 Hustler, a supersonic bomber in USAF in the 1960s, was capable of speeds up to Mach 2. The B-58's ejector pod, shown here, rocketed cut of the cockpit after closing its clamshell doors. Its stability came from the frame and an automaticaly deploying parachute. The pod offered wind blast protection, supplied oxygen and pressurization, acted as a shelter after

landing, and provided food and equipment to survive until rescue. Crushable cylinders and stabilization fins cushioned the impact on landing, while flotation bags made it possible to survive water landings.

Courtesy US Air Force Museum, Wright-Patterson AFB, Ohio



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