October 2000/$3

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JOURNAL OF THE AIR FORCE ASSOCIATION MAGAZINE

Air War in Korea: A Chronology

The Misty FACs Return

The EAF Turns One

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October 2000, Vol. 83, No. 10

AIR FORCE MAGAZINE

JOURNAL OF THE AIR FORCE ASSOCIATION

About the cover: An F-16 refuels from a KC-135 tanker, illustrating today's US Air Force always on the go. See "The EAF Turns One," p. 20. USAF photo by SrA. Jeffrey Allen.

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Editorial

By John T. Correll, Editor in Chief

Budget Truth

For the first time in more than 10 years, defense is an issue in a Presidential election campaign. Both sides agree that a defense increase is necessary, but they differ enormously in their recollections of where the shortage came from.

"The current Administration inherited a military ready for the dangers and challenges facing our nation," said Republican George W. Bush Aug. 21. "The next President will inherit a military in decline."

The next day, Democrat Al Gore replied that "these past eight years, as a member of the National Security Council, I have worked to reverse the decline in defense spending. ... I'm proud that we finally reversed the defense cuts begun in the previous Administration with a safe, long-term increase in defense spending."

The *New York Times* then informed us that, "adjusted for inflation, the United States still spends about 95 percent as much for defense as it did during the Cold War, though it now faces sharply reduced threats."

The things you read in the newspapers are breathtaking, but some assertions go further afield. Pentagon gadfly Chuck Spinney is circulating a chart that depicts the current defense budget as *almost four times as large* as during the Vietnam War. (Spinney leaps to his conclusion by ignoring the effects of 525 percent cumulative inflation since 1968.)

Here's what really happened. Figures are fiscal year Department of Defense budget authority, and to allow comparison, all are expressed in constant Fiscal 2001 dollars.

The Vietnam War budgets peaked at $400.6 billion in 1968. A steady decline followed, and it did not stop until the ensuing "hollow force" had become a national scandal. From 1975 to 1980, budgets floundered between $273 billion and $297 billion. Airplanes stood idle on the ramp for want of parts. Veteran service members fled the ranks. It was this brief, sorry period that the *New York Times* chose for its comparison. The present defense budget is about the same as the hollow force budgets.

The correction came with the "Reagan Recovery," which peaked at $436.4 billion in 1985. By 1986, the Gramm–Rudman–Hollings movement to reduce the federal deficit was in full swing, and Congress declared President Reagan's defense budget proposal "DOA," or Dead on Arrival. After that, the defense budget dropped more each year until 1999.

Here is the real story on how the defense budget was cut, and when.

President Bush inherited a defense program that was already down by 10 percent. Mainly because the Cold War had ended—but also because of continuing Gramm–Rudman–Hollings pressures—the Bush Administration devised the "Base Force." The plan was to gradually cut force structure and personnel strength by 25 percent below Cold War levels. Opposition leaders in Congress wanted even stiffer reductions. The final Bush defense budget was $318.4 billion in 1993.

Two months after taking office, the Clinton Administration proclaimed an additional cut of $214 billion, spread out over six years. The announcement was made without calculation of feasibility or impact, so the Pentagon hastily launched the "Bottom Up Review" in search of a credible defense program that would fit the budget that had been declared.

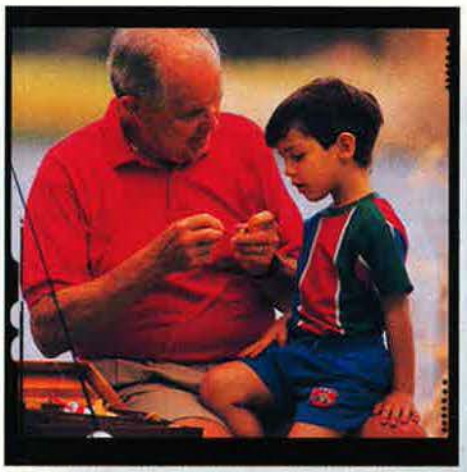
No such solution could be found, so the reductions actually implemented were somewhat less severe. Even so, President Clinton proposed seven defense budget cuts in a row. And each year, Congress appropriated more than he requested.

The low point came in 1998, at $277.2 billion. The next year, the Administration announced a $110 billion budget increase spread out over six years.

Part of the purported increase hung on gimmicks, counting adjustments, and economic assumptions, and most of it did not fall due until after the turn of the century, in effect an IOU written on a future Administration. Clinton's 2001 budget proposal, submitted last January, was for $291.1 billion.

- Presidents and Administrations do not set budgets alone. Over the past 20 years, Congress added $45.9 billion to President Carter's defense proposals, cut Reagan's by $216 billion, and cut Bush's by $22.9 billion. So far, Congress added $73.7 billion to Clinton's.
- Whether the *New York Times* realizes it or not, the policy of "Engagement and Enlargement" abroad has the armed forces scrambling to maintain an operational tempo four times that of the Cold War. That was not anticipated in the Base Force reduction of 25 percent. It is now made all the harder since the force cut has reached 40 percent. Recruiting and retention problems are back, big time.
- The armed forces are not adequately sized, equipped, or funded to fight two overlapping major theater wars, which they are supposed to be able to do. In fact, the force was stressed by a single theater conflict, and a limited one at that, in Kosovo in 1999.
- Today's military equipment is old, wearing out, and is not being replaced. Investment in new technology is lagging. Needed systems compete with each other for what money is available. On this course, our technological advantage will soon begin to diminish.
- Without question, US armed forces are best in the world, but they are held to a higher standard than the rest of the world's forces. Unless we are ready to give up the role of world leadership, we had better be prepared to go further, strike harder, and prevail faster.

Whoever wins the Presidential election should have that engraved on the insides of his eyelids before he moves into the White House. ■



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Letters

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Space Almanac

"Space Lore" *["Space Almanac," August, p. 56]* was of great interest to me. Although I was on the fringes of the Explorer Program, I was knowledgeable of it. The Explorer was a program to put up a satellite using a Redstone rocket. [Wernher] von Braun was the project manager. It was jointly funded by the Army and the Office of Naval Research. The Navy also had another program, Vanguard, to put up a basketball-sized satellite, but the Vanguard rockets kept blowing up.

The Navy withdrew funding for Explorer in favor of Vanguard. Fortunately, someone with intelligence or intuition caused Explorer to be warehoused. After the Russians put up Sputnik, Explorer was dusted off, checked out, and put up as our first satellite. The irony, of course, is that it could have flown a year or more before Sputnik.

Our biggest problem was not technical but political. I sincerely hope and pray that our defense initiative to build a ballistic missile defense system does not suffer a similar fate.

John Beebe
White Stone, Va.

I enjoyed reading the Space Almanac, but I was concerned by an error. You stated that on Dec. 12, 1999, a Titan II launched the first Block 5D3 spacecraft. This is not correct in that the spacecraft in question (F15) was not in fact a 5D3. It lacked the communications and sensor upgrades that are the core of the 5D3 block. This spacecraft was unique from the 5D2 block in that it utilized the sensor boom for the magnetometer sensor and included two solid state recorders. In all other respects it was a 5D2 spacecraft. The first 5D3 spacecraft is due to be launched on Dec. 21, 2000, from Vandenberg AFB, Calif. This satellite will field upgraded sensors from the 5D2 sensors as well as new sensors that will improve our knowledge of the space environment.

SSgt. Aaron L. Wiseman,
Det. 11, Space and Missile Systems Center
Peterson AFB, Colo.

■ *Reader Wiseman is partially correct, but the Space Almanac is not wrong. Flight 15, though it had 5D2 internal components, is officially referred to as the first 5D3 launch because the satellite bus is a 5D3, per the Defense Meteorological Satellite Program office at SMC.*—THE EDITORS

Ranch Hand

The "Ranch Hand" article [*August, p. 84*] revived a variety of memories from my 225 missions [in Southeast Asia] as an F-4 pilot in the 366th Tactical Fighter Wing at Da Nang. A particular Rand Hand mission, April 25, 1969, in the A Shau Valley, resulted in some amazingly intense ground fire and more than enough action for our flight of four F-4s, well exceeding our day's adrenaline quota.

Our wing also served as the test [unit] for the employment of F-4s in defoliant missions over Laos. Utilizing modified wing tanks, the missions required low altitude and airspeed to ensure better spray dispersal. These were undoubtedly our most detested missions—we doubted their productivity, and we protested the fact that they placed the crews at the limits of the ejection envelope.

Aircrew concern was ratified March 29, 1969, when an aircraft from the 390th [Tactical Fighter Squadron] was lost on a defoliation mission. As feared, the ejection resulted in the backseater impacting on a karst outcropping, while the more fortunate aircraft commander, due to the slight delay in ejection sequence, was propelled past the karst and survived. F-4 defoliant missions, as far as we knew, were suspended shortly after that. I last saw the wing's remaining, rusting wing spray tanks piled in an out-of-the-way revetment—another testimonial to one of the many requirements, restrictions, or simply foolhardy directives USAF aircrews suffered.

Lt. Col. Jim Burkholder Jr.,
USAF (Ret.)
Bonners Ferry, Idaho

In 1969 the 3rd [Tactical Fighter Wing] had a lot of success using CBU-30, which is riot gas dispensed in small bomblets, against [Viet Cong] in dug in positions. It would last for about 30 minutes with good effect. We suggested this to Ranch [Hand], and they said OK, that they would give it a try. We generally used eight F-100s with four down each side of their track. Our dispensers lasted about as long as their [herbicide]. We would go in minutes ahead of the Ranch and we could see that we knocked out most of the people along the track. The Ranch seldom got hit.

One morning in April 1970, two men in black suits and white shirts came into my office. They were from DoD. They advised, "You are using poison gas and must stop." We explained that we were only dispensing riot gas and with good results and that the Ranch was not getting shot up as in the past. We were ordered to stop. So we went back to using bombs and guns for suppression, which would probably hurt people a lot. Odd war.

Col. Emmett S. Barrentine,
USAF (Ret.)
Germantown, Tenn.

I was stationed as an intelligence officer at Bien Hoa AB from May 1968 to May 1969. I [write] to add a few words about the Ranch Hands and their airmanship. One day in spring 1969, I flew two sorties as an observer with the Ranch Hands. Both were in IV Corps, the Mekong River delta. The first was uneventful, except for the precision of the formation flying, which greatly impressed me. However, the second was to an area where enemy ground fire was ex-

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pected. I rode in the cockpit wearing a bulky ceramic flak jacket and visored helmet. As we approached the [initial point], the pilot pulled an armored box over the top of the radio console and invited me to sit on it, between himself and the copilot. As we went into a steep dive from 3,000 feet, the pilot explained that he would try to keep the airspeed below 190 knots, the estimated stress limit of the spray rig at the back of the aircraft. I think we actually exceeded that speed, hitting 205 knots, but the spray rig held. I remember it felt like going over the top on the tallest roller coaster I'd ever ridden!

We leveled off at 150 feet and bled airspeed off to 135 knots as we approached the drop zone. We were No. 2 in a three-ship formation, flying in right echelon. Just before we reached the drop zone, an F-100 flashed overhead and laid down a long line of CBUs that exploded in puffs of dirty brown, gray, and white smoke. Maintaining optimum speed and altitude, we began the spray run, which lasted about three to four minutes. About midway through the run, a flock of large ducks or geese, probably spooked but not hurt by the CBU, rose up in our path. One collided with our left wingtip, putting a sizeable dent in the leading edge. When we finished the spray run, the pilot reached down and punched two buttons to start the underwing jet engines so we could rapidly climb out of range of any small-arms fire. All three aircraft attempted to do this simultaneously, to maintain the formation.

Unfortunately, the lead aircraft had taken a hit in the fuel line supplying the jet engine on the right wing. When he punched the jets, only the one on the left fired up, pushing the aircraft to the right toward us. Only superb airmanship on the part of both pilots prevented a midair collision.

Col. Robert P. Kreps,
USAF (Ret.)
Altamonte Springs, Fla.

I was assigned to Pope AFB [N.C.] when the Ranch Hand program was activated. Some of the crew members came from my squadron, the 347th [Troop Carrier Squadron], not from the air commandos. The comment "Whatever the designation, the mission always was flown by air commandos" was contradicted by the later comment that the first three C-123s were deployed as a part of the 346th TCS. The 346th, a Pope unit, was the first Mule Train squadron sent into [South Vietnam]—the first squadron of airplanes deployed from Clark AB [Philippines] to Saigon in January 1962. None of the 346th personnel were air commandos. The air commando designation for the C-123 squadrons in South Vietnam came into being either in late 1963 or mid-1964, I don't recall the exact time frame.

Lt. Col. Roger D. Haneline,
USAF (Ret.)
Savannah, Ga.

"Patches," the C-123K Provider highlighted in your article for its 1,000 bullet entry holes received during its Vietnam War herbicide spray missions, also was distinguished for its later humanitarian missions.

Because of its extensive battle damage and subsequent notoriety, Ranch Hand crews wanted #362 to retire to a place of honor. She left combat to become the only aircraft flying insecticide spray duty against malaria-carrying mosquitoes throughout South Vietnam. She lost her camouflage colors and the bull's-eye defiantly positioned on her nose and was repainted silver. Because of her unique colors and mission, the Viet Cong, as affected by the mosquitoes as the allies, left her alone.

Patches also is believed to be the first C-123 to travel around the world. In May 1962, Maj. Jack Spey (a subsequent Ranch Hand [Association] president) and Capt. Charles Haggerty flew her to Iran and then to Afghanistan to spray against locusts. They then returned to Langley AFB [Va.] before returning to Vietnam the following September.

Patches left active duty and the Reserve's 439th Tactical Airlift Wing (Westover AFB, Mass.) in 1979 for the Air Force Museum, after 10,000 hours and 23 years of service. Now you know Patches's "hole story."

MSgt. Larry Lentz,
USAFR (Ret.)
Cooper City, Fla.

Those Letters

A fair portion of the August "Letters" column amounts to a compendium of nonsense. *[See "Letters: Nine Myths," p. 8.]* In criticizing Rebecca Grant's superb Kosovo recap, "Nine Myths About Kosovo" (June, p. 50), Lt. Col. Richard Caniglia, US Army, argues, in essence, that the doctrine of jointness must and should hold sway over any material advantage accruing from an efficient, well-executed operation that happens to have been led by a single combat arm. It sounds like Caniglia would sacrifice combat efficiency on the altar of doctrinal purity. Sir, you have (mis)read too much contemporary doctrine and not enough Clausewitz, perhaps.

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To promote aerospace power and a strong national defense.

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To explain these needs to the American people.

Letters

The idea is to win and not to inappropriately wedge pet theories or grand unifying schemes into operations where lives are at stake.

[Retired] Lt. Col. James Kelso III argues that Kosovo was essentially a failed operation in that it met no valid national security objective. He mischaracterizes the issue, which was not so much one of national security but of humanitarianism. [He] seems to think that the US only needs to flex its military muscle in support of security objectives, but this thinking is narrow and constrained. It ignores the power of the US and its enlightened allies to right grievous and egregious wrongs, to protect the defenseless, and to smack down despots in their tracks. Also, the Kosovo case demonstrates an arguable security objective, i.e., regional stability.

[Retired] Col. George Jatras wants us to believe that the whole Kosovo operation was a conspiracy against the innocent and peaceful Serbs. With such ludicrous arguments, [he is] swimming against the tide of world knowledge of concrete proof of Serbian misdeeds in Kosovo. It is said that the Slavic Serbs have the longest memories and are the best haters in the world. This they have proved with their vicious, murderous, and revenge-filled campaigns throughout the Balkan region, and only the deliberately blind could fail to see it and, worse, deny it. Not to put too fine a point on it, but you might as well be a Holocaust–denier.

R.D. Truitt
Summit, N.J.

We still hear arguments [about] the role of airpower in battle. I just completed reading a book written by the much read and respected [World War II correspondent] Ernie Pyle. In the beginning, every time he heard an aircraft he dove for a ditch. Every time he made camp, a fox hole was dug. As the [war] developed and USAAF got more units into action, he no longer even looked up or dove for a ditch or foxhole. When one reads the way George S. Patton fought his battles, he used tactical air to cover his flanks. 'Nuf said about the effect of airpower on the battlefield.

Walter D. Scott
El Toro, Calif.

Recruiting & Retention

I would like to applaud both Maj. Dale Huhmann and [retired] Lt. Col. Peter McCarthy on their August letters *["Letters: Recruiting and Retention," p. 10]*. Both are right on target.

When the all-volunteer force was instituted in the 1970s, the services realized they needed to compete with other employers in the labor market—a competitive environment in which the services had no experience. The leadership still believes that throwing money at people will attract them. Yes, money will attract people, but the currency that service-minded individuals expect is the pride that comes from serving a higher cause and a sense of belonging.

Huhmann's discussion of aviator continuation pay was a haunting reminder to me of my experience as an AFROTC regional director of recruiting in the mid-1980s. As officer production quickly ramped down during that period, the Air Force was faced with releasing some cadets prior to commissioning. Nonscholarship cadets declined release; they wanted to serve. Scholarship cadets overwhelmingly "punched out" when their scholarship debt was forgiven.

McCarthy points to the other half of the problem: Once "careerists" are in, leadership is unable to identify and weed them out. He recounts stories of overlooked talent and states [that] we persist in promoting the very people who, by their demonstrated behavior, are contributing to the problem.

The Air Force might very well have become just another corporate employer in the eyes of its "employees."

Todd C. Ganos,
San Francisco

In response to "Draft Registration Goes into Nosedive" *["World," July, p. 13]*, I [have] a very simple suggestion and possible solution. I would submit that the age for draft registration be lowered to 16—that is, registration, not the draft age. No one would be issued a driver's license without proof of having registered for the draft. There aren't many 16-year-olds who are not anxious to start driving and would consider such a requirement to be only a nuisance.

MSgt. Robert Calvert,
USAF (Ret.)
Dallas

National Missile Defense

There's a lot of rhetoric coming from Russia and the liberal press regarding a potential US Anti-Ballistic Missile defense system. *[See "World: US, Russia Clash on Missile Defense," August, p. 23.]* Complaints are that such a US system would be destabilizing. Evidently someone has not done their research. Russia has a long-standing and robust ABM system that has gone completely unno-

ticed in this debate. Two different missiles, the SH-08 Gazelle and the SH-11 Gorgon, are deployed around Moscow in large numbers and constitute a credible defense. Large phased-array radars are also deployed in support of this system.

Gregory Kula
Enfield, Conn.

About Bronze Stars

All of the words have been said, but I would be embarrassed to receive a stay-at-home Bronze Star. *[See "World: DoD Reaffirms Bronze Star Awards," Sept., p. 23.]* How could I, in good conscience, tell my grandchildren how I earned my medals during the war?

Lt. Col. Brian T. Parker,
USAF (Ret.)
College Station, Tex.

What About Rescue?

As the letter in August *["What About Rescue? p. 11]* indicates, the HH-60 airframe is overstressed, suffering from metal fatigue, loss of structural integrity, and the life cycle cost has gone up as the expected airframe life has gone down. This was an aircraft forced on the Air Force due to political considerations and compromise. The decisions made at that time have led to today's problems. It was the wrong aircraft bought for the wrong reasons. The sad truth is that helicopters are the orphan aircraft of the Air Force. They and their crews have been the saving grace for many. Helicopters provide an exciting career of flying close to the ground with the potential for significant personal satisfaction in a job well done and lives saved, but it has little future for an Air Force career.

Capt. Dennis Brooks,
USAF (Ret.)
Eureka, Calif.

Corrections

Errors in the September issue: "In Yeager's Footsteps," on p. 48 Edwards AFB is north of Los Angeles; on p. 51, the civilian glider instructor, who was a graduate of the Test Pilot School, should be identified as Gary Aldrich.

For the "Photochart of USAF Leadership," the commander of Air Force Reserve Command's 4th Air Force *[p. 94]* should be Brig. Gen. James P. Czekanski.

In the "AFA/AEF Almanac" section on "AFA's Regions, States, and Chapters," *[p. 108]*, the note at the top should read "region president."

Aerospace World

By Peter Grier

339 Raptors Enough, Says Peters

Current plans call for the Air Force to buy 339 production F-22 Raptor fighters to equip 10 Aerospace Expeditionary Forces—and that seems to be fine with Air Force Secretary F. Whitten Peters.

"Three hundred thirty-nine is about the right number for 10 AEFs," the Air Force leader told reporter Frank Wolfe of *Defense Daily*, a defense newsletter in Washington, D.C.

Peters explained that each AEF will have 24 F-22s, for a total of 240 fighters. The extra 99 will be used for training, maintenance pipeline, and replacement.

Original plans called for procurement of 750 of the stealthy, supercruising aircraft. Various defense reviews during the 1990s have more than cut the program in half.

In recent months, contractor Lockheed Martin has been promoting an Air Force purchase of 572 production F-22s, with the additional 233 Raptors used to bulk up each AEF, according to Lockheed officials.

Peters admits that the Air Force is not planning to buy enough F-22s for a one-for-one replacement of frontline F-15s. "The counter-answer is the F-22 is a more competent airplane, and you'll be using AEFs, not wings," he said.

Fantasy Contest Winner To Fly in F-15

Dale E. Zimmerman, a 22-year-old customer service representative for United Airlines in Junction City, Ore., spent two days shadowing an F-15 pilot and flying in an F-15D, thanks to an innovative online contest sponsored by the Department of Defense.

The "Yahoo! Fantasy Careers in Today's Military Contest" was run in conjunction with Yahoo! Inc. and lasted from May 20 through July 4. Eligible US candidates were invited to register on Yahoo, submit a résumé, and write a short essay on their fantasy military career through the Career Track Web site.

Overall the Pentagon received more than 3,300 entries. Each service picked one winner.

USAF photo by 2nd Lt. Christina N. Dunn

Dale Zimmerman (right), fantasy contest winner (see item at left), accompanies Lt. Col. Jerry Kerby as he completes an F-15 pre-flight at Tyndall AFB, Fla. Zimmerman said the flight was "the best experience I've had in my life."

Zimmerman will soon graduate from Embry–Riddle University with a bachelor's degree and hopes to go to Officer Training School. He has already been a private pilot for five years.

"This is going to show me what happens behind the scenes. It will keep inspiring me to pursue my dream of becoming an Air Force pilot," he said.

Other winners will train with an Apache helicopter crew, fly to an Atlantic Fleet carrier, and spend time at the Basic School of the Marine Corps. The Defense Department considered the contest a huge success and has launched a new Web site—todaysmilitary.com—as a follow-up.

The contest showed that the Internet is a viable recruiting medium, according to Cmdr. Yvette Brown–Wahler, Defense Department assistant director for recruiting plans.

"Forty percent of the contestants requested additional information from the respective service regarding career opportunities," said Brown–Wahler.

Air Force Wants More Minority Airmen

The Air Force will take its pitch to traditionally African–American colleges and high schools in an effort to woo more minority recruits, Deputy Secretary of Defense Rudy de Leon said in San Antonio on Aug. 11 during the annual meeting of the Tuskegee Airmen and the Organization of Black Airline Pilots.

More than 50 years after the famed Tuskegee Airmen broke the color barrier in the cockpit, minorities are still under-represented among Air Force pilots. Only 226 of the service's 12,000-plus pilots are African–American. Only 200 are Hispanic.

"Our surveys have found that over a seven-year period from 1990 to 1997, there was an increase in the percentage of minorities moving into careers in aviation," said de Leon. "But overall, the numbers need much improvement."

The military has made more advances toward racial integration than private business at large, de Leon insisted. But it still has far to go, he admitted.

"We've got to find everybody who has the tools and the skills and give them the training and the opportunity to sit there in the cockpit and take that F-16 or that F-22 or that Joint Strike Fighter to the top of the pyramid," he said.

"The journey to opportunity does not have a finish line," de Leon added.

Anthrax Vaccine Works Well, DoD Insists

US troops vaccinated against anthrax would not sicken in large numbers in the wake of a bio-terror anthrax attack, Department of Defense medical experts insist.

The officials were responding to a series of recent media reports which indicated that vaccinated monkeys exposed to anthrax in an Army test became ill for up to two weeks.

The animals in question did not appear to be sick, said Col. Arthur Friedlander, senior military scientist for the US Army Medical Research Institute of Infectious Diseases at Ft. Detrick, Md.

"Their activity appeared to be normal," said Friedlander.

It is true that extrapolation from animal studies to humans is not foolproof when it comes to determining vaccination efficacy, said the Army scientist. But the danger of anthrax rules out studies with human volunteers.

There is no way of running a human anthrax vaccine test "unless a cloud appears over Washington, D.C., and the people in the Pentagon survive and others don't," said Friedlander.

Army records obtained by Mark Zaid, an attorney representing several service members who oppose the vaccination program, hinted that the military's anthrax vaccine might not provide complete immunity. Lab notes, obtained by Zaid, from one 1991 test on 10 rhesus monkeys reportedly stated that although all the vaccinated animals survived they appeared to be sick over the course of two weeks.

Friedlander disputed the claim. He stated that more careful notes were kept in more recent tests and stressed that none of the monkeys were incapacitated in either test.

Pentagon spokesman Ken Bacon stated that the monkeys were also exposed to levels of anthrax several hundred times higher than what troops might expect to face on a battlefield. He said that "everything about this study confirms the effectiveness of the anthrax vaccine."

"The central element here is whether the vaccine protects people from death if they've been exposed to anthrax," he emphasized. "It does protect them."

He added, though, that they "should not get sick, but can I tell you beyond a matter of question that somebody wouldn't get sick? No."

What If Anthrax Shots Are Interrupted?

Will interruptions in the prescribed six-shot anthrax vaccination regimen lessen its effectiveness?

That is a question some critics of the program are asking in the wake of the Pentagon's recent decision to slow its mandatory immunization program because of a vaccine shortage.

More than 455,000 members of the military have received one vaccine shot but have not completed the program, according to Pentagon officials.

"Does the military view that they have a right to ignore medical protocol on their soldiers?" asked Rep. Christopher Shays (R–Conn.) at a July 13 Congressional hearing on the subject.

Delays in receiving additional shots will not affect the health of service personnel, insisted Marine Corps Maj. Gen. Randall West, senior advisor to the deputy secretary of defense for chemical and biological defense.

Instead, delays will simply "defer the additional protection," West told the hearing.

Department of Defense policy statements issued in 1998 hold that someone who had received the first shot would have to restart the series only if more than two years had elapsed since the administration of the initial dose.

At a Pentagon briefing July 11 announcing the slowdown, West said the program is about a year behind schedule.

Meanwhile, the civilian federal agency charged with overseeing the nation's food and drug safety attempted to distance itself from the Pentagon's anthrax vaccination program. Deviation from the six-shot regimen would not be consistent with FDA recommendations for the vaccine, Kathryn Zoon, director of the FDA's Center for Biologics Evaluation and Research, told a Senate hearing July 12.

But given the surrounding circumstances the FDA "would not object to that plan," she added.

Pentagon Establishes New Health Position

One of the significant lessons learned from the US military's experience in the Gulf War is that the Department of Defense has not been well structured to deal with any unusual issues—particularly health issues—that arise after deployment. As a result, on Aug. 8 the Pentagon announced the establishment of a new position: special assistant to the Secretary of Defense for Gulf War illnesses, medical readiness, and military deployments.

The new job is an expansion of the special assistant for Gulf War illnesses post. Its first occupant will be the current holder of the Gulf War position, Bernard Rostker.

"We need to remain vigilant, to make sure the mistakes DoD made in the Gulf War aren't repeated," said Rostker.

Among the specific lessons learned in the Gulf were the need to maintain current medical records on all service members, the need to properly train troops in simple safety precautions when using depleted uranium munitions, and the need to keep personnel informed about the vaccines they receive.

"We want to always be ready to respond to individuals who have concerns about potential force health related issues," said Rostker.

The office is not going to abandon its Gulf War–related work, he noted.

Since 1994 the US has committed more than $160 million to more than 150 research projects in an attempt to understand more about the group of illnesses among veterans that is popularly known as "Gulf War Syndrome."

Ten years after the war it is becoming clear that no one solution to the puzzle of these ailments will be found, according to the Pentagon. Defense officials had initially hoped to identify patterns of Gulf–related illnesses. They say they have not found any.

Following one sick veteran who had served in a company of 200, for instance, investigators found none of the other 199 reported the same illness.

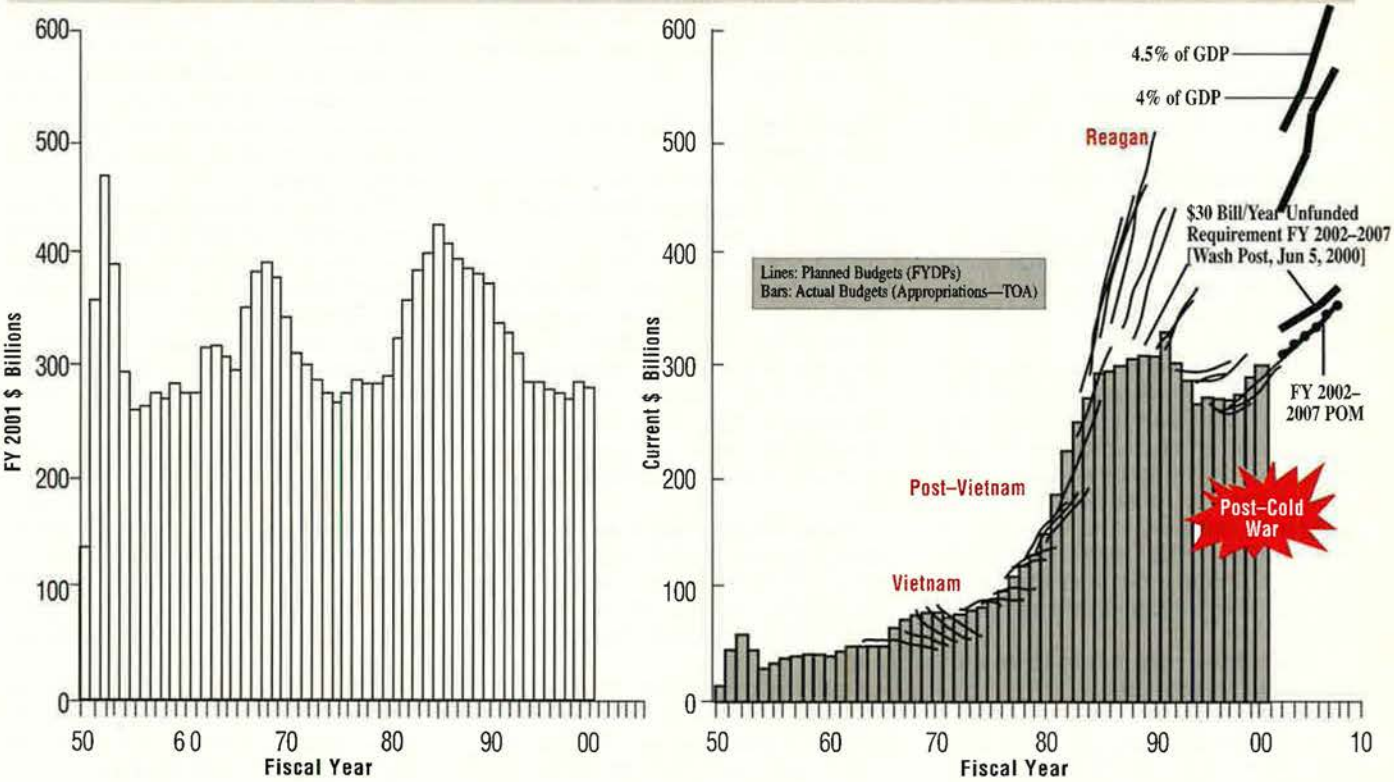
"It's very difficult to pin it to an environmental exposure when you have so many people who shared environments who are not coming up with the same concerns," said Rostker.

National Missile Defense: Delayed and Deferred

The Pentagon's target date for deploying an initial National Missile Defense system—2005—will slip a year or two at least. There are two primary reasons. First, continuing

Continued on p. 12.

Budget Fact and Fantasy



Are US military forces at the ragged end of a huge budget cut? Or is the Pentagon actually spending four times more than it did at the height of the Vietnam War?

The chart at left, prepared by *Air Force* Magazine, shows actual budgets in constant Fiscal 2001 dollars so that effects of inflation are squeezed out. It leaves no doubt that DoD has just been through its longest year-to-year decline in decades.

Defense spending has fluctuated greatly over 50 years, ranging from a low of $266 billion in 1955 and $273 billion in 1975 to a high of $481 billion in 1952 and $436.4 billion in 1985. There have been booms and busts, and spending today is again at a low ebb.

There is, however, another version of reality. It is produced by Franklin "Chuck" Spinney, a DoD tactical aircraft analyst and long-time critic of defense spending. He is circulating the chart shown at right. From all appearances, the US has quadrupled its Vietnam outlay in 1968 and is spending six times what it spent at the height of the Korean War in 1953.

How does Spinney reach this conclusion: by ignoring the effects of inflation. The result is an illusion. Inflation erodes the purchasing power of the dollar over time. Unless one adjusts for this anomaly, the picture presented by the data will be distorted. Past spending seems less impressive than it was. And the reverse is true: Current or future spending seems much greater than it really is.

The chart is contained in a Spinney article decrying "a rising drumbeat of calls for higher defense budgets over the long term." Such increases, he avers, "would be tantamount to a declaration of total war on Social Security and Medicare in the following decade."

How Congress Cuts and Adds

The dispute between George W. Bush and Al Gore about defense cuts in the 1990s underscores a basic truth about defense politics in Washington: There often is a big difference between a President's Pentagon budget proposal and the budget Congress finally hammers out.

Presidents do not have a free hand to set spending levels. As the chart shows, Congress is a full partner and won't hesitate to add to or subtract from a White House spending plan.

The record of the last 20 years is one of conflict between the two branches. Congress added $45.9 billion to President Carter's last two plans and $60.7 billion to President Clinton's first six budgets.

Republican Presidents, on the other hand, have not fared well. President Reagan sent eight budgets up to a Democratic-controlled Congress. The lawmakers cut all but one, slicing away $216 billion. President George Bush suffered a total of $22.9 billion in cuts to actual proposals. (All figures 2001 dollars.)

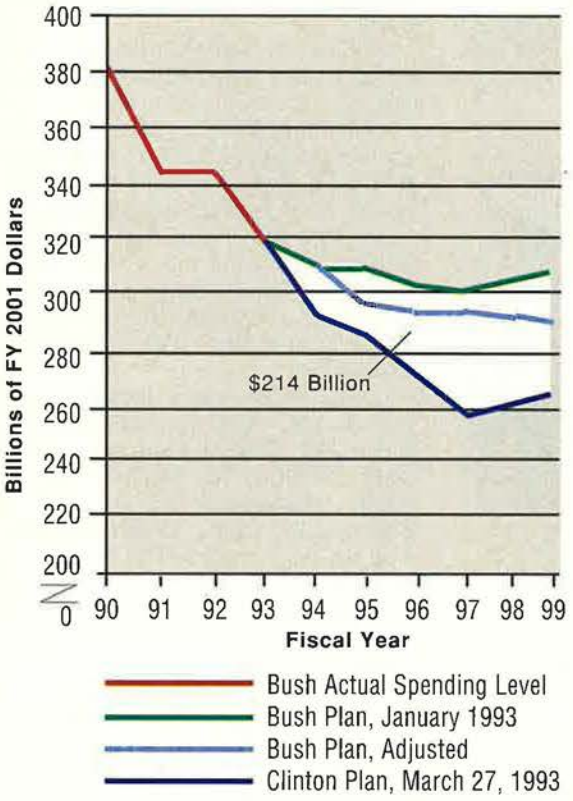
Figures in FY 2001 Billion Dollars

Year	President	Proposed	Enacted	+/-	Total Change	
1980	Carter	$288.2	$296.6	$8.4		
1981	Carter	$294.3	$331.8	$37.5	Carter	+$45.9
1982	Reagan	$336.1	$367.1	$31.0		
1983	Reagan	$423.2	$393.6	-$29.6		
1984	Reagan	$434.7	$410.5	-$24.2		
1985	Reagan	$464.1	$436.4	-$27.7		
1986	Reagan	$466.7	$418.7	-$48.1		
1987	Reagan	$451.0	$404.5	-$46.5		
1988	Reagan	$423.5	$396.2	-$27.3		
1989	Reagan	$434.5	$390.9	-$43.6	Reagan	-$216.0
1990	Bush	$385.9	$382.5	-$3.4		
1991	Bush	$369.1	$345.5	-$23.6		
1992	Bush	$340.9	$345.3	$4.4		
1993	Bush	$318.6	$318.4	-$0.2	Bush	-$22.9
1994	Clinton	$292.0	$292.8	$0.8		
1995	Clinton	$288.0	$291.9	$3.9		
1996	Clinton	$275.1	$284.5	$9.4		
1997	Clinton	$266.5	$282.4	$16.0		
1998	Clinton	$268.8	$277.2	$8.4		
1999	Clinton	$270.4	$292.6	$22.2	Clinton	+$60.7

The $214 Billion Difference

Bush, Clinton Projections in Early 1993

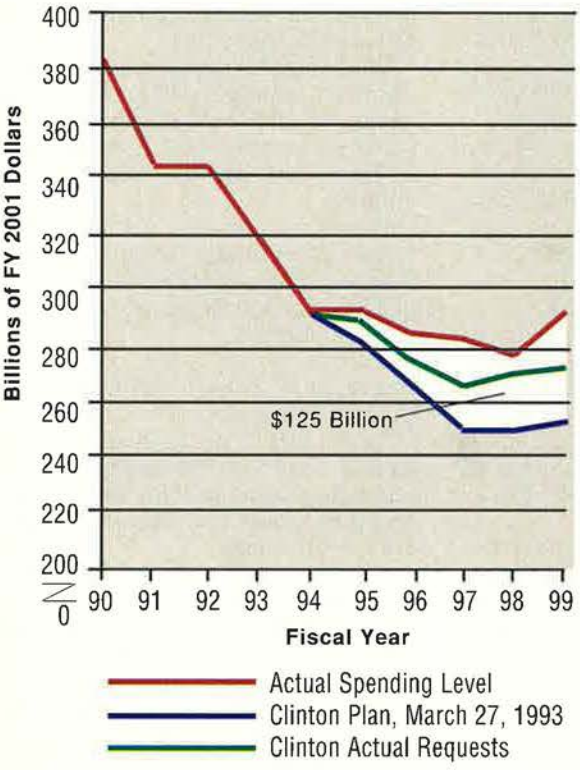
DoD Budget Authority, FY 2001 Dollars



The $125 Billion Backtrack

Additions to Clinton's 1993 Plan

DoD Budget Authority, FY 2001 Dollars



Who should get most of the blame (or credit) for the diminishing defense budgets of the 1990s, President Bush or President Clinton?

That question became a major issue in the Presidential campaign, and it is addressed in these two charts. (To allow true comparisons, all figures are in Fiscal 2001 dollars.)

Bush entered office in January 1989, inheriting a $391 billion Reagan budget. As the top chart shows, the 1990 budget, Bush's first, was $383 billion. His last—in place when he left in January 1993—was $318 billion.

This 19 percent decline (red line) stemmed, in part, from the collapse of Soviet power, but it is also true that Bush was forced to cut defense more deeply than he wanted. Congress was demanding further reductions as the price of its cooperation in federal deficit reduction and to fund domestic programs.

When he departed, Bush left a long-range plan (green line). It called for budgets to bottom out at some $300 billion and then remain essentially flat thereafter. "This was approved by Secretary of Defense [Dick] Cheney and is the budget that would have been submitted to the Congress had the outcome of the election been different," DoD said at the time.

The Bush plan did not survive the first months of the Clinton Administration. In early 1993, Clinton proposed harsh new cuts on top of those already administered by Bush. Clinton's March 1993 plan (dark blue line) proposed to bring spending down to about $260 billion annually and keep it there.

The difference between the Bush and Clinton plans over six years was $214 billion. (A Clinton Administration revision of Bush's projection, taking account of lower inflation factors, narrowed the gap to $149 billion, shown by the light blue line.)

In the end, Clinton didn't get to cut defense as deeply as he hoped, as is evident in the lower chart. The dark blue line depicts his original 1993 plan, adjusted for inflation. The red line shows actual spending; it exceeds the Clinton plan by $125 billion.

What caused the backtracking? First, Clinton came under severe pressure from Congress and the services, and, as a result, he himself produced a string of higher funding requests (green line). This accounted for about half of the $125 billion increase. Congress added the other half.

—Robert S. Dudney

F-22 Team photo by Judson Brohmer

Lockheed Martin test pilot Jon Beesley flew F-22 Raptor #4002 Aug. 22 to demonstrate flight maneuvers with the fighter's weapons bay doors open at high angle of attack. The milestone was the third of nine to be completed this year.

problems with a key system component have put it behind, and second, the President pulled the plug.

President Clinton announced Sept. 1 that he would leave the decision to deploy the NMD system to his successor.

Less than a month earlier, Pentagon officials briefed reporters on the growing delay with scheduling the next test and the problems with development of a three-stage rocket that carries the system's "kill vehicle." The new booster has proved more difficult to develop than anticipated.

"The gap is getting longer," said Defense Department spokesman Ken Bacon Aug. 8, referring to schedule delays in development and subsequent testing of the new booster. "It has slipped. The question is: Has it slipped by so much that it changes the schedule of the program? That question has not been answered."

Despite those delays, Defense Secretary William S. Cohen recommended proceeding with the NMD system when he met with the President Aug. 29.

When Clinton announced his decision three days later, he stated that if the US committed "today to construct the system it most likely would be operational about 2006 or 2007. If the next President decides to move forward next year, the system could still be ready in the same time frame."

GOP Presidential candidate George W. Bush had already begun campaigning on a promise to quickly move forward with a more ambitious defense system.

However, central to any decision is the new booster rocket, which has yet to be used in a missile defense flight test. Its initial testing was to have started this spring with a static firing at Vandenberg AFB, Calif. But integration problems mean that test has already been put off until sometime next spring.

The first stage of the new rocket is built by Alliant Techsystems. Stages 2 and 3 are manufactured by United Technologies. The rocket motors involved are already in commercial use, but the missile defense mission means they must be married with new technology. That has proved difficult.

The new rocket will be steered by electronic impulses from its kill-vehicle warhead, for instance. The boosters have their own guidance mechanisms in commercial use.

Total Air Force Fights Fires

Active duty, Air National Guard, and Air Force Reserve Command aircrews all pitched in to help battle the wildfires that charred 6.2 million acres in the West this summer. More than 4,600 airmen, Marines, and soldiers were committed to fighting the blazes, DoD announced Aug. 24.

Aircrews had flown more than 615 hours with 567 sorties and 561 airdrops totaling more than 13 million pounds of fire retardent chemicals, stated Pentagon officials.

The Air National Guard and Air Force Reserve Command had provided eight C-130 aircrews and aircraft, equipped with the modular airborne firefighting system. AFRC C-141 crews had transported more than 1,300 military and civilian firefighters and equipment to afflicted areas.

Air Mobility Command aircraft flew about 12 fire-related airlift missions and were scheduled for more.

Additional ANG personnel had also been providing law enforcement and aviation support, as well as shelter, meals, and ground transportation.

Guard flying units that had participated include the 145th Airlift Wing, Charlotte/Douglas IAP, N.C., 146th AW, Channel Islands ANGB, Calif.; and 153rd AW, Cheyenne MAP, Wyo.

AFRC flying units included the 302nd AW, Peterson AFB, Colo.; 445th AW, Wright–Patterson AFB, Ohio; 446th AW, McChord AFB, Wash.; 452nd Air Mobility Wing, March ARB, Calif.; 459th AW, Andrews AFB, Md.; and 514th AMW, McGuire AFB, N.J.

The active duty 62nd AW, McChord AFB, provided two C-141 aircraft and crews in August.

Uniform Changes Announced

On Aug. 10 Air Force Chief of Staff Gen. Michael E. Ryan approved 19 uniform changes recommended by the 95th Air Force Uniform Board.

Among the changes approved were the development of a new, athletic cut uniform for bodybuilders and the development of an optional polyester uniform for service personnel who are sensitive to wool.

When current supplies run out, the women's handbag will no longer be issued in basic training. Camel pack water containers may now be worn as part of the standard hot weather uniform.

Proposed changes sent back for further staff study include allowing inconspicuous brand names to be displayed on the temple of eyeglasses and sunglasses.

ABL Receives Key Titanium Components

Team ABL has taken delivery of panels that will eventually be fastened together to form the largest one-piece titanium aircraft component in the world.

The two 25-foot-by-5.5-foot complex contour panels were manufactured by AHF Ducommun, Gardena, Calif. They will make up the belly skin on the underside of the Airborne Laser aircraft, at the mid-section where the ABL chemicals are situated.

ABL program officials picked titanium for the critical section because

New Air Force Prime-Time Ads Appeal to Sense of Service

The Air Force, for the first time, is paying for advertising on prime-time TV, presenting a series of commercial spots designed to appeal to a potential recruit's patriotism and sense of service rather than financial self-interest.

USAF also unveiled a new recruiting slogan: "No One Comes Close." The recruiting slogan for the past 30 years—"Aim High"—simply "wasn't doing it for anybody anymore," said Secretary of the Air Force F. Whitten Peters.

The service's previous TV ads were "too ... 'me' oriented," said Gen. Michael E. Ryan, the Air Force Chief of Staff, at an Aug. 23 press briefing, where he unveiled the six spots that began airing in September.

Ryan said the Air Force is trying to attract people who want to belong to something "larger than themselves" and to perform service for the nation, and has left the financial incentives, such as money for college and enlistment bonuses, to be explained by recruiters.

The six ads cost $4.4 million to produce, and USAF has purchased $28 million of air time at movie theaters and on popular TV shows and sporting events, about 70 percent of which are geared to viewers in the 18–24 years of age category. The remainder of the time slots selected are aimed at older viewers the Air Force deems to be "influencers" such as parents, clergy, and teachers—the people likely to be asked by potential recruits for advice about careers.

The Air Force has never needed to advertise in prime-time before, relying for nearly 50 years on donated public service announcements that often ran "right next to the national anthem" at the close of the broadcast day, Ryan said.

However, steady shrinkage in the cohort of American teenagers and the emergence of a hot economy has made recruiting tougher for USAF. The service fell short of its recruiting goals for the first time in 1999. The 2000 recruiting goal will be met. However, USAF has dipped into its pool of "wait" recruits who sign up as much as a year in advance of actually putting on a uniform, Peters said.

The one 60-second and five 30-second spots emphasize the things that marketing focus groups said held the most appeal to the target audience, according to Peters. They are: a sense of teamwork, a "fast-paced, mission-oriented lifestyle," and room to have families and "a life."

He added that he didn't think it was useful to engage in a "bidding war" with the other services on bonuses and financial inducements.

One commercial shows aerial tankers refueling the stealthy F-117 and B-2, with the tag line: "People are the fuel we run on." Another spot shows an exciting practice dogfight with "How's my driving?" and a toll-free recruiting number on one jet's tail. The F-22 is showcased in a third commercial, which highlights its cutting-edge technology. Two ads showing a broad range of missions and people gearing up for a day's work are designed to spotlight the sense of teamwork and contribution to an overall goal. One ad meant to tug at the heartstrings shows a woman and happy children getting ready for bed as a lullaby plays; the scene freezes and, as the camera pulls back, is revealed as a snapshot clipped by a pilot to the inside canopy of his F-117 flying through the night.

All the spots, save the last, have a voice-over with the line "America's Air Force. Join us," or "America's Air Force. No one else comes close."

Air Force public affairs chief Brig. Gen. Ronald Rand said the slogan is meant to convey that no other career opportunity offers as much satisfaction or excitement but that it is also meant to convey that the Air Force keeps America's enemies at bay and that no other country can match US aerospace capabilities.

The commercials will run during the Olympics, NBA basketball and NFL football games, as well as a variety of shows on network and cable and in syndication. Some will run on MTV.

The ads are not strictly targeted at recruiting, Peters said. They are also meant to tell the American people about the Air Force. This is an important aspect, Peters said, since most of the American people "have not served and have no contact" with the US military.

The spots are also intended to help with retention, Peters noted.

"Our people have never seen themselves in prime-time before," he said, adding that the commercials should help crystallize for USAF personnel the reasons they joined and why they should stay.

The commercials refer to the "three-quarters of a million Americans" of the Air Force. The figure includes 360,000 active troops, 200,000 Guard and Reservists, and 170,000 civilians who work for the service.

Job satisfaction and the sense of making a contribution were ranked as the highest motivators among personnel who re-enlisted, Peters said. Second-term and career re-enlistment rates, after a five-year slide, have leveled off. First-term re-enlistment rates have actually ticked up from 49 percent to 52 percent. However, the goal is 55 percent.

Officer retention rates, after a long decline, have also leveled off in the navigator and mission support fields. However, a decline in retention continues in the pilot and non-rated mission support categories.

"It's getting hard to hold onto people who are well-versed in computers" in an information-driven economy, Peters said.

Ryan showed reporters a list of 20 initiatives, such as bonuses, college loans, retirement reform, a base pay raise, new types of career assistance, and greater use of prior-service personnel as other aspects of the Air Force's "attack" on the recruiting and retention issue.

One of the difficulties in competition with the private sector, Ryan said, is that the airlines are retiring their Vietnam–era trained pilots and maintainers in large numbers and need skilled replacements.

"It's not just pilots," he said. "Anyone with the maintenance skills, ... they'll snap 'em up."

Rand said that the new slogan tested better than any other developed by the Air Force's ad agency, Siegel & Gale, Inc. One that didn't make the final cut, but which got rave reviews from within the service, was "America's Air Force: Don't make us come down there."

—John A. Tirpak

of thermal, strength, and chemical compatibility issues. Each panel has 18 14.75-inch holes, which will be used for the laser exhaust system.

The ABL's chemical-oxygen-iodine laser produces steam as a by-product. The steam will be ejected through holes in the laser exhaust fairing, under the belly skin.

The steam will quickly evaporate and will cause no harm to the environment, according to officials.

Installation of the titanium belly is scheduled for the fourth quarter of 2000.

Bush Pledges Defense Spending Hike

Texas Gov. George W. Bush, the Republican candidate for President, told a Veterans of Foreign Wars convention on Aug. 21 that he would allocate $1.3 billion for more pay raises for military personnel and improvements in schools for military dependents.

The $1 billion pay pledge would amount to about a $750 annual increase for each active duty service member, over and above the pay raise signed into law by President Clinton this year. The $310 million extra that Bush said he would spend on education for military dependents would pay for eliminating the backlog of repair and construction for public

schools located on or near military bases.

Bush repeated his pledge to review overseas troop deployments and asserted the morale in the military ranks is "dangerously low."

Addressing the same audience the next day, Vice President Al Gore retorted that military spending had fallen steadily since 1986, when Ronald Reagan was President, until the Clinton Administration proposed an increase in 1998. He neglected to say, however, that the Clinton Administration, during its first five years in office, took spending to levels far below those contemplated by the Bush Administration.

Gore—a Vietnam veteran—said that this year the Clinton Administration had won the largest pay increase for the military in 20 years and that overall military budgets would continue to go up under a Gore Administration. "We need to do more; we've made some progress," he told the VFW.

Recruiting Improves

The Pentagon on Aug. 8 announced that overall active duty recruiting trends are beginning to take a favorable turn.

The Army exceeded its July recruitment target by 2,382, said officials. The Air Force beat its goal by 767. Counting recruits in the Delayed Entry Program, the Air Force already had enough sign-ups to meet its goal for the fiscal year.

The Navy and Marine Corps are also on target for their year-to-date goals.

Officials credited the improvement to such moves as increased incentives—the Air Force enlistment bonus is now $12,000—and full recruiter staffing.

"Today, there is a war for talent. The department continues to explore smart and innovative ways to capture the interest of youth while boosting recruiter productivity," said Assistant Secretary of Defense for Force Management Policy Alphonso Maldon Jr.

Auto Chaff Dispenser For A-10

Twenty-five people and two A-10 aircraft from the 917th Wing (AFRC), Barksdale AFB, La., spent a month of late summer in Europe to gather data for a new automated A-10 chaff and flare system.

They flew 28 missions over test ranges in France and Germany to help determine how much aluminized, fiberglass strip chaff, released at what intervals, is needed to successfully hide an A-10 from adversary radar.

"This data will assist computer programmers in developing software that is designed to prolong the life expectancy of the pilot during wartime," said Col. Gerald Werth, the 917th's Operations Group commander.

The 917th's 47th Fighter Squadron took part in the experiment because the unit has permanently loaned an A-10 to the Air National Guard/Air Force Reserve Command Test Center in Tucson, Ariz., for work on this important defensive system.

The July tests were the final phase of a three-part test series. All Air Force A-10s, active duty and reserve, are expected to be outfitted with the automatic chaff and flare system by 2005.

"There were instances in Bosnia and Kosovo where A-10s were shot at with infrared missiles and hit. This is bad, and we don't want it to happen again," said Lt. Col. Herman Brunke, A-10 test manager in Tucson.

Tyndall Training Goes to F-22

On Aug. 18 the Air Force approved shifting some of its F-15 Eagle training effort at Tyndall AFB, Fla., to a new mission: the F-22.

At the end of the five-year conversion effort, which is slated to begin in 2003, Tyndall will have two F-22 squadrons and one F-15 squadron supporting training operations. The move will result in a gradual replacement of 60 F-15s and an increase of 400 personnel at the base.

Flight patterns will stay the same. Training operations over the Gulf of Mexico will increase by 7 percent.

USAF Road Tests Its New Symbol

The Air Force's new angular winged symbol will soon be prominently displayed at a number of high-visibility test sites.

First up was McChord AFB, Wash. The base had the new logo painted on its water tower in late August.

Other base water towers and entrance gates will sport the design as the service moves into the second phase of testing personnel reaction. Phase 1 included printing the symbol on low-cost perishable items such as T-shirts and caps.

"This test will allow us to gauge recognition of the symbol in public and high-visibility situations," said Brig. Gen. Ronald Rand, Air Force director of public affairs. "It will also give us the opportunity to learn the design and technical challenges of applying the symbol to a variety of structures."

Others in line for the water tower test are Lackland AFB, Tex., Langley AFB, Va., McConnell AFB, Kans., and Patrick AFB, Fla. Bases that are slated to test the symbol on their entrance gates are Andrews AFB, Md., Bolling AFB, D.C., Lackland, Maxwell AFB, Ala., Ramstein AB, Germany, Yokota AB, Japan, and the US Air Force Academy, Colo. Also included is Buckley ANGB, Colo., which becomes Buckley AFB this month when it is redesignated an active installation.

DoD To Survey Reservists

Between August and November 2000 the Department of Defense will conduct its first comprehensive survey in eight years of the satisfaction levels of military reserve force personnel and their spouses.

A questionnaire will be mailed to 75,000 National Guard and Reserve members. A different questionnaire will be sent to 43,000 spouses.

The survey will gather data on a wide array of programs, policies, and issues. Officials hope it will provide a comprehensive look at morale, civilian employment, training levels, benefits, and continuation plans in the part-time warrior force.

Appropriation Clears Way for 3.7 Percent Pay Raise

President Clinton in late August signed the Fiscal 2001 Defense Appropriations Act, one result of which will be a new 3.7 percent pay raise for service members, starting Jan. 1.

The legislation also funds an initiative that will allow the Pentagon to begin eliminating out-of-pocket housing costs. Currently, the basic allowance for housing covers only about 81 percent of service members' housing costs if they live off base. DoD seeks to cut this 19 percent out-of-pocket expense to 15 percent in Fiscal 2001 and to zero by 2005.

The defense health program is funded at $12.1 billion, including money Congress added to support changes to the military pharmacy benefit. Members of Congress said the legislation also would provide a blueprint for implementing permanent health care for retirees.

USAF Changes Base of Preference Plan

The Air Force has adopted new criteria that increase the eligibility of first-term airman to participate in the Base of Preference program. The service is also enhancing the program for career airmen.

The changes to BOP, as it is known, are designed to improve retention of first-term and career airmen—which translates into stability for the force.

"This initiative speaks volumes for Air Force leadership's commitment to improve retention for our enlisted force, said Gen. Michael E. Ryan, Air Force Chief of Staff. "We're extremely hopeful we can get more of our people assignments to locations of their choosing and these folks will respond by staying with us."

The Career BOP program will attempt to let career airmen apply for reassignment at the 3.5-year point, as opposed to the current 5.5 years.

The current first-term airman BOP program is very small and applies only to those desiring to remain in place or retrain.

"We are expanding the program dramatically to allow almost every first-termer re-enlisting the opportunity to participate," said Lt. Col. Michael Gamble, chief of Assignment Programs and Procedures Division. "If you're at Seymour Johnson AFB [N.C.], wanting to get to Holloman AFB [N.M.], and you're willing to re-enlist, then you make an application. If manning supports, we'll work it."

However, Gamble cautions, there are no guarantees that wishes will be granted.

New Won't Become 33rd FW Commander

Col. Larry D. New, tapped to be the next boss of the 33rd Fighter Wing at Eglin AFB, Fla., will not take command of the F-15 fighter unit after all, Air Combat Command announced.

New, who was slated to take charge in April 2001, was done in by a review of an accident that took place in Nevada under his command.

In 1998, New was commander of the 57th Operations Group at Nellis AFB, Nev., when two helicopters in his unit crashed, killing all 12 people aboard. The Accident Investigation Board concluded New failed to mitigate known safety hazards in the unit prior to the accident. A recent independent review, commissioned by the Air Combat Command commander, Gen. John P. Jumper, examined what actions New took prior to the mishap. Jumper then made the decision to withdraw the wing commandership.

"My first obligation is to the 33rd Fighter Wing, its people, and its mission," said Jumper. "While New's career-long record of performance demonstrates he is a highly capable officer, his association with this accident, and the continuing news media scrutiny it draws, will detract from his ability to effectively lead the wing. I owe it to the men and women of the 33rd to give them a commander who can focus exclusively on them and their mission."

Meanwhile, a US senator wants the Air Force to take a look into why no disciplinary action was taken in the case, even after investigators found safety, training, and morale problems contributed to the helicopter accident.

"I respect the judgment of our military professionals, but this case needs another look," said Sen. Christopher Bond (R–Mo.). "I understand that our military professionals have been ordered to do more with less, but was this squadron pushed too far?"

World War II AAF Crew Comes Home

Six of 10 crew members of an Army Air Forces B-24 Liberator were buried in August at Arlington National Cemetery, nearly 56 years after they were lost on a World War II mission.

The aircraft on Aug. 31, 1944, took off from an airfield in Liuchow, China, on a mission to bomb Japanese ships. According to a military report, "the aircraft never returned to a friendly base."

Initially, the Army classified the crew as missing in action. In 1948, it changed the crew status to killed in action, remains not recoverable. No evidence of the aircraft was found during or for more than 50 years after the war.

In the fall of 1996, two Chinese farmers discovered the site where the Liberator had crashed in a remote mountain ravine. Their discovery was followed by more than three years of search and recovery efforts, which brought to light dog tags, personal effects, and pieces of the aircraft. The Air Force flew human remains from China to the Army Central Identification Laboratory in Hawaii in January 1997.

The pilots of the aircraft were 2nd Lts. George H. Pierpont and Franklin A. Tomenendale. Also on the crew were 2nd Lts. Robert Deming and George A. Ward; SSgts. Anthony W. DeLucia and William A. Drager; Sgts. Robert L. Kearsey and Ellsworth V. Kelley; and Pvts. Fred P. Buckley and Vincent J. Netherwood. Pierpont was promoted to first lieutenant Sept. 1, 1944, the day after he was reported missing.

Six of the airmen immediately were interred at Arlington. A seventh vault was consecrated to represent and memorialize the entire crew.

CRS Report Notes Electronic Warfare Issues

The Congressional Research Service warns that the EA-6B Prowler electronic jamming aircraft is running into problems and that Congress will soon be confronted with major decisions.

The study, titled "Electronic Warfare: EA-6B Aircraft Modernization and Related Issues for Congress," said lawmakers will have to decide how to maintain and modernize DoD's current active and passive electronic warfare force structure.

The Prowler became the nation's lone tactical jammer after the Pentagon decided to retire USAF's EF-111s in the mid-1990s.

The CRS report listed a number of options, including a speedup of the planned EA-6B upgrade program, development of new, smart radar decoys, resurrecting some number of retired EF-111 radar jamming aircraft, and retroactively putting EW capabilities on aircraft other than the EA-6B.

Also on tap: selection of a Prowler replacement. This could turn out to be a variant of the F-22, the Navy F/A-18E/F, a new unmanned aerial vehicle, or a combination.

Millennium Challenge 2000 Starts

US Joint Forces Command conducted the armed forces' first joint field experiment Aug. 14–Sept. 13. Millennium Challenge 2000 featured elements of the Army, Air Force, Navy, and Marine Corps, as well as other government agencies.

The Pentagon described MC 2000 as a unique, collaborative effort between US Joint Forces Command and the services, aimed at helping to provide "an overarching joint context" for major service warfighting experiments.

"The primary objective for the joint warfighters is to develop different ways to improve access to critical information future commanders will need to make fast, accurate decisions while in battle," said a Pentagon news release on the subject. "An important part of that goal is the ability to share the right information at the right levels at the right time. This objective will build upon the experimentation goals established by each service."

Three different joint experiments occurred during MC 2000. Each experiment explored operational warfighting deficiencies.

The experiments focused on precision engagement, joint deployment process improvement, and information superiority/command and control.

F-22 Gets New Chief

The Air Force on Aug. 24 announced appointment of Brig. Gen. William J. Jabour as the new F-22 program office director.

Jabour, now the vice commander of Aeronautical Systems Center at Wright–Patterson AFB, Ohio, replaces Maj. Gen. Michael C. Mushala, who moves up to become program executive officer for fighter and bomber programs.

The Defense Department announced the moves in a news release.

Jabour will be in charge of the F-22 System Program Office under the Air Force Program Executive Office, Assistant Secretary of the Air Force for Acquisition. The new air superiority fighter is USAF's highest acquisition priority.

The three joint experiments overlapped and took place simultaneously with individual service experiments at 11 different sites. Those sites included Ft. Bragg, N.C.; Ft. Polk, La.; Camp Lejeune, N.C.; Gulfport, Miss.; Hurlburt Field, Fla.; Langley AFB, Va.; Nellis AFB, Nev.; the Joint Training Analysis and Simulation Center, Suffolk, Va.; Norfolk, Va.; the Atlantic Ocean; and the Gulf of Mexico.

US Arms Sales Near $12 Billion

US foreign military sales hit $11.8 billion in 1999, according to a new Congressional Research Service report. The US accounted for more than one-third of a world total, solidifying its longstanding position as No. 1 supplier of arms.

CRS said international arms sales increased to more than $30 billion, the most since 1996. That figure—in inflation-adjusted terms—is far below the peaks of the Cold War years, when both superpowers and large European nations sold enormous quantities of weapons.

In recent years, US sales have increased. In 1997, sales hit only $7.7 billion, said CRS. The US position has been consolidated as the leading weapons supplier, according to the author, Richard F. Grimmett.

In two-thirds of all arms sales, the customer was a developing nation. The report predicted intensifying competition among arms suppliers in the years ahead.

News Notes

■ In one of the biggest protests against the US presence in South Korea in years, 14,000 students and farmers attacked club-wielding police in downtown Seoul in late July. The protestors accused the Seoul government of implementing policies at the behest of Washington.

■ Northrop Grumman has completed work on its 20th Block 30 upgraded B-2 bomber. The Block 30 aircraft feature an increased number of radar modes and enhanced advanced weapon capability, among other features.

■ On July 17 Secretary of Defense William Cohen and Australian Minister for Defence John Moore signed a joint US–Australia defense cooperation pact. The agreement lays out principles for export procedures, industrial partnerships, and defense trade. It will give Australia greater access to US military technology, "something which we have been seeking for some considerable time," said Moore.

■ On Aug. 14 Cohen announced that J. Jarrett Clinton has been designated acting assistant secretary of defense for health affairs. Clinton, a rear admiral in the commissioned corps of the US Public Health Service, will serve concurrently as deputy assistant secretary of defense for health operations policy.

■ Edwards AFB, Calif., opened a new Flight Test Center Museum on July 21. The new facility showcases exhibits on everything from the formation of Edwards's famous ancient lakebeds to the history of high-speed flight and displays of famous test aircraft.

■ Col. Harold J. Beatty assumed command of the Air Force's newest wing, the 70th Intelligence Wing, during Aug. 16 ceremonies at Ft. Meade, Md. The unit's mission will be to provide intelligence on treaty compliance, information warfare, and other subjects to the President, vice president, and top US military and civilian officials.

■ Lockheed Martin has selected GE CF6-80C2LIF turbofan engines as the power plant for the C-5 airlifter Reliability Enhancement and Re-engining Program. The choice could mean sales of upward of 500 propulsion systems for GE.

End of an Era at McClellan

Air Force workers at McClellan AFB, Calif., have refurbished their last aircraft.

The freshly repaired KC-135 aerial refueling aircraft that roared off into the sky on Aug. 18 represented the final job at Sacramento Air Logistics Center at McClellan. ALC workers had put more than 30,000 hours of labor into the task.

Both Sacramento ALC and San Antonio ALC at Kelly AFB, Tex., were marked for disestablishment by the 1995 Base Realignment and Closure commission.

Air Force plans call for July 13, 2001, closure of McClellan. The ALC has been in continuous operation there for nearly 60 years.

"We've worked on about 44 different kinds of airplanes," said Gerry Hampton, director of the Aircraft Management Division at Sacramento ALC.

Index to Advertisers

■ A court-martial has sentenced SrA. Douglas L. Saferite Jr., 52nd Communications Squadron, Spangdahlem AB, Germany, to a dishonorable discharge and six years' confinement for selling government property over the Internet. Between June and October 1999, Saferite stole laptop computers and other electronic equipment and sold some of it using a Web–based auction site.

■ The "Alamo Wing" is celebrating its 50th anniversary this month. The San Antonio–based unit—its latest designation is the 433rd Airlift Wing—was founded on Oct. 27, 1951, when 200 Reservists gathered in Hangar 16 at Brooks AFB, Tex. Among other achievements, the Alamo Wing was the first in Air Force Reserve Command to convert to the C-5 Galaxy.

■ On off-duty Air Force medic and his nurse wife saved the life of a three-day old infant at a San Antonio restaurant on Aug. 4. Capt. Van Billingsley, who is a staff nurse at Wilford Hall Medical Center, Lackland AFB, Tex., and Shannon Billingsley, a clinical nurse specialist at Breckinridge Hospital in Austin, administered CPR to the baby girl, who had stopped breathing and turned blue.

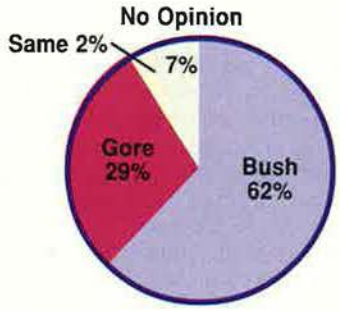
■ Retired Army Gen. Wesley K. Clark and retired Adm. William J. Crowe Jr. were among the 15 recipients of the Presidential Medal of Freedom at an Aug. 9 White House ceremony. President Clinton hailed Clark for his role in NATO's military campaign against Serb strongman Slobodan Milosevic and praised Crowe's 50 years of national service as a military officer and, after retirement,

On Defense, Public Overwhelmingly Favors Bush

When it comes to matters of military power, the public chooses George W. Bush. Three public opinion polls taken in late summer established the Texas governor and Republican as a clear favorite over Vice President Al Gore, the Democratic Presidential candidate.

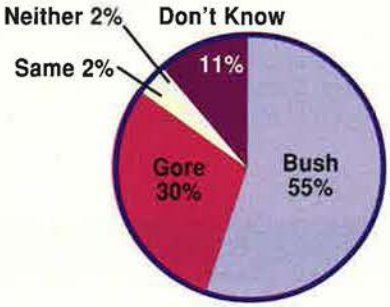
Voters chose Bush over Gore by roughly a two-to-one margin.

Respondents in the three polls were were asked to answer a variation of this question: "Regardless of your choice for President, who do you think would do a better job of providing a strong military defense: George W. Bush or Al Gore?"



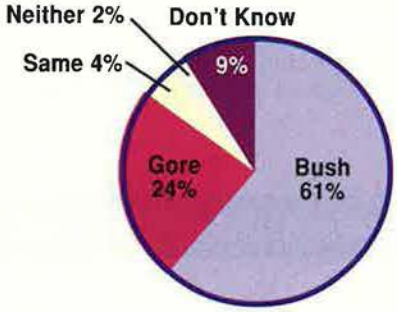
Gallup/CNN/*USA Today* Poll
Aug. 7, 2000

Survey Organization: Gallup Organization
Sponsor: Cable News Network, *USA Today*
Sample: National adult—1,051



PSRA/*Newsweek* Poll
Aug. 5, 2000

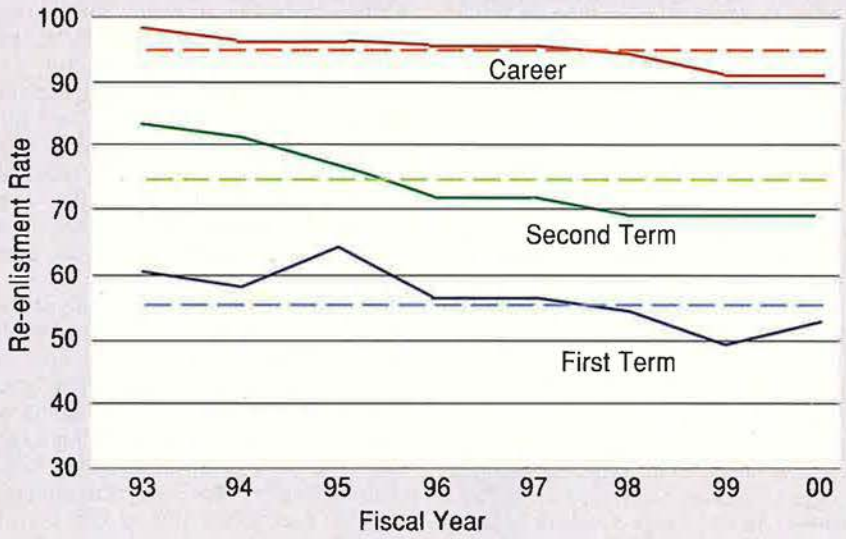
Survey Organization: Princeton Survey Research Associates
Sponsor: *Newsweek*
Sample: National registered voters—817



***Los Angeles Times* Poll**
Jul. 31, 2000

Survey Organization: *Los Angeles Times*
Sample: National registered voters—1,058

Three In a Row



Even as recruiting improves, USAF remains apprehensive about a continuing exodus of skilled personnel in the enlisted force.

Latest figures indicate Fiscal 2000 will be the third straight year in which USAF has failed to meet goals in all three major reenlistment categories. The Air Force may have stopped the bleeding, but it is still in serious trouble.

As the chart shows, career-airmen retention remains unchanged at 91 percent (goal is 95 percent). The same is true of second-term retention, which remains unchanged at 69 percent (goal is 75 percent).

First-term retention showed a slight uptick from 49 percent to 52, which is still below the goal of 55 percent.

The Air Force has not met its goal in all three areas since 1995. USAF officials worry about declining experience levels in the force because it is constantly replacing experienced airmen with inexperienced troops.

as ambassador to the United Kingdom.

■ A team of US and Russian investigators has positively identified the wreckage of a US Navy PV-1 Ventura patrol bomber, missing since March 25, 1944, at a crash site on the peninsula of Kamchatka in Russia's far east. The airplane had been one of five that took off from Attu, in the Aleutian Islands, during Empire Express, a reconnaissance and bombing mission over Japanese bases in the northern Kuril Islands.

■ Air Force Reserve Officer Training Corps Det. 610, University of North Dakota, Grand Forks, N.D., has been named winner of this year's prestigious AFROTC Right-of-Line award. The award recognizes the best detachment in the nation and is based on quality of facilities, cadets, and training programs.

■ An Air Force team won the 2000 Armed Forces Women's Softball Championship, which was held at Sportsplex USA, Poway, Calif., in August. The final record of the Air Force squad in the round-robin event was 8–1. Army, with a record of 7–2, placed second.

■ The Department of Defense presented its 1999 Value Engineering Award for Program Management to the Milstar II Program Office, Los Angeles AFB, Calif. A Washington ceremony honored the Milstar program for saving the government $28 million through 58 cost-reduction initiatives.

■ The Air Force has approved a new ribbon for recruiters—and offered them the opportunity to earn extra points toward promotion. The ribbon will be awarded upon graduation from Air Force Recruiting School. The one-time, two-point bonus toward promotion under the Weighted Airman Promotion System will be available to personnel who are currently assigned as recruiters and have completed 36 months of recruiting duty.

■ On Aug. 17 a Titan IVB rocket was successfully launched from Space Launch Complex 4 East at Vandenberg AFB, Calif. The booster carried a National Reconnaissance Office satellite into orbit.

■ Sanders, a Lockheed Martin company, recently delivered F-22 Block 3 operational flight program software and upgraded hardware to the Avionics Integration Laboratory in Seattle and Boeing's Flying Test Bed. The delivery supports the testing required to obtain a low-rate initial production decision for the F-22, expected later this year.

■ South Korea and the US military have decided to shut down live-fire training on part of the Koon-Ni Range on South Korea's west coast, following sometimes violent protests. Nearby residents vowed to keep fighting until the entire range is closed.

■ Allied aircraft struck targets over southern Iraq on Aug. 11 and 12, said US Central Command. The raids came after anti-aircraft artillery fired on airplanes patrolling the no-fly zone over Iraq, said officials.

■ The 400th Missile Squadron, located at F.E. Warren AFB, Wyo., was named the best USAF missile squadron of the year, the Air Force announced Aug. 22. The squadron thereby earned the Association of Air Force Missileers' Gen. Samuel Phillips Award for 1999. The squadron is the only Peacekeeper operations unit in the Air Force.

■ Two USAF F-16 pilots had a close call but are safe following an Aug. 8 midair collision near Nellis AFB, Nev. Maj. David Kossler ejected safely from his aircraft, sustaining minor injuries. The other F-16, piloted by Maj. Brandon Sweat, received minor damage and landed safely at Nellis. The pilots and aircraft are assigned to the 422nd Test and Evaluation Squadron, part of the 53rd Wing at Eglin AFB, Fla. Cause of the accident is unknown, and a safety board has been convened.

■ An Air Force F-15C, part of the 48th Fighter Wing, RAF Lakenheath, UK, crashed on Aug. 3 just east of the training range at Nellis AFB, Nev. The fighter launched from Nellis to take part in USAF's Green Flag exercise. The pilot, Capt. Christopher Kirby of the 493rd Fighter Squadron, ejected safely. Cause of the crash is unknown. An interim safety board will investigate. ■

Senior Staff Changes

RETIREMENTS: Brig. Gen. Gary A. **Ambrose,** Maj. Gen. John W. **Brooks,** Brig. Gen. Jerry M. **Drennan,** Lt. Gen. Marvin R. **Esmond,** Lt. Gen. Nicholas B. **Kehoe III,** Maj. Gen. Andrew J. **Pelak Jr.,** Brig. Gen. Regner C. **Rider.**

CHANGES: Maj. Gen. Claude M. **Bolton Jr.,** from PEO, Fighter & Bomber Prgms., AF Prgm. Executive Office, Asst. SECAF, Acq., Rosslyn, to Cmdr., AF Security Assistance Ctr., AFMC, Wright–Patterson AFB, Ohio ... Maj. Gen. Roger A. **Brady,** from Dir., Log., AMC, Scott AFB, Ill., to Dir., Ops., AMC, Scott AFB, Ill. ... Maj. Gen. Richard W. **Davis,** from Chief Architect, BMDO, USD, Acq. & Tech., Pentagon, to National Security Space Architect, ASD, C^3I, Pentagon, Va. ... Brig. Gen. Peter J. **Hennessey,** from Vice Cmdr., Oklahoma City ALC, AFMC, Tinker AFB, Okla., to Dir., Log., AMC, Scott AFB, Ill. ... Brig. Gen. William J. **Jabour,** from Vice Cmdr., ASC, AFMC, Wright–Patterson AFB, Ohio, to Dir., F-22 SPO, AF PEO, Asst. SECAF, Acq., Wright–Patterson AFB, Ohio ... Maj. Gen. Michael C. **Mushala,** from Dir., F-22 SPO, AF PEO, Asst. SECAF, Acq., Wright–Patterson AFB, Ohio, to PEO, Fighter & Bomber Prgms., AF PEO, Asst. SECAF, Acq., Rosslyn ... Brig. Gen. Loren M. **Reno,** from Dir., Propulsion, Oklahoma City ALC, AFMC, Tinker AFB, Okla., to Vice Cmdr., Oklahoma City ALC, AFMC, Tinker AFB, Okla. ... Maj. Gen. George N. **Williams,** from Dir., Ops., AMC, Scott AFB, Ill., to Cmdr., 21st AF, AMC, McGuire AFB, N.J.

SENIOR EXECUTIVE SERVICE RETIREMENTS: John W. **Davis,** Oscar A. **Goldfarb,** Charles B. **Hogge.**

SES CHANGES: Les **Bordelon,** to Exec. Dir., AFFTC, Edwards AFB, Calif. ... James P. **Czekanski,** to Air Cmdr., 4th AF, AFRC, March ARB, Calif. ... Robert E. **Dawes,** to Asst. Auditor General, Financial and Spt. Audits, March ARB, Calif. ... Timothy L. **Dues,** to Product Gp Mgr., Propulsion Sys., Tinker AFB, Okla. ... Kathleen I. **Ferguson,** to Chief, Combat Spt. Div., DCS, Installation & Log., USAF, Pentagon ... Christopher D. **Gardner,** to Dir., Jt. Staff, and Asst. to Chief and Vice Chief, NGB, Arlington, Va. ... Donald W. **Hanson,** to Dir., Sensors, AFRL, Wright–Patterson AFB, Ohio ... Lawrence B. **Henry Jr.,** to Assoc. Dir., P&P, AFSPC, Peterson AFB, Colo. ... Charles D. **Link,** to Dir., Developing Aerospace Leaders Prgm. Office, DCS, Personnel, USAF, Pentagon ... Florence W. **Madden,** to Principal Dep. General Counsel, OSAF, Pentagon ... David M. **Rothery,** to Dir., High-Performance Computation & Simulation, ASC, Wright–Patterson AFB, Ohio ... Gary K. **Waggoner,** to Assoc. Dir., Manufacturing Tech. & Affordability, AFRL, Wright–Patterson AFB, Ohio ... Debra K. **Walker,** to Dir., Tech. & Industrial Spt., Warner Robins ALC, Robins AFB, Ga. ... Wallace W. **Whaley,** to Dir., Ops., AFRC, Robins AFB, Ga. ■

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The EAF Turns One

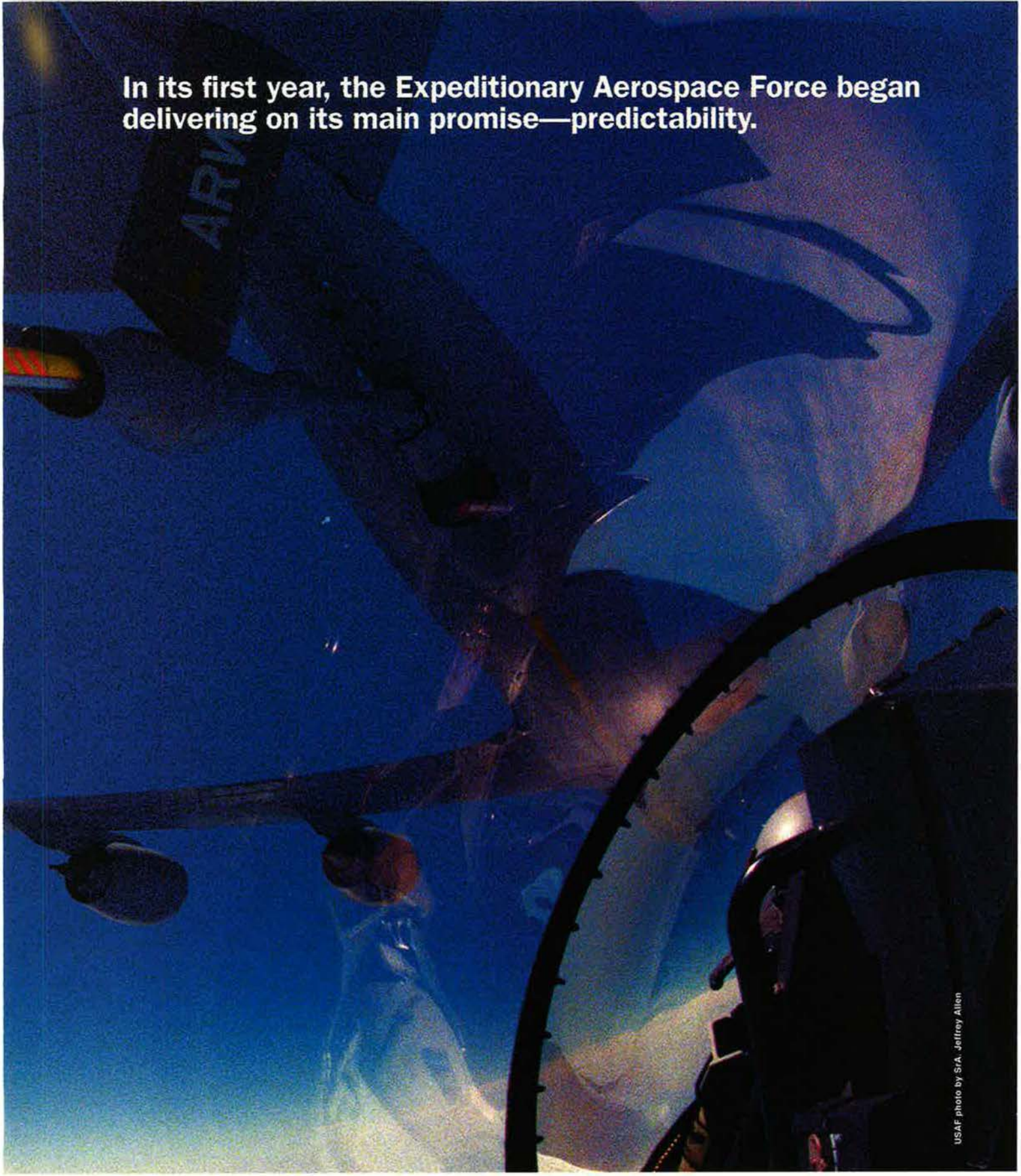
By **John A. Tirpak,** Senior Editor

A YEAR has passed since the Air Force divided itself into 10 Aerospace Expeditionary Forces in order to deal with a global array of commitments and contingencies. Though bugs still are being worked out, all signs are that the effort is paying off in the form of progress toward two key goals: getting more Air Force people to share the workload and giving more notice of when and where they might be sent abroad.

Compared with last year, the number of people eligible to deploy in AEFs is much higher, and it will double during the next year. Many of the affected airmen will have nearly two years' warning of a possible deployment.

Each of the 10 AEFs comprises about 12,000 people, or some 120,000 overall. Current Air Force end strength is about 360,000, meaning 240,000 airmen are not included in the AEF structure. Of those, about half are in nondeployable positions such as missile launch and logistics center personnel and some headquarters people. Forces in Korea are also exempt from AEF duty.

In its first year, the Expeditionary Aerospace Force began delivering on its main promise—predictability.



On the move. *An F-16 returning from a mission during Allied Force prepares to refuel from a KC-135 tanker. The men, women, and equipment in today's USAF are busier than ever.*

That leaves some 120,000 available but not assigned to AEF duty. Soon, all those not specifically exempt from deployment are likely to be absorbed into the AEF structure.

"Within a year, I think, we'll have most of those people in an AEF," said Brig. Gen. Dennis R. Larsen, director of the Aerospace Expeditionary Force Center at Langley AFB, Va., where the Air Force plans and assigns AEF deployments.

Larsen said the 120,000 nonexempt personnel who haven't been tapped so far have been passed up because their jobs had never before had a wartime commitment. That's changing.

"[They are] in positions now that don't generally have [Unit Type Codes] assigned to them," Larsen explained. "We have gone from individual tasking of all of our combat support forces to tasking them as small teams. ... Our job over the next year or so is to go out and develop UTCs to be able to task all of the deployable people." The increase in troops available for deployments will likely result in everyone going on temporary duty abroad less frequently. Deploying individuals not assigned to an aviation unit are called "Expeditionary Combat Support."

More Warning Time

Warning time of deployments has also risen sharply.

Not long after the conclusion of the 1999 Balkan air operation, USAF undertook its first four AEF deployments under its new Expeditionary Aerospace Force concept. Airmen going to forward locations were assigned individually. For them, said Larsen, "there wasn't very much notice"—maybe a couple of days. For AEFs 5 and 6, things were only slightly better. The deployment manning requirements document, the blueprint that sets out which specialties are needed to fill overseas needs, was sent out only about 15 days before deployment of the first Air Force troops, Larsen said.

By AEFs 7 and 8, however, the notice time had risen to 40 days. For AEFs 9 and 10, which just left in September, notice had risen to 75 days. For AEFs 1 and 2 in the next cycle, scheduled to start in early 2001, airmen will get about 180 days' notice.

"We're very pleased that we were able to reach that goal so soon," Larsen added. "That was a lot of hard work."

Most people from now on will have 12 to 15 months' notice that they are eligible for deployment, said the general. Some AEF rotations will be advertised up to a couple years ahead of time. Individuals will be told 120 days before their 90-day eligibility window whether they will, in fact, be deploying and where.

At that point, Air Force leaders can truly claim they have reached their goal, which was to transform USAF from a Cold War, garrison-based force into a 21st century Expeditionary Aerospace Force.

When the EAF building program was launched last year, Gen. Michael E. Ryan, the Chief of Staff, said it was meant "to give our people some predictability in their lives." Since the end of the Cold War, USAF had been called out on one contingency after another, demanding that some people deploy almost constantly even as others never seemed to deploy at all.

The service leadership finally realized that the pace of operations was not likely to throttle down anytime soon.

"We had been dealing with these, treating them as unique events," Ryan told *Air Force* Magazine at the time. "Except they never seemed to go away."

The initial response to the heavy operating pace was to set a limit of 120 days annual deployment on each individual. It was a rule that got broken fairly often "because we didn't have ... a mechanism in place to make sure it wouldn't," Ryan said. The EAF construct was created to ensure that everyone took a turn on the front lines.

Each AEF goes through a 15-month cycle. It begins with a period of rest from a previous deployment. This is followed by a period of routine training and schooling, upgrade certification, and other professional military education. Then comes a period in which skills are honed through exercises such as Red Flag.

Following that period comes a spin-up phase in which the AEF members are briefed on the place they're likely to go, as well as what they can expect to encounter there in terms of threats and responsibilities.

Finally, there is the 90-day deployment eligibility window, in which units may actually pick up and move to forward locations for duty. After they return, the cycle starts anew with the rest period.

Spread Out

How far-flung are the AEFs? Larsen said AEF 7 had deployed units to Prince Sultan AB in Saudi Arabia, Al Jaber AB in Kuwait, Al Dhafra AB in the United Arab Emirates, and to Seeb in Oman, plus other areas in the Gulf region. Meanwhile, AEF 8 deployed units to Incirlik AB in Turkey for Operation Northern Watch, to numerous places in the Balkans, to Iceland for air defense operations, and to the Caribbean and South America for counterdrug operations.

Today's AEFs are different from the original versions. At first, the term AEF narrowly applied to a quick-reaction force of a couple dozen fighters, bombers, and tankers, plus their support gear, deploying to a bare-bones airstrip for a no-notice contingency or show of force. Such packages now go by the name Aerospace Expeditionary Wings or Aerospace Expeditionary Task Forces. The AEWs—at Mountain Home AFB, Idaho, and Seymour Johnson AFB, N.C.—are USAF's designated hitters when no-notice contingencies flare up. The AETFs are provisional wings formed from units within the AEFs to respond to other demands for airpower.

The Air Force describes the 10 basic AEFs as "buckets of capability." Each contains a mix of aircraft and people deemed to be comparable in combat power. They are drawn from almost all the active, Guard, and Reserve units in the force, by wing or squadron. They trade off the recurring jobs of enforcing no-fly zones, monitoring drug traffic, and flying air patrols overseas. These missions, once thought to be temporary, are now planned and executed as ongoing operations.

In addition, most AEF people and aircraft do not go to bare-bones locations but to quasi-permanent sites with more and more elaborate facilities.

Larsen noted that the Air Force's assets "didn't divide up perfectly

equal in 10 pieces." As a result, each AEF differs slightly from the others but can do the same jobs.

Comparable Power

For example, Larsen noted, one AEF may deploy 18 F-15Cs to perform an air superiority mission. Its replacement may consist of 12 F-15s and six F-16s. Because the F-16 is a credible air superiority airplane—especially newer versions with the advanced medium-range air-to-air missile—such capabilities are considered comparable in certain locations. Likewise, an F-16 with the new joint standoff weapon can be considered comparable to an F-15E carrying the AGM-130. Both can deliver about the same precision punch at a distance of dozens of miles.

The Air Force last year began the procurement of 30 new F-16CJ aircraft to ensure each AEF would have potent Suppression of Enemy Air Defenses capability.

All AEFs have fighters—for air-to-air, precision-strike, and SEAD capabilities—as well as bombers and tankers. Specialized sensor aircraft such as E-3 Airborne Warning and Control System and RC-135 Rivet Joint intelligence airplanes are still assigned as needed.

The latter airplanes fall into what the Joint Chiefs have labeled Low-Density, High-Demand assets, which every regional commander wants but which are too few to be everywhere at once.

"All the aviation units ... are assigned to an AEF," Larsen said. However, the LD/HDs "are not assigned that way, yet." AWACS aircraft will be assigned to "one or two AEFs" within a year.

The final decision as to the division of assets among the 10 AEFs was made by Ryan.

"We've maximized our Low-Density, High-Demand assets to their fullest extent, yet we are still short of these critical systems and people," Ryan said. "We have defined our AEF 'round-out' requirements, and we know where we need to go from here."

The round out is the completion of the AEF structure. Senior USAF officials said Ryan will be pushing to gain approval and funding for greater crew ratios on some systems, particularly AWACS, Joint STARS radar aircraft, and tankers, to improve their availability and bring them more in line with the EAF construct.

Air Mobility Command also contributes to the EAF structure, both with airplanes and people. Each AEF has assigned to it C-130 units for tactical airlift, as well as tankers. Support units within AMC, such as security forces, civil engineers, and air traffic controllers, are also assigned to AEFs.

The largest supplier of people to AEFs is Air Combat Command, which contributes about 27 percent of the total. Next in line is Air Mobility Command, with about 16 percent. US Air Forces in Europe, Pacific Air Forces, Air Force Special Operations Command, Air Force Space Command, Air Education and Training Command, and Air Force Materiel Command all contribute at or below 10 percent to the total.

A full, 10-AEF cycle of deployments takes 450 days, or roughly 15 months. This way, the same AEFs won't be deploying at the same time of year every time, meaning service members should no longer have to miss consecutive summer vacations, football seasons, or winter holidays.

To further vary the duty, odd-numbered AEFs are posted to units in Southwest Asia conducting Operation Southern Watch in Iraq, while even-numbered AEFs go to Operation Northern Watch, Iceland, the Caribbean, and the Balkans. In the next AEF cycle, set to begin in March 2001, AEF assignments will reverse. This is also intended to ensure fairness in distributing workload. Larsen noted that commitments in Southwest Asia command 6,000 people per rotation period, while all the other operations combined only consume about 3,000.

Spread the Wealth

Larsen said it's up to unit commanders to keep track of who in their unit has gone on deployments and to "spread the wealth" by rotating the assignments so that people do not go more frequently than they have to.

Moreover, not all AEF members deploy. Larsen noted that, of the 24,000 people included in the two AEFs in deployment at any time, only about 9,000 of them are actually sent overseas. That figure is based on the current level of overseas commitments, Larsen said.

"If something happens where we didn't have the no-fly zones to enforce in Iraq, that would dramatically change the number of folks that have to deploy forward," he said.

On the other hand, he noted, each AEF is designed to have more capability than is needed for today's level of "steady-state commitments." In the event of a pop-up contingency,

USAF photo by SrA. Jeffrey Allen

"Bag drag." Across USAF, airmen on the move have become a common sight. Here, a Shaw AFB, S.C., airman checks into his temporary home at Aviano AB, Italy.

there are more assets available in each AEF to draw on.

"We have to have the capability to get bigger or smaller as necessary," he asserted.

Besides serving as a more rational and orderly way of assigning people to overseas temporary assignments, an advisor to Ryan also noted that the AEFs serve to "constrain the appetite" of regional Commanders in Chief, who "always want more" capability. With AEFs, the official said, CINCs know that all the capability they are likely to need is on tap, and they also know they are not allowed to dip into the other AEFs without permission from the Joint Chiefs. In this way, the AEFs restrain deployments that had hitherto been demanded simply to reassure regional CINCs.

Ryan has also pledged not to break the EAF construct without a compelling reason, such as a Major Theater War.

"If a small contingency breaks out, we know what units are available within the current AEF" to respond, Larsen said. "If at all possible, we're going to take units and people or UTCs out of the current AEFs that are in the bucket [and] ... use them, so we don't break other units in the AEF construct."

If the crisis were to widen, the AEF Center would decide which AEF pair to call on next, "to minimize how much it's going to hurt the AEF construct when the crisis is over," Larsen added. In a Major Theater War, "we know the AEF construct is going to get broken fairly hard," he said, but all efforts will be made to choose forces in such a way to "make it as simple as possible to get back into the construct when the crisis is over."

Ryan has said the AEF construct makes it possible to put five AEFs into a battle theater within 15 days, assuming that all airlift is available to it.

"911" Forces

The two AEWs are the 911 forces, according to the Air Force's recent vision statement, "Global Vigilance, Reach, and Power." If they are both engaged, lead wings from the on-call AEFs can dispatch to a bare-bones facility and set it up to begin combat operations within 48 hours, "fast enough to curb many crises before they escalate," the Vision document asserts.

A single AEF has the combat power to hit some 200 targets per day. Adding more AEFs like building blocks can aggregate a force capable of conducting a Major Theater War.

A big benefit of the AEF is that aviation units assigned to an AEF together will remain together from rest through training and deployment.

"The same units are always assigned" to an AEF, Larsen noted. "They will always deploy together, and then they are always back in their training cycle together, too. ... All of them in the same AEF will go to a Flag exercise together, ... so they get to train together within three months before they deploy."

Air Mobility Command is seeing some tangible benefits from the EAF structure, according to Col. Steve Hellwege, chief of operations plans at AMC.

Although the routine "business of moving things back and forth" hasn't changed much since EAF went into force, Hellwege said, the changeover period—when one AEF comes in for another going out—makes for more efficient movement of people and gear.

Big movements have been "compressed ... into condensed rotational windows between 20 and 30 days, vs. having it staggered throughout the entire year," he noted. As a result, AMC can build "air bridges" of relay flights back and forth to move gear and people. This saves on crews and marshaling personnel by moving equipment in large volume.

Also, if two squadrons in the same wing belong to consecutive AEFs, sometimes "the jets are left in place and are not rotated," and the incoming squadron-mates take over the airplanes. This saves tanker missions, not to mention wear and tear on the airframes themselves.

The EAF construct has also saved on commercial airlift requirements, Hellwege said. Previously, individuals booked their own way to their deployment locations. The "hard" schedule of AEFs has made it possible to funnel teams to Baltimore IAP, where commercial charters will take whole airplane loads of troops to a single destination.

The goal is to send the charters directly to bases deploying people and equipment and have them picked up and flown directly to the deployment location, Hellwege said. This has already been done on some occasions.

"There's been about a 22 percent reduction in the requirement for T-tails [airlifters] over the annual cycle of rotations," Hellwege reported.

Enter the Reserve Components

Hellwege also said AEF is proving very valuable for Reserve Component forces.

Guard and Reserve units, for ex-

USAF photo by SrA. Delia A. Castillo

Light, flexible. ***In the 1990s, USAF members became used to working far from home with minimal support. Technicians at Aviano check out this F-15's avionics suite.***

ample, supply about 44 percent of tactical airlift AMC sends to AEF deployments and about 30 percent of the tankers. With as much as 15 months' lead time, the reservists are better able to plan with their employers when they can deploy as part of an AEF. That tends to keep reservists in the force, since they can accommodate their employers and vice versa.

Hellwege said there are some lessons learned bubbling up out of the EAF experience so far. He noted that the AEF deployments have shown up some specialty categories that are "woefully undermanned," such as air traffic controllers. Moreover, the AEF can sometimes hurt the home base because of experience requirements.

He observed that "the theaters typically need a more mature, experienced individual in that high-intensity environment." If the most experienced people deploy more frequently, it begins to play hob with training of less experienced troops back home.

The changeover from one AEF to another at forward locations is also being streamlined every day. Larsen reported that, rather than an individual arriving by himself and learning his task while on the job, troops deploy as teams. Moreover, once notified of their deployment, troops can go into a Web site describing exactly the tasks they will perform at their deployment location, the equipment they'll be working on, and any special training they'll need before arriving.

The people already in the field are the ones who write these online training templates, Larsen said, so the information in them is always fresh and up-to-date. Templates for all deploying persons were to be in place by Oct. 1.

While there is a handover period where an incoming person's deployment overlaps with his predecessor—typically with leadership jobs or sensitive intelligence positions—for "a majority of people, when they show up, the person they're replacing will get on that same airplane and head for home," said Larsen. This, too, adds to greater efficiency and economy of effort. Once they arrive, they will also find continuity books describing ongoing situations, threats, equipment upgrades, or other issues spanning more than one AEF deployment.

USAF photo by A1C Denise Berdar

The long good-bye. ***Col. Derrik Hess, Kadena AB, Japan, with his family as he departs for Saudi Arabia. The EAF was developed, in part, to alleviate stress on families.***

Not everyone in the AEF changes out in a single day. Larsen said it takes about 24 days for a thorough changeover at a location like Prince Sultan AB, so continuity is never lost. Force protection units change over 45 days to ensure no gaps in knowledge or procedures.

Vulnerability Gap?

To avoid the possibility of a vulnerability gap between incoming and outgoing units, aviation units typically overlap at the site for a couple of days, Larsen reported.

Likewise, the lessons learned process is becoming more automated. To prevent lessons from being forgotten, they can be immediately and simply entered into a Web–based computer program. The lessons are then forwarded up the chain of command in a rapid fashion for validation as legitimate lessons.

"My feeling is, if there's a problem for AEF 5, I ought to be able to fix it for AEF 7," Larsen asserted. Lessons learned are added to the training templates, and incoming replacements will have to look them over before arrival.

"Even if they don't come and search our database, their going to get their lessons learned; they'll know what to fix before they go over," Larsen noted.

One lesson that landed right in Larsen's lap was the basic structure of the AEF Center. The center had been divided into two teams—Silver and Blue—to manage the deployments of alternating AEFs. However, "we found out it's a lot easier having everybody working all of them at the same time."

The two teams have now been consolidated with the departure of Blue Team leader Brig. Gen. Edward L. LaFountaine to a new assignment. The merged organization means "we saved a general officer billet," Larsen noted.

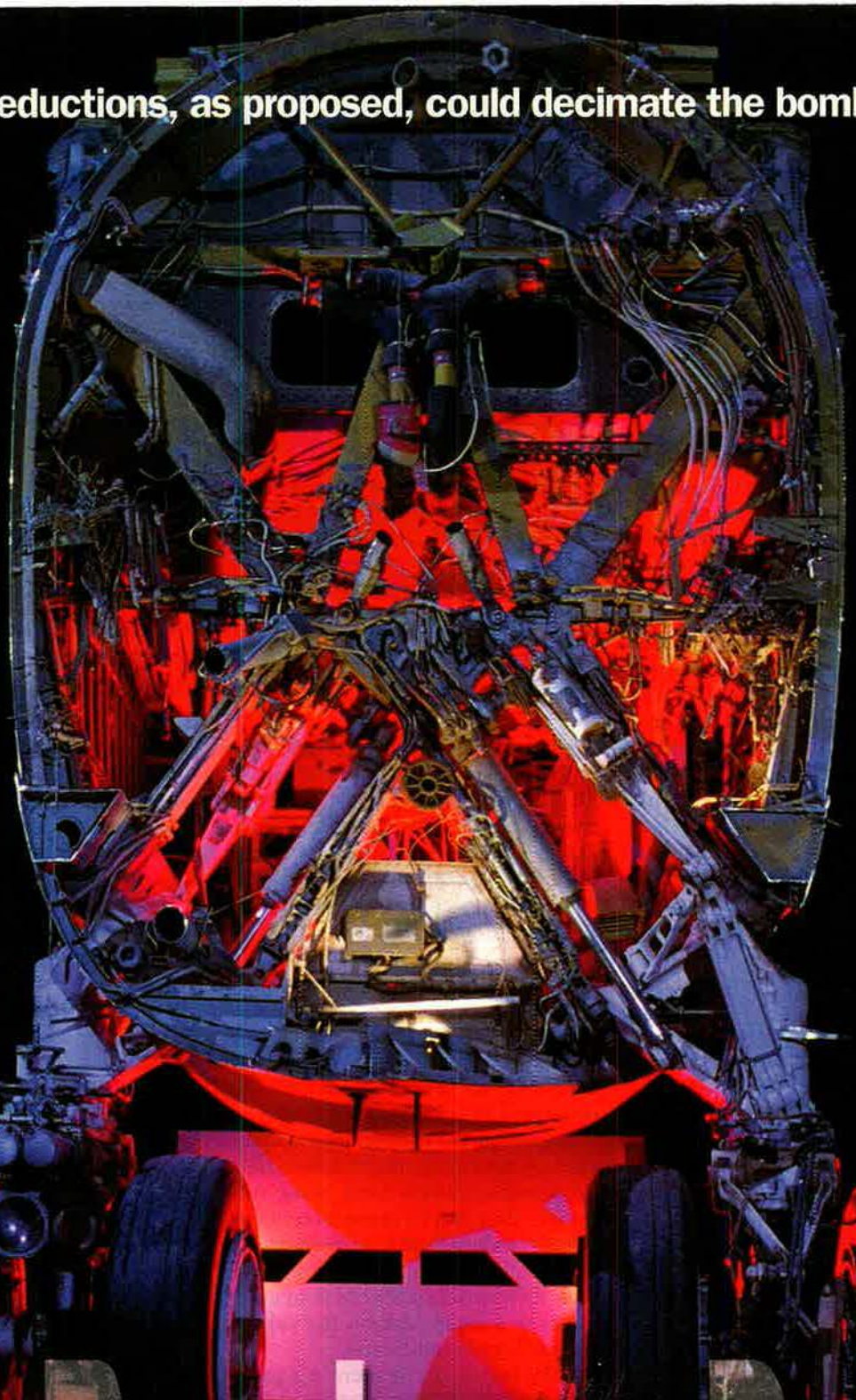
Larsen said his organization has not tried to collect any metrics on whether the AEF is directly improving Air Force life. He said his group is concentrating on getting the AEF "institutionalized."

It will be hard to determine the specific impact of AEFs on troop morale because, although retention is up, there's little visibility into how much of the improvement is being driven by increased bonuses and "changes in the retirement system," Larsen noted.

However, the anecdotal feedback has been encouraging.

"My gut feeling is that it's really going in the right direction," he said. Troops initially took a skeptical view of the idea. "Show me," was the typical comment, he said. Now, though, more and more are telling him that they are, in fact, getting more notice of deployments "and the attitude has changed dramatically." ■

START III reductions, as proposed, could decimate the bomber fleet.



USAF photo by TSgt Lance Cheung

For Bombers, Does START Equal Stop?

By Adam J. Hebert

THE next President, whoever he is, will find START III placed prominently on his agenda. Republicans and Democrats alike have complained that US and Russian nuclear arsenals remain too large, even after years of reductions, and they will demand more cuts.

On the surface, in fact, it appears the only remaining issue is whether START III's proposed reductions are of the proper size.

Appearances, in this case, are deceiving. Debate over the final warhead number masks an equally significant matter—the fact that START III will force major changes in the USAF bomber fleet, affecting a major element of US conventional power.

The START I treaty has limited US and Russian strategic warhead totals to 6,000. START II, which has been ratified but has yet to enter into force, would lower the number to 3,500, and the United States is already gradually reducing forces to that level. START III, outlined in 1997 but awaiting detailed negotiation, proposes a ceiling of 2,000 to 2,500 warheads.

The START III number will force harsh trade-offs in weapon systems. Even though bombers are prized for both their conventional and nuclear capabilities, the US may have no choice but to relinquish B-52H capabilities to meet START III limitations.

Secretary of Defense William S. Cohen warned in a May 28 NBC News "Meet the Press" broadcast: "As you get smaller, you may have to give up some of your bomber force."

That action, he added, "takes away from your conventional capability—the kind of capability we used in Kosovo."

Moreover, the bomber fleet will require significant modifications, and the US will have to cut the weapons deliverable by B-2s and B-52s. These changes are coming, but the US hopes to minimize the impact with some form of "counting-rule" relief through negotiations with Russia in finalizing START III.

Trials of the Triad

The problem stems from the US desire to preserve the basic composition of its nuclear deterrent. The US puts priority on maintaining a triad of land-, air-, and sea-based weapons.

The triad currently comprises silo-based missiles (500 Minuteman IIIs and 50 Peacekeepers); Sea-Launched Ballistic Missiles (432 Trident II D-5s); and bombers (21 B-2s and 94 B-52Hs).

The Pentagon will implement several force structure changes to reach START II levels by 2007. Plans call for Washington to:

- Scrap the 50 Peacekeeper ICBMs and keep only the 500 single-warhead Minuteman IIIs (500 warheads).
- Cut the number of B-52s to 75—perhaps with 43 carrying eight cruise missiles and 32 carrying 20 weapons (984 warheads).
- Reduce from 432 to 336 the number of Trident II submarine-based missiles at current force loadings (1,680 warheads).
- Maintain all 21 B-2 bombers, each loaded with 16 weapons (336 warheads).

These actions, taken together, will reduce American warhead totals from START I's 6,000 to 3,500.

That's the easy part. The next step—START III—brings serious force structure problems. While there are many ways to build a START III deterrent, all put the squeeze on the bomber force.

In START III planning, some forces are favored more than others. The Navy Trident II missile force, deployed on Ohio–class submarines, seems to be the most prized leg of the triad, given the submarine's stealthiness and relative invulnerability to attack.

Notional START III inventories typically show submarines accounting for more than two-thirds of total warheads under START III.

The ICBM force, slashed dramatically in recent years, also seems reasonably secure, if only because further shrinkage likely would make the land-based leg uncomfortably small. Also, ICBM cuts simply wouldn't put many warheads on the scrap heap.

One official said DoD doesn't rule out going down to 350 or so ICBMs, but cuts below that level would be problematic. "If you had one wing [of about 150 missiles] maybe you should think about getting out of that leg of the triad," he said.

By default, then, bombers have become the most prominent targets for START III cuts.

The threat does not affect all bombers. With only 21 aircraft, the fleet of B-2 stealth systems will surely be spared cuts or transformation to nonnuclear status. All B-1B bombers already have been shifted to conventional-only use.

All that remains for change, then, is the Air Force's fleet of 94 venerable B-52Hs.

Under START III, the Pentagon won't have enough warheads to distribute across all the delivery systems it wants to keep in the triad, and the BUFF looks like the odd man out.

Pentagon officials think the ICBM force's total of 500 warheads would remain unchanged. The US would "download" each Trident II missile from five warheads to four, shaving total SLBM warheads from 1,680 to 1,344. B-2s would be recalibrated, with each bomber modified to carry eight weapons, for a maximum of 168.

The hulk at left is evidence that this B-52 bomber has been eliminated from the force, as called for under START agreements. All the bombers destined for the "chopping block" at Davis–Monthan AFB, Ariz., must remain visible for 90 days once the cuts have been made. The chopping is done by making surgical cuts to salvage pieces, such as landing gear assemblies and hydraulic systems, of the eliminated bombers for use on operational B-52s.

Pentagon and Congress Square Off Over BUFFs

Further complicating the matter of the B-52 bomber is the fact that the Pentagon and Congress are in fundamental disagreement on force levels.

The Defense Department seeks to maintain only 75 B-52s in the active inventory. However, lawmakers in recent years have ordered DoD to maintain a force of 94 BUFFs.

Powerful members of the Senate and House have said the US already is short on bomber capability, and any further cuts would be shortsighted, especially in light of the fact that no new bomber program is on the horizon.

Sen. Kent Conrad (D–N.D.) has advanced a proposal that maximizes the B-52 force. The senator recommends creating a split force of 28 nuclear and 66 conventional bombers divided primarily between Minot AFB, N.D., and Barksdale AFB, La.

For the plan to work, USAF would have to keep 94 total B-52s, and the US must negotiate a START III limit of 2,500 warheads.

In a recent report on the Pentagon budget, the Senate Appropriations Committee expressed "extreme displeasure" at DoD's failure to follow Capitol Hill's orders to fund 94 B-52s.

"Despite the clear direction ... the Air Force failed to adequately fund the total inventory of B-52s," stated the report. The panel directed USAF to treat all 94 B-52s in the force as aircraft to be retained through Fiscal 2006.

The committee also directed USAF to procure enough parts kits to keep all 94 B-52s common, with the same modifications and upgrades.

Pentagon policy-makers are not budging on the requirement, however.

"Right now, Mike Ryan [Gen. Michael Ryan, USAF Chief of Staff] wants 75 of them, the Joint Staff has a validated requirement for 75 of them, OSD policy and civilians believe 75 is the right number, too," said a senior Defense Department official.

He then added, "If Congress believes 94 is the right number, they have the right to do that because they control the purse strings."

The upshot of keeping a larger B-52 force is this: More bombers will have to be modified "down" to get them under START III's ceiling.

That Was Quick

At that point, the Pentagon will have used up 2,000 of a maximum 2,500 warheads. It will then have, at most, 500 warheads with which to equip its large B-52 force. (Obviously, the problem would be worse if the final number drops to 2,000 or fewer.)

Defense officials note that, even if the Air Force keeps only 75 B-52s, the service would have to drastically "downscope" each BUFF's weapon "loadout" to meet the 2,500-warhead limit. Today, B-52s can carry up to 20 nuclear weapons.

A Pentagon official identified one possibility: Keep 75 BUFFs (plus one START–exempt B-52 for test purposes) and declare them operative with only six weapons apiece.

"That would give you 450 warheads and all the B-52s could be available for nuclear and conventional missions," he said.

This move has a catch, however. "If you declare B-52s at six [weapons]," said the Pentagon official, "how does that impact conventional capability? There's a little monkey wrench in the process."

By that, he meant that the Conventional Air Launched Cruise Missile is a "counted" system under START; it is externally indistinguishable from the nuclear missile version. Notionally, then, each B-52H would be able to carry only six CALCMs, far fewer than it can carry today. B-52s now can carry 12 external and eight internal Air Launched Cruise Missiles or CALCMs.

The official said the US might try to "work something with the Russians that allows you to distinguish between the ALCM and the CALCM," but past efforts along those lines have failed.

The B-52 in recent years has been heavily tasked for conventional missions. The Air Force's 1999 bomber roadmap says the service will use it primarily as a cruise missile carrier until 2037, meaning that retaining the B-52's ability to launch missiles remains a high Pentagon priority.

Another possibility now being considered: Reduce the nuclear B-52 fleet to 61 and declare each bomber to be armed with eight cruise missiles, for a total of 488 accountable warheads.

Under this proposal, the other 14 B-52 bombers would be used exclusively as conventional weapon carriers.

Once again, however, there's a catch. A nation can maintain a "split fleet" of bombers of nuclear and conventional types, but different types can't be deployed at the same base.

Moreover, the US would have to prove that conventional B-52s are incapable of carrying nuclear weapons—not an easy task, given the similarity between the ALCM and CALCM.

In the words of a Defense Department official, "It will require a significant amount of modification. The details of how you'd have to change it haven't been worked out, but, clearly, you'd have to remove [mountings] so you can prove to the Russians that this thing's not capable of carrying the ALCM anymore."

That creates a new problem. Eliminating a B-52's ability to launch an ALCM would also remove its ability to fire the CALCM, a weapon used in many military operations in recent years and which no other USAF aircraft is configured to carry.

The simplest way to preserve the B-52's capabilities would be to obtain changes in counting rules in talks with Russia.

Ryan Seeks Relief

USAF's Chief of Staff, Gen. Michael E. Ryan, raised the matter in a May 23 Senate Armed Services Committee hearing on the nation's strategic nuclear forces.

"We need either counting-rule relief or reattribution as the numbers come down," Ryan told the panel. "That would be part of the negotiations as we went to that level."

Another US official noted that, under START II rules, the United States can "reorient" up to 100 heavy bombers from nuclear to conventional missions.

"One of the things we could do under START III is negotiate the ability to reorient" more B-52s, he said. This should be done, he said, because Pentagon civilian policymakers "agree with Mike Ryan that B-52s have an important conventional mission, in addition to a nuclear one."

Another possibility for counting-rule relief: Focus more tightly on weapon systems that actually can cause destruction at any given time.

Officials note that B-52s undergoing extensive depot-level maintenance cannot launch nuclear weapons. Similarly, two of the Navy's Ohio–class strategic submarines are normally in overhaul and not usable for nuclear operations.

"So," the official said, "let's focus on actual shooters" and not focus on irrelevant weapons when determining START III counting rules.

Washington could greatly simplify the process by eliminating the B-52's role as a nuclear platform altogether and converting it to conventional missions. DoD officials are wary of making changes that would shake the stability of the triad, however.

When asked about the wisdom of eliminating nuclear capability, a Pentagon official said, "Those planes have some special capabilities that aren't available from any other leg of the triad."

For the Defense Department, the worst-case situation seems to be one in which START III cuts warheads below 2,000. Pentagon planners say, in their "what-if" scenarios, the arsenal begins to undergo strain when warhead numbers drop below 2,500.

For that reason, START III's declared upper limit of 2,500 warheads often is viewed as the level that will finally emerge in negotiations with the Russians.

A top DoD expert noted, however, that the number could just as easily be 2,000, which would mean "you've got to get rid of 500 weapons." That number corresponds to five Trident II–equipped submarines or the entire fleet of nuclear B-52s, the official explained.

"As you get to 2,000, it really starts squeezing the triad," said another Pentagon official. At that point, "you are clearly down to no more than two wings of Minuteman IIIs," which represents about 350 missiles compared to the 500 planned, and "you certainly don't deploy 14 subs. You may be down to 12."

"The bottom line is, it will require difficult decisions," said another DoD official. "Once you get below 2,500 [warheads] the decisions start to become very painful."

This is where counting-rule relief becomes critical. With some changes in how bombers are counted, said a DoD planner, "we could do a mix of those" while still preserving an acceptable nuclear and conventional force structure.

Out of Business?

The Defense Department is only too aware that cuts that go below 2,000 warheads are attractive to many in Congress and the Washington arms control community.

"You start thinking about 1,500 or 1,000 [warheads]," said an official, "and ... what do you do? You really are not, at that level, in the triad business anymore."

The question of what actually constitutes the proper number of nuclear warheads is highly contentious.

Sen. James Inhofe (R–Okla.), a conservative lawmaker who sits on the Senate Armed Services Committee, feels no reductions should be made at this time at all. Inhofe, through a spokesman, declared, "Moving to START III before you even get to START II doesn't make a whole lot of sense. ... Cuts should not be made before a full review, something a new President should be permitted to do."

An opposite view comes from Sen. Robert Kerrey (D–Neb.), whose state includes US Strategic Command headquarters at Offutt AFB. He calls for large and rapid reductions.

"Given our conventional and intelligence capabilities," explained Kerrey, "I am confident we can deter any aggressor with less than 6,000, or 3,500, or even 2,000 warheads. It is time we begin the process to come up with a realistic estimate of our deterrence needs."

Sen. Kent Conrad (D–N.D.) takes a position midway between Inhofe and Kerrey. He advocates reducing force levels to 2,500 but not lower.

In an April speech, Conrad said, "I personally would not be in favor of going down to 1,500 warheads. I think it's destabilizing. I think it absolutely shreds the triad. The triad is proven. It's worked. We shouldn't give it up."

Adm. Richard W. Mies, commander in chief of US Strategic Command, noted at a recent Congressional hearing that reduction of warhead numbers below 2,000 can lead to "unintended consequences."

"Tyranny of Numbers"

In his interview with NBC, Cohen elaborated on Mies's statement. "As you get to much lower numbers, you're looking at a tyranny of numbers," said the Secretary of Defense. "Namely, you could find yourself in a situation where you are forced to use it or lose it. ... It may force you to change your strategy as far as targeting, not strategic assets, but humans, which we don't want to do."

Often, this concern forms the basis of opposition to so-called "deep-cut" proposals, always plentiful in Washington.

A prominent supporter of deep cuts is Bruce G. Blair of the Center for Defense Information, a former Air Force officer and a longtime promoter of arms control agreements and reductions.

"The United States could easily drop to 1,500 warheads," he contended.

Blair observed that the US could hit that magic number by deploying 10 Ohio–class subs with only 480 Trident II missile warheads; only 300 single-warhead Minuteman IIIs; only 50 B-52Hs with 400 warheads; and 21 B-2s with 336 warheads.

"I think the Pentagon has overblown the difficulty here," Blair concluded.

Not surprisingly, DoD officials vigorously dispute Blair's methodology and conclusions. They note that Blair's force is able to achieve the 1,500-warhead number mainly by downloading each sub-based Trident II missile from five to two warheads. Problem is, START forbids downloading the missile below four warheads.

"It's not like we can just go to three [or fewer]," said a DoD official. "It's just not allowed."

Why? A nation that downloads a missile might be capable of reversing course and rapidly "uploading" a weapon to carry more warheads. "There's always uncertainty for the other guy," he added, "because there's space available." ■

Adam J. Hebert is an associate editor of Inside the Air Force, *a Washington, D.C.–based defense newsletter. This is his first article for* Air Force Magazine.

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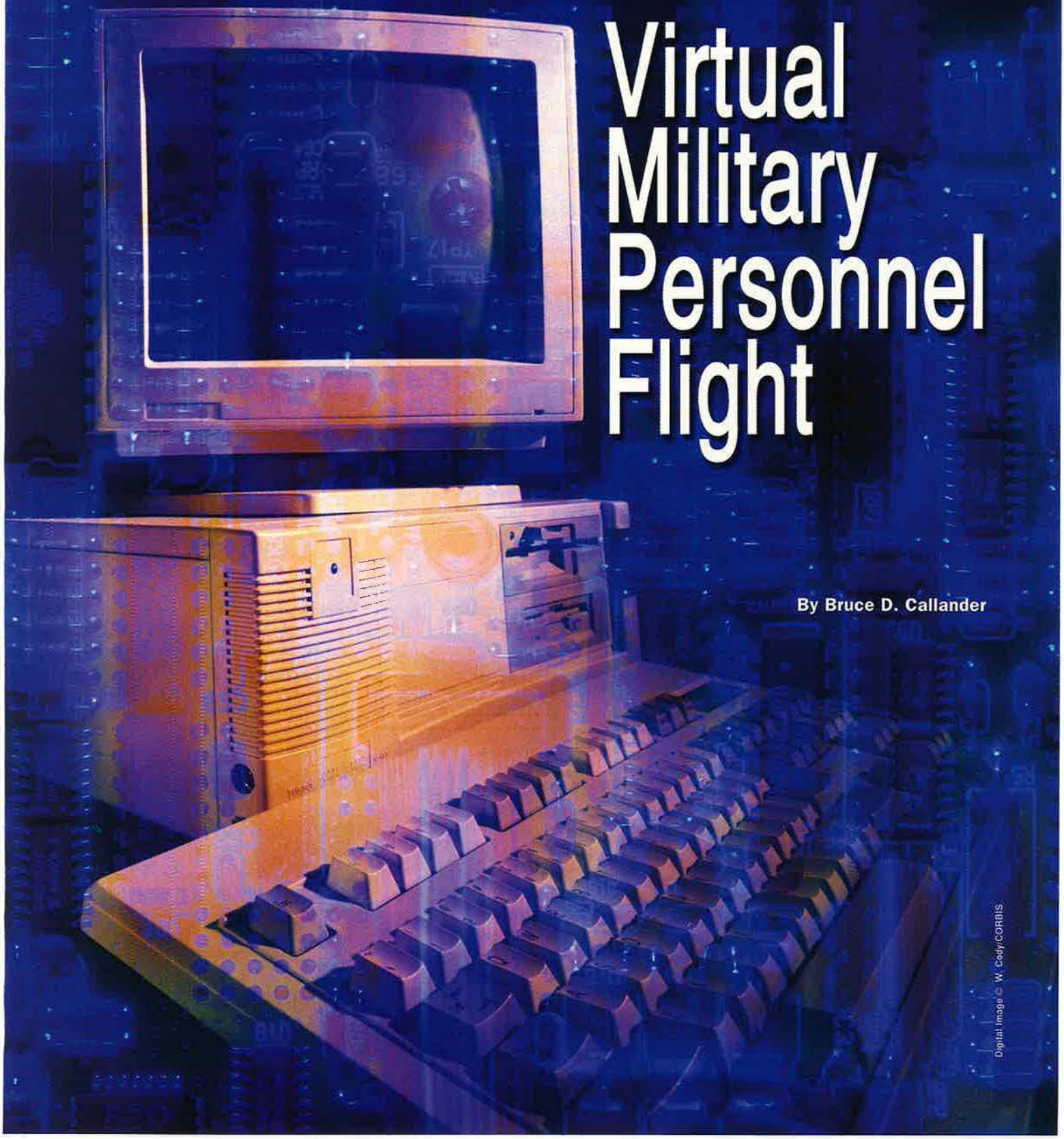
USAF's bold move to the Internet will let airmen transact business from home or office, any hour, any day.

Virtual Military Personnel Flight

By Bruce D. Callander



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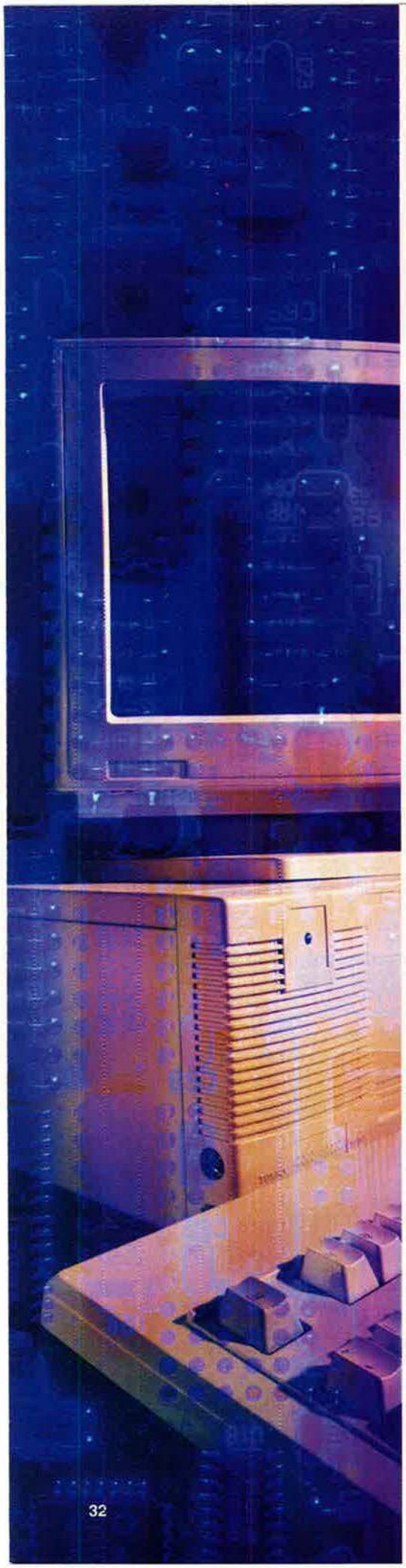

If people can trade stocks and buy running shoes on the Internet, why should they still have to stand in long lines in an Air Force personnel office to check their records, apply for reassignment, or put in for retirement?

Last year, Lt. Gen. Donald L. Peterson, the Air Force's deputy chief of staff for personnel, put that question to the Air Force Personnel Center at Randolph AFB, Tex. The general asked officials there to study the idea of letting members use home and office computers to do the sorts of things that traditionally required a trip to their base personnel flights.

The center probed the possibilities and, a year later, it launched phase one of the "virtual Military Personnel Flight"—also known as vMPF.

As the name implies, the vMPF is an electronic replica of the traditional personnel office that serves military members on a base. Like the real thing, the virtual personnel shop will supply information to visitors, allow them to check their records, and within limits, let them initiate actions that formerly have required in-person visits.

At present, members still have to hand-carry some of their computer-generated paperwork to their local personnel flights for final action, but with time, they should even be able to "sign" documents electronically and receive their commanders' approvals online.

Easing Into the System

The system is being phased in as new technology becomes available and the personnel center is able to exploit it. Since late July, for example, members have been able to tap into the vMPF Web site from their home or work computers to check on re-enlistment eligibility, verify personnel records, apply for humanitarian reassignments, and other transactions. Expectations are that, within a year, airmen using computers and the Internet will be able to perform more than 80 percent of the functions previously handled by base personnel shops.

Two factors dictate this gradual approach, said Jan McIntosh, the vMPF program manager.

First, he said, "We wanted to bring on some very basic, elementary user applications ... so that Air Force members could sign on and we could break them in easily to what vMPF is going to be one day."

The second reason for a go-slow approach: USAF's Personnel Data System is being modernized. Plans call for the new PDS to be online by next spring. "To take full advantage of a Web–based system, we need for that modernized system to be there," McIntosh said. "When it does, we'll get still more sophisticated."

The modernized system will speed both the flow of information into the personnel system and the rate at which it can be retrieved. McIntosh explained:

"Today, if an airman at another base wants to change his address, he has to walk over to the real MPF and fill out a form. Then, some technician at the MPF must put in the information and update the base-level file there. After that, it [the base-level file] comes up here and updates our files at the personnel center. Using the modernized system, there is no base-level system. The only file will be here, so when data gets entered, it will come directly here and update almost instantaneously. The Web–based system needs that kind of high-speed interactivity to do well."

The full-scale vMPF still is some months away, but the center hopes to expand its capabilities a bit this fall. "We're still in the planning stages," said McIntosh, "but we're going to try to deliver a few more applications in October."

On the drawing board: Letting members obtain the "proof of service" letters they need for VA home loans; apply for permissive permanent change of station assignments; make join-spouse applications; and put in for identification as a sole surviving son or daughter.

"There are a few more that we're considering, but those look like good possibilities for October," said McIntosh.

The Web–based personnel office is not so much a radical departure as a natural result of the Air Force's long involvement with computers.

Not long after World War II, the service began feeding some of its voluminous records into machines. The traditional "morning report" became one of the early casualties of the technology when it was replaced by electronic reporting. With time, personnel officials gathered a wealth

of computer-based data on members. Until recently, little of it was accessible to individuals unless they physically visited their personnel flights.

In 1962, the Air Force commissioned RAND to conduct a study on how it could maintain command and control of its weapons after a nuclear attack. About the same time, the services were developing systems that allowed geographically separated units to share computer-based information. This effort to develop systems that could survive a major strike and keep scattered elements in contact was one factor leading to creation of the Internet.

Interactive at Last

In time, connections originally developed for command and control of forces were put to other uses—among them, the sharing of personnel data. By the 1980s, the Internet was emerging in the civilian world. In the early 1990s it became interactive, as retailers let customers place orders over their Web sites and entrepreneurs opened the first virtual bank.

Gradually, USAF developed its own Web sites, including one at the personnel center. Until recently, however, members could only view information, not act on it. Then, with development of the Assignment Management System they were allowed to enter their assignment preferences and react in other limited ways to the information that the Air Force provided.

That, said McIntosh, was the first step toward the vMPF.

The final decision to press on with the virtual flight approach was sparked by a series of focus groups assembled by the Air Force to suggest improvements in the personnel system. Some 1,500 members and dependents aired their views. The result was a new, five-part and five-year plan to update the personnel system. The vMPF system is one of the first suggestions adopted.

Others proposals, now in various stages of implementation, include:

- Giving field commanders more personnel capabilities when their units are deployed.
- Mounting new efforts to determine how to attract and retain military and civilian members and to define the pool of potential recruits more clearly.
- Streamlining, by the end of Fiscal 2003, all personnel processes to make them more efficient, reduce expenditure of man-hours, and eliminate some levels of review.
- Implementing a total force management approach to support the Guard, Reserve, civilians, and contractors to determine how best to utilize all their talents and provide for their professional development.

At present, the vMPF system is available to active duty, Guard, and Reserve members but not to civilian employees. McIntosh pointed out that there are several development efforts going on simultaneously.

"The vMPF is basically for military only," he said, "but there is a Palace Compass Defense Civilian Personal Data System, which is the civilian equivalent to what we are doing. I know there have been discussions about moving the two efforts closer together."

When the vMPF is fully operational, members will be able to do much of their business with personnel officials from their home computers in much the same way as they use online shopping networks.

A Typical Transaction

McIntosh described the course of a typical transaction. "First," he said, "you would come to our Web site at the personnel center (www.afpc.randolph.af.mil). There, you would see a button for vMPF. You'd click on that, and it would take you to a page showing various kinds of information. There is a briefing on what the vMPF is, a section giving answers to frequently asked questions, and a little tutorial that tells how to use the system if you have never logged on before. It also talks about whom to contact if you have problems.

"Let's say that you have been here before, however, and you know how to get around. You just click on the button labeled 'Log In' and it will take you to a page with a little menu system.

"Then, let's say that you are coming up for promotion and you want to make sure that all the items in your duty history are accurate. You would click on the item for duty history and it would bring up a screen showing all the places you have been and all the jobs that you have held. Obviously, that's of interest to the promotions board so you want to make sure the history is accurate. If everything is fine, you have confidence that your record is squared away.

"But, if you think that you see something that isn't right, it will tell you how to go over to the actual MPF and get it corrected."

The fact that a member can see his records but not change them still is one thing that separates the virtual MPF from the real one, but that eventually may change.

"At this early stage, we are doing a little paralleling operation," noted McIntosh. "By next year, with the system more sophisticated, you may be able to send an e-mail here to the center or correct your records in some other way without having to go to the MPF. We may be able to talk back and forth with the e-mail address you gave us."

What keeps the system from becoming fully interactive right now?

The main roadblock is so many important documents still have to be signed by the member, endorsed by a commander, or both.

The current vMPF system will allow a member to call up a form on a computer and will provide step-by-step guidance on how to fill it out. When finished, the member can print it out with all the blocks filled—a process similar to filling out an income tax form with a do-it-yourself program. And like tax forms, many military documents need signatures. At present, there is no reliable way to take that step online.

Electronic Signatures

The problem may be solved before long, however. Congress recently enacted legislation allowing for "electronic signatures," and the Air Force eventually will be able to accept them.

"There already is a DoD program to issue 'intelligent' ID cards," said McIntosh. "They will have a little chip on them. If you wanted to do secure transactions or put your signature on something, you would just put your card into a reader and it would authenticate that you are who you say you are. It's like the new credit cards with chips in them that allow you to buy things on the Web. It's a technology that most industry is moving toward."

He went on, "One thing they have left to do is to come up with a universal card reader that would attach to your computer. You'd just swipe your

card the way you do at the gas station."

When the full system is in operation, Air Force members will be able to apply for retirement and separation online. They will be able to change an address or update their marital status. In this last case, they still may have to show marriage certificates to their bosses and have them certify that the person did actually get married.

"Basically," concluded McIntosh, "most of the things they do now at a real MPF will be possible on the Internet."

Even when electronic signatures become a reality, however, the virtual MPF will not completely replace the real one.

"Things such as issuing ID cards still will remain pretty much a manual process," said McIntosh. "We aren't going to get away from that any time soon because of the laws and benefits that are associated with it. Our enlisted folks also still have to go over and take promotion tests that are proctored by living people. So, we probably aren't going to end that very soon, either."

McIntosh went on to say that there is in the works a new program that will move toward keeping only electronic and digital records, but the Air Force is still a few years away from that.

"We have to maintain paper records for a while," he said. "There also are some kinds of counseling that are required by law to be face-to-face. Those are the kinds of things that we're going to have to stay with for a while, until laws or policies change or new technology comes along that will allow us to automate them."

The Air Force is taking pains to assure members that their privacy will be protected. Like commercial Web sites, vMPF will require users to log on with identification codes and passwords. They will create their own by entering the Web and supplying basic information about themselves such as their pay dates and unit identifications. Once they log in with these unique names and passwords, officials say, all the information they send over the Internet will be encoded and no one else can read it.

"Say that a sergeant logs on," said McIntosh. "The way the security is structured she is the only one using the vMPF who can see her records. Again, the vMPF is a self-service, customer-based platform. That's the whole idea.

"Now, if she fills out an application for retirement, she'll go into her records and pull down the application, and she'll fill out the form online and she'll transmit it. After that, we will build an electronic work flow process that will ship her application on to her boss' in box, and he will open it up and approve or disapprove. He will not have access to her information per se, but when it comes time for her boss to hack off on some action that he needs to do, it will be shipped over to him electronically.

"It is the same process that we would go through with a real MPF, except it's electronic instead of paper crossing people's desks."

No Total Immunity

Is there any danger that hackers can get into the system, create a make-believe member, and receive pay and other benefits? McIntosh thinks not. "No system is immune to a really determined hacker," he said, "but our information isn't financial or national security, per se, so it probably wouldn't attract them. As for their getting in and creating a brand-new record from scratch, no, they couldn't do it."

Since most current Air Force members are part of the generation brought up with computers, officials think few will be put off by the vMPF approach. "By and large," said McIntosh, "we think most people will be computer literate enough to handle the new system, but there always will be a certain percentage of folks who are not going to be all that comfortable with it, especially in the beginning. So the real MPF still will be there as a bricks-and-mortar institution at every base, with live people willing to help."

For those persons who are able to get to the Internet but still need help working the system, warm bodies will be available as well.

"We're building up an AFPC call center as part of the system," said McIntosh, "because we know that as this program matures, people are going to want to talk to a human about things. They will be filling out an application or something and want to be sure they did it right. We're setting it up so you can call on an 800 number, or send an e-mail, or chat interactively with a technician. Any time you come up with a Web–based platform, you have to have a call center for folks who have difficulties or questions. We're certainly going to be no different."

A strength of the virtual personnel flight approach, officials say, is that it will let people work at their own pace. Unlike a personal interview, an online session need have no time limits and users will be under no pressure to make decisions on the spot. They can set their own pace, take a break to think things over, and return to the vMPF confident they can pick up where they left off.

When the member has made up his mind, however, he won't have to wait in line to see a personnel specialist or make an appointment to file an application. "That's one of the good things," said McIntosh. "The vMPF will be open 24-hours-a-day, seven-days-a-week, 365-days-a-year. If you wake up one Sunday and decide you want to take an action, you don't have to wait until Monday."

Officials expect another benefit: The online service will spare human MPFs some of their more grinding, routine jobs. "It will give us the opportunity to spend more time doing those very important jobs of counseling and records management," McIntosh said. "Those things are done pretty well today, but obviously, given more time, everything could be done better."

Yet another advantage is that members are likely to take less time from their jobs to do personnel business. Some still may use office computers to contact the vMPF, but officials think that most will use their home computers.

As the site is refined, it will allow members to transact almost any kind of personnel business from virtually any part of the world. In the future, when you see TV shots of an officer working at a computer in a remote contingency site, don't assume he is refining the battle plan. He may just be updating his duty record or changing his marital status. ■

Bruce D. Callander, a regular contributor to Air Force *Magazine, served tours of active duty during World War II and the Korean War. In 1952, he joined* Air Force Times, *serving as editor from 1972 to 1986. His most recent story for* Air Force *Magazine, "AFIT Under the Gun," appeared in the September 2000 issue.*

Spectrum Astro is pleased to congratulate the U.S. Air Force Research Laboratory on the flawless launch and continued good health of its MightySat II.1 satellite. Since its picture-perfect launch on July 19, 2000, MightySat II.1 has carried out all initial functions with a robust performance that honors the exceptional efforts of the AFRL and its many teammates: Luna, SEAKR, Kestrel, Orbital Sciences, SMC/TE, the Aerospace Corporation, the Naval Research Laboratory, Composite Optics and Jackson & Tull. Together, we're breaking new ground by enabling the transition of some of the nation's most advanced technologies in imaging, communications and space control from the laboratory to space flight operations. With innovative bus components that are lighter, smarter, and more efficient than the current standards, and stand-alone experiments that include a Fourier Transform Hyperspectral Imager, MightySat II.1 ensures a high-payoff return for this joint Defense Department Space Test Program and AFRL mission. What's more, this space-based platform is flexible enough to deliver the technological edge again and again over the course of the MightySat II multi-mission program. Reliably and affordably. And with performance that is worthy of the name, MightySat.

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This extensive chronology recalls key events in the first war fought by the independent US Air Force.

Air War Korea, 1950–53

To commemorate the Korean War, the US Air Force Historian commissioned Air Force Historical Research Agency to compile a chronology of significant events in USAF's operations. The result was "The US Air Force's First War: Korea 1950–1953," edited by A. Timothy Warnock. What follows is a condensed version.

Note: Each entry uses the local date, which, in theater, was one day later than in the US. Dates separated by a hyphen indicate that an entry covers events from one date through a second date. Two dates separated by a slash indicate events occurred at night.

1950

June 25: North Korea invaded South Korea. Simultaneously, North Korean troops made an amphibious landing at Kangnung on the east coast just south of the 38th parallel. North Korean fighter aircraft attacked airfields at Kimpo and Seoul, the South Korean capital, destroying one USAF C-54 on the ground at Kimpo.

John J. Muccio, US ambassador to South Korea, relayed to President Harry S. Truman a South Korean request for US air assistance and ammunition. The UN Security Council unanimously called for a cease-fire and withdrawal of the North Korean Army to north of the 38th parallel. The resolution asked all UN members to support the withdrawal of the NKA and to render no assistance to North Korea.

Maj. Gen. Earle E. Partridge, who was commander, 5th Air Force, but serving as acting commander of Far East Air Forces (FEAF), ordered wing commanders to prepare for air evacuation of US citizens from South Korea. He increased aerial surveillance of Tsushima Strait between Korea and Japan. The 20th Air Force placed two squadrons of the 51st Fighter–Interceptor Wing (FIW) on air defense alert in Japan.

June 26: North Koreans captured Chunchon, Pochon, and Tongduchon, South Korea. The US Seventh Fleet sailed north from the Philippines. South Korea requested 10 F-51s from the US Air Force to supplement the South Korean air force's AT-6s and liaison-type airplanes. In continued preparation for air evacuation of US citizens from Korea, FEAF traded C-54s for C-47s from all over the Far East, because the latter could land on smaller airfields.

USAF SB-17 aircraft provided rescue cover for the initial evacuation by sea of US citizens from Seoul. Beginning in the early morning, 682 people boarded the Norwegian merchant ship *Reinholte*, which finally left Inchon Harbor at 4:30 p.m., bound for Sasebo, Japan.

F-82G Twin Mustang fighters of the 68th Fighter All-Weather Squadron (FAWS) provided air cover for freighters, including the *Reinholte*. Fifth Air Force also flew escort and surveillance sorties, some over the straits between Japan and Korea and some over the Seoul area.

June 27: The UN Security Council called on all UN members to aid South Korea. President Truman directed US air and sea forces to assist South Korea, and Gen. Douglas MacArthur, Commander in Chief, Far East Command, ordered FEAF to attack North Korean units south of the 38th parallel. Lt. Gen. George E. Stratemeyer, commander, FEAF, who was in the United States when the war broke out, returned to Japan. (Partridge then served as acting FEAF vice commander until July 7.) FEAF used Kimpo airfield, near Seoul, and Suwon airfield, some 20 miles south of Seoul, for emergency air evacuation of 748 persons to Japan on C-54s, C-47s, and C-46s. Cargo aircraft

Photo courtesy Bill Russell via Warren Thompson

Two 7th Fighter-Bomber Squadron F-84s, laden with bombs and fuel, just clear the end of the runway at Taegu at the start of a 1952 mission.

assigned to the 374th Troop Carrier Wing (TCW) and FEAF headquarters accomplished the airlift, escorted by F-82s, F-80 jet fighters, and B-26 light bombers.

Fifth Air Force embarked on a mission to establish air superiority over South Korea, partially to prevent the North Korean air force from attacking South Korean forces and to protect evacuation forces. When North Korean aircraft appeared over Kimpo and Suwon airfields, the USAF aircraft flying air cover engaged the enemy in the first air battle of the war. Maj. James W. Little, commander, 339th FAWS, fired the first shot. Lt. William G. Hudson, 68th FAWS, flying an F-82, with Lt. Carl Fraser as his radar observer, scored the first aerial victory. In all, six USAF pilots shot down over Kimpo seven North Korean propeller-driven fighters, the highest number of USAF aerial victories in one day for all of 1950.

Fifth Air Force B-26s, flying from Ashiya AB, Japan, attacked enemy targets in South Korea in the evening, but bad weather made the raids ineffective. Fifth Air Force established an advance echelon at Itazuke AB, Japan, and moved B-26s to Ashiya and RF-80s to Itazuke for missions in Korea. The 8th Fighter–Bomber Wing (FBW) organized a composite unit of USAF and South Korean airmen at Taegu airfield, South Korea, to fly F-51D Mustangs.

June 28: North Koreans captured Seoul, forcing the South Korean government to move to Taejon. Enemy forces also occupied nearby Kimpo airfield and, on the east coast, Mukho naval base below Kangnung. North Korean Yaks strafed Suwon airfield, destroying one B-26 and one F-82.

In the first USAF airstrikes of the Korean War, more than 20 B-26s of the 3rd Bombardment Group (BG) attacked Munsan railroad yards near the 38th parallel and rail and road traffic between Seoul and the North Korean border. One, heavily damaged by enemy anti-aircraft fire, crashed on its return to Ashiya, killing all aboard. Flying from Kadena AB, Okinawa, the 19th BG, in the first B-29 medium bomber strikes of the Korean War, attacked a railroad bridge and targets of opportunity such as tanks, trucks, and supply columns along North Korean invasion routes.

Bad weather over Japan limited 5th Air Force sorties, but 18 fighters flew close air support and interdiction missions. More than 30 F-80s from Itazuke escorted C-54s and B-26s flying between Japan and Suwon. First Lt. Bryce Poe II, in an RF-80A, flew USAF's first jet combat reconnaissance mission, photographing the NKA advance elements and reporting clearing weather over the front in Korea. C-54s and C-47s flew out the last of 851 US citizens evacuated by air from South Korea. FEAF transports airlifted 150 tons of ammunition from Tachikawa AB, Japan, to Suwon.

June 29: North Korean forces captured Kapyong and massed on the north shore of the Han River. Heavy fighting raged in the Kimpo area. North Korean aircraft bombed and strafed Suwon airfield, destroying a C-54 on the ground. The 21st Troop Carrier Squadron (TCS) moved from Clark AB in the Philippines to Tachikawa AB.

MacArthur directed Stratemeyer to concentrate air attacks on the Han River bridges and North Korean troops massing north of the river. B-26s attacked the bridges, and 5th Air Force F-80s patrolled the Han River area. F-82s from the 86th FAWS, using jettisonable fuel tanks, attacked with napalm for the first time in the war. Pilots of the 35th and 80th Fighter–Bomber Squadrons (FBS) shot down five North Korean airplanes that were attacking Suwon airfield. Eight B-29s of the 19th BG attacked enemy-held Kimpo airfield and the Seoul railroad station, reportedly killing a large number of enemy troops. As the medium bombers turned toward Kadena, enemy aircraft attacked the formation, enabling B-29 gunners to shoot down, for the first time in the war, one of the opponent's airplanes.

MacArthur authorized FEAF attacks on airfields in North Korea. In the first USAF attack on North Korea, 18 B-26s of the 3rd BG attacked Heijo airfield near Pyongyang, the North Korean capital, claiming up to 25 enemy aircraft destroyed on the ground. The 8th Tactical Reconnaissance Squadron (TRS) began photographic reconnaissance of North Korean airfields. Using RB-29 aircraft, the 31st Strategic Reconnaissance Squadron (SRS) (Photographic) also started operations over Korea from Yokota AB, Japan.

June 30: President Truman ordered the use of US ground troops in Korea and a naval blockade of North Korea. The Royal Australian Air Force (RAAF) No. 77 Squadron arrived in Korea to support 5th Air Force, to which it was subsequently attached. North Korean forces reached Samchock on the east coast and in the west crossed the Han River, threatening Suwon airfield. FEAF began evacuation of the airfield and authorized improvement of Kumhae airfield, 11 miles northwest of Pusan, to compensate for the presumed loss of Kimpo and Suwon. The first 5th Air Force Tactical Air Control Parties (TACPs) arrived at Suwon. B-26s from the 3rd BG strafed, bombed, and rocketed enemy troops and traffic in the Seoul area. One flight hit a stalled enemy column. Fifteen B-29s attacked railroad bridges, tanks, trucks, and troop concentrations on the north bank of the Han River in the Seoul area.

July 1: North Korean forces occupied Suwon, denying FEAF use of its airstrip. The 374th TCW began airlifting the US Army 24th Infantry Division, the first US troops to enter Korea since the war began, from Itazuke to Pusan. Fifth Air Force gained operational control of the RAAF No. 77 Squadron.

July 3: FEAF continued to airlift US Army troops to Korea but substituted smaller C-46s and C-47s for C-54s, which damaged the Pusan runways. Pilots of four F-80s on the first mission with external rockets reported excessive drag that shortened their range.

July 5: A Joint Operations Center opened at Taejon to provide better close air support for US ground forces, which, near Osan, battled, for the first time, North Korean troops.

July 6: In the first strategic air attacks of the war, nine B-29s bombed the Rising Sun oil refinery at Wonsan and a chemical plant at Hungnam in North Korea. B-26s hitting advancing enemy armored columns reported six to 10 tanks destroyed.

July 7: Partridge resumed active command of 5th Air Force. The UN Security Council established the UN Command, designated the United States as executive agent for prosecuting the Korean War, and requested that the US President appoint a UN Commander. The RAAF No. 77 Squadron, representing Australia's contribution to airpower in the theater, was attached to FEAF.

July 8: President Truman designated MacArthur as Commander in Chief of UN forces in the Korean Theater. FEAF organized Bomber Command (Provisional) at Yokota, with Maj. Gen. Emmett O'Donnell Jr. as commander. Lt. Oliver Duerksen and Lt. Frank Chermak provided from radio-equipped jeeps the first forward air control to direct air-to-ground attacks in the Korean War.

July 9: Forward air controllers began using L-5G and L-17 liaison airplanes to direct F-80 airstrikes in support of ground forces.

Photo courtesy Cecil Marshall via Warren Thompson

The North American F-82 Twin Mustang was among the first USAF aircraft to operate over Korea. The F-82 in this 1950 photo is from the 4th AWS.

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Photo via Warren Thompson

An airman poses with a damaged 45th Tactical Reconnaissance Squadron RF-51 at Kimpo.

July 10: Carefully timing airstrikes to coincide with the departure of USAF counterair patrols for refueling, four enemy Yaks bombed and strafed the USA 19th Infantry Regiment at Chongju. The 5th Air Force began using T-6 trainer aircraft for forward air control missions, because liaison airplanes were not fast enough to elude enemy fire. F-80s caught an enemy convoy stopped at a bombed-out bridge near Pyongtaek. Along with B-26s and F-82s, they attacked the convoy and claimed destruction of 117 trucks, 38 tanks, and seven half-tracks.

July 12: Four Military Air Transport Service airplanes arrived in Japan from the United States carrying 58 large 3.5-inch rocket launchers (bazookas) and shaped charges desperately needed to destroy North Korean tanks. Enemy fighters shot down one B-29, one B-26, and one L-4, the first North Korean aerial victories. In its first mission, the 92nd BG, flying from its base at Yokota, bombed the Seoul marshaling yards.

July 13: Forty-nine FEAF Bomber Command B-29s from the 22nd BG and the 92nd BG bombed marshaling yards and an oil refinery at Wonsan, North Korea. The 3rd Air Rescue Squadron (ARS) began flying SB-17 aircraft off the Korean coast to drop rescue boats to downed B-29 crews. Advancing enemy troops forced the airborne control function to move southeastward from Taejon to Taegu. Lt. Gen. Walton H. Walker, commander, Eighth Army in Korea, assumed command of all US ground forces in Korea.

July 14: The 35th Fighter–Interceptor Group (FIG), moving from Japan to a new airfield at Pohang, became the first USAF fighter group to be based in South Korea during the war. The 6132nd Tactical Air Control Group (Provisional), the first tactical air control unit in the war, activated at Taegu under Col. Joseph D. Lee. It provided forward, ground-based air control for aircraft providing close air support of UN forces. A 5th Air Force–Eighth Army Joint Operations Center began to function at Taegu, and 5th Air Force activated its advance headquarters at Itazuke.

July 15: Carrier aircraft on missions over Korea began to report to the Joint Operations Center at Taegu. The 51st Fighter Squadron (FS) (Provisional) at Taegu flew the first F-51 Mustang combat missions in Korea. A 5th Air Force operation order assigned "Mosquito" call signs to airborne controllers in T-6 airplanes, and the name became the identifier for the aircraft.

July 17: Three B-29s accidentally bombed friendly civilians in Andong, South Korea, illustrating the dangers of using B-29s on close air support missions.

July 18: The 19th BG modified some B-29s for the use of radio-guided bombs (razon) to enable them to bomb bridges more accurately.

July 19: In a dogfight near Taejon, 5th Air Force F-80s shot down three enemy Yaks, the highest daily number of aerial victories this month. In the campaign to establish air superiority in the theater, seven F-80s of the 8th Fighter–Bomber Group (FBG), led by Lt. Col. William T. Samways, destroyed 15 enemy airplanes on the ground near Pyongyang.

July 20: Despite FEAF close air support, the NKA took Taejon, forcing the remnants of the USA 24th Infantry Division to withdraw to the southeast. US ground forces defending Taejon had suffered, in seven days, almost 30 percent casualties. Maj. Gen. Otto P. Weyland arrived in the Far East to assume the position of FEAF vice commander for operations. Fifth Air Force pilots in F-80s shot down two more enemy aircraft, the last aerial victories until November. Enemy air opposition by this time had virtually disappeared, a sign of UN air superiority.

July 22: The US Navy aircraft carrier USS *Boxer* arrived in Japan with 145 USAF F-51s aboard. The 3rd ARS deployed the first H-5 helicopter in Korea to Taegu.

July 23: The 6132nd Tactical Air Control Group (Provisional) established a Tactical Air Control Center adjacent to the Joint Operations Center at Taegu.

July 24: Fifth Air Force moved its advance headquarters from Japan to Taegu, locating it next to Eighth Army headquarters in Korea for ease of communication and coordination. FEAF established the advance headquarters as 5th Air Force in Korea. The UN Command was formally established in Tokyo, commanded by MacArthur, who assigned responsibility for ground action in Korea to Eighth Army commander Walker; naval action to Vice Adm. C. Turner Joy, commander, Naval Forces, Far East; and air action to Stratemeyer, commander, FEAF.

July 28: The first amphibious SA-16 Albatross aircraft arrived in Japan for air rescue service off the Korean coast.

July 30: Forty-seven B-29s bombed the Chosen nitrogen explosives factory at Hungnam on the east coast of North Korea.

July 31: As North Korean troops continued to advance, Walker ordered UN forces to withdraw to a new defensive line along the Naktong River.

Aug. 1: The 6147th Tactical Control Squadron (Airborne) was established at Taegu for forward air control operations with T-6 aircraft. Forty-six B-29s of the 22nd and 92nd BGs bombed the Chosen nitrogen fertilizer factory at Hungnam, the largest chemical plant in the Far East.

Aug. 2–3: In response to an Eighth Army request, the 374th Troop Carrier Group (TCG) airlifted 300,000 pounds of equipment and supplies from Ashiya to Korea in 24 hours, a new airlift record for the war.

Aug. 3: The 18th FBG headquarters moved from Japan to Taegu for expanded F-51 operations. SA-16 amphibious rescue aircraft began flying sorties along the Korean coast to retrieve US pilots forced down during operations.

Aug. 4: B-29 attacks against key bridges north of the 38th parallel initiated FEAF Interdiction Campaign No. 1.

Aug. 5: Maj. Louis J. Sebille, commander, 67th FBS, dived his damaged F-51 into an enemy position. For this action he posthumously received the first Medal of Honor awarded to a USAF member in Korea. In the first SA-16 rescue operation of the war, Capt. Charles E. Shroder led a crew in saving a Navy pilot who had crashed into the sea off the Korean coast.

Aug. 6: FEAF began nightly visual reconnaissance of enemy supply routes.

Aug. 7: The 98th BG flew its first mission in the Korean War shortly after 20 of its B-29s landed at Yokota. The 822nd Engineer Aviation Battalion completed the first phase of new runway construction, which allowed expanded USAF operations at Taegu.

Aug. 8: The enemy threat to Taegu forced the 18th FBG to evacuate to Ashiya. The 307th BG, newly based in Okinawa, flew its first mission.

Aug. 10: The US Air Force called up two Reserve units, the 437th TCW and the 452nd Bombardment Wing (BW), for Korean War service. Forty-six B-29s of the 22nd, 92nd, and 98th BGs hit an oil refinery and railroad shops at Wonsan, North Korea.

Aug. 11: C-119 Flying Boxcars began airlifting trucks from Tachikawa AB in Japan to Taegu.

Aug. 12: USN Task Force 77 stopped close air support and interdiction strikes in South Korea and moved up Korea's west coast to attack interdiction targets in North Korea, leaving all air attacks in South Korea to FEAF. More than 40 B-29s attacked the port of Rashin in northeastern Korea, near the border of the Soviet Union.

Aug. 13: Endangered by the NKA advance to Pohang, two squadrons of F-51s in the 35th FIG moved from nearby Yonil airfield in South Korea to Tsuiki AB, Japan.

Aug. 16: Because of the enemy threat to Taegu, the advance 5th Air Force headquarters moved to Pusan. Ninety-eight B-29s carpet-bombed suspected enemy troop concentrations in a 27-square-mile area near Waegwan northwest of Taegu. The Superfortresses dropped more than 800 tons of 500-pound bombs in the largest employment of airpower in direct support of ground forces since the Normandy invasion of World War II. Subsequent reconnaissance showed little destruction of enemy troops or equipment, because they had already left the area.

Aug. 19: US troops, aided by airstrikes, drove North Korean forces in the Yongsan bridgehead back across the Naktong River, ending the Battle of the Naktong Bulge. Sixty-three B-29s attacked the industrial and port area of Chongjin in northeastern Korea. Nine Superfortresses of the 19th BG dropped 54 tons of 1,000-pound bombs on the west railway bridge at Seoul, called the "elastic bridge" because repeated air attacks had failed to bring it down. Thirty-seven USN dive bombers from two aircraft carriers followed up the USAF attack. Aerial reconnaissance the next day revealed that two spans had collapsed.

Aug. 19–20: Partridge moved the Joint Operations Center from Taegu to Pusan because of enemy advances.

Aug. 22: Anti-aircraft gunners fired from across the Yalu River at RB-29s reconnoitering the border, the first hostile Chinese action against UN aircraft.

Aug. 23: MacArthur set Sept. 15 as the date to invade Inchon. The 19th BG flew the first razon mission, but with the exception of one bomb that hit the railroad bridge west of Pyongyang, the World War II–era control equipment failed to guide the bombs to the target.

Aug. 25: FEAF directed 5th Air Force to maintain constant armed surveillance of enemy airfields to prevent enemy buildup of air strength before the Inchon invasion.

Aug. 26: Fifth Air Force organized the 47th and 48th TCSs (Provisional) at Tachikawa with C-46s from all over the Far East theater to augment FEAF airlift resources for UN offensives planned for September. At Ashiya, FEAF organized the 1st Troop Carrier Task Force (Provisional) as the nucleus of the new Combat Cargo Command (Provisional). Maj. Gen. William H. Tunner, architect of the Hump airlift of World War II and the Berlin airlift, 1948–49, assumed command of Combat Cargo Command.

Aug. 27: Two USAF Mustang pilots accidentally strayed into China and strafed an airstrip near Antung, mistaking it for a North Korean airstrip at Sinuiju. The Chinese exploited the incident to the fullest for propaganda and diplomatic purposes. The 92nd BG sent 24 B-29s to Kyomipo to bomb the largest iron and steel plant in Korea. FEAF experimented with delayed action bombs to discourage enemy repairs on bridges.

Aug. 30: Before dawn an experimental B-29 flare mission illuminated the Han River in the Seoul area for a B-26 strike on an elusive enemy pontoon bridge, but it could not be found. B-26s attacked the permanent bridge.

Aug. 31: After a 10-day lull in the ground fighting, North Korean forces launched a coordinated offensive against the entire Pusan Perimeter. Fifth Air Force provided close air support for the defending UN troops. Seventy-four B-29s bombed mining facilities, metal industries, and marshaling yards at Chinnampo in the largest strategic bombing mission of the month. Among the targets were aluminum and magnesium plants.

Sept. 1: Fifth Air Force strafed and dropped napalm and bombs on NKA troops and armored columns attacking along the Naktong River front. Carrier-based aircraft from USN Task Force 77 also provided close air support to the perimeter defenders. The 21st TCS dropped rations and ammunition to US troops temporarily cut off by the enemy thrusts. MacArthur directed Stratemeyer to use all available FEAF airpower, including B-29s, to help Eighth Army hold the Pusan Perimeter, the southeast corner of the Korean peninsula that South Korea still controlled.

Sept. 3: Task Force 77 withdrew its aircraft carriers from the Pusan area for replenishment at sea and movement north to strike communications targets, leaving all close air support responsibility with FEAF.

Sept. 4: In the first H-5 helicopter rescue of a downed US pilot from behind enemy lines in Korea, at Hanggan-dong, Lt. Paul W. Van Boven saved Capt. Robert E. Wayne. Three squadrons of C-119 Flying Boxcars arrived at Ashiya for use in the Korean War.

Sept. 6: As North Korean forces approached Taegu, Eighth Army headquarters withdrew to Pusan. Col. Aaron Tyler, airfield commander at Taegu, began moving the remaining aircraft, including the T-6 Mosquitoes of the 6147th Tactical Control Squadron, southward to Pusan.

Sept. 7: FEAF Bomber Command attacked the iron works at Chongjin in the extreme northeast of North Korea, employing 24 B-29s of the 22nd BG.

Sept. 8: The 18th FBG, which had departed Korea a month earlier, returned from Japan, settling at Pusan East (Tongnae).

Sept. 9: North Korean forces attacking southeast of Hajang reached a point only eight miles from Taegu, their farthest penetration on the western front. FEAF Bomber Command began a rail interdiction campaign north of Seoul to slow enemy reinforcements that might counter the UN Inchon landing. In this campaign, the medium bombers combined attacks on marshaling yards with raids to cut rails at multiple points along key routes.

Sept. 10: As a result of the USN Task Force 77's unexpected withdrawal from close air support of Eighth Army on Sept. 3, Stratemeyer persuaded MacArthur to direct that all close air support requests must be routed through 5th Air Force. If 5th Air Force lacked resources to meet the requests, they were to be forwarded to FEAF headquarters for coordination with the commander, Naval Forces, Far East.

Sept. 13: Typhoon Kezia hit southern Japan, hampering FEAF operations and forcing some aircraft to move temporarily to Pusan and Taegu.

Sept. 15: US Marines invaded Wolmi-do in Inchon Harbor at dawn, occupying the island in less than an hour. The main US Army X Corps landings at Inchon occurred at high tide, in the afternoon, after a 45-minute naval and air bombardment. USN and US Marine Corps aircraft from carriers provided air cover during the amphibious assault. At the same time, FEAF air raids in South Korea prepared the way for the planned Eighth Army advance from the Pusan Perimeter.

Sept. 16: US forces secured Inchon and began moving toward Seoul. From the vicinity of Taegu, Eighth Army launched its long-awaited offensive.

Sept. 17: US Marines captured Kimpo airfield near Seoul. To support the Eighth Army offensive, 5th Air Force F-51s and F-80s flew napalm attacks, reportedly killing more than 1,200 enemy soldiers in Tabu-dong, Yongchon, and other strongholds near the Naktong River. FEAF began a week of dropping 4 million psychological warfare leaflets.

Sept. 18: Forty-two B-29s of the 92nd and 98th BGs carpet-bombed two 500-by-5,000-yard areas near Waegwan. The 1,600 bombs effectively destroyed enemy troop concentrations blocking the Eighth Army offensive.

Sept. 19: Combat Cargo Command began an airlift to Kimpo. Thirty-two C-54s landed with equipment and supplies for ground troops. Supported by 5th Air Force close air support missions, the 24th Infantry Division began crossing the Naktong River near Waegwan, and 1st Cavalry Division broke through Communist lines.

Sept. 20: Combat Cargo Command expanded its airlift into Kimpo into an around-the-clock operation by using night-lighting equipment it had transported the previous day. US Marines entered the outskirts of Seoul. To destroy enemy reinforcements, B-29s attacked three separate barracks areas in and near Pyongyang.

Sept. 21: USAF forward air controllers in T-6 Mosquitoes, equipped with air-to-ground radios, spotted about 30 enemy tanks preparing to ambush the advancing 24th Infantry Division.

Photo courtesy Doug Garno via Warren Thompson

The Douglas B-26 Invader flew the first and last bombing missions of the Korean War. Above, a B-26 from the 90th Bomb Squadron flies the skies north of Kunsan.

They called USAF aircraft and USA ground artillery, which destroyed 14 enemy tanks and forced the rest to flee. Combat Cargo Command C-54s began airlifting supplies, including 65 tons of rations and ammunition to newly captured Suwon airfield south of Seoul. C-119s initiated airdrops of food and ammunition to front-line UN troops.

Sept. 22: North Korean resistance crumbled all along the Pusan Perimeter. Lt. George W. Nelson, a USAF pilot in a Mosquito aircraft, dropped a note to 200 enemy troops northeast of Kunsan demanding their surrender. They complied, moving to a designated hill to be captured by nearby UN ground troops. B-29s dropped flares over rail lines, allowing B-26s to attack enemy trains at night.

Sept. 23: Headquarters 5th Air Force in Korea moved from Pusan to Taegu. In the first recorded special operations mission of the war, SB-17 aircraft of 3rd ARS made a classified flight in Korea.

Sept. 25: FEAF flew flare missions over Seoul all night to allow USMC night fighters to attack North Korean troops fleeing the city. Combat Cargo Command landed a battalion of 187th Airborne Regimental Combat Team paratroopers at Kimpo to guard US Army X Corps' northern flank as it moved out from Inchon.

Sept. 26: US military forces from Inchon and Pusan linked up near Osan, while South Korean troops with 5th Air Force support moved northward along the east coast toward the 38th parallel. Twenty B-29s of the 22nd BG bombed a munitions factory at Haeju, destroying the power plant and five related buildings. Other B-29s belonging to the 92nd BG raided the Pujon hydroelectric plant near Hungnam. These attacks marked the end of the first strategic bombing campaign against North Korea. Fifth Air Force organized the provisional 543rd Tactical Support Group at Taegu to manage tactical reconnaissance squadrons in Korea.

Sept. 27: US Marines drove enemy forces from Seoul and took control of the capital building. More than 100 Communist troops, each carrying a "safe conduct pass" that B-29s had dropped, surrendered to US forces near Seoul. The Joint Chiefs of Staff ordered MacArthur to destroy the NKA, a move that involved crossing the 38th parallel into North Korea. Only South Korean troops were to be allowed by the UN Command in provinces bordering China and the Soviet Union. The Joint Chiefs of Staff also canceled further strategic bombing of North Korea. Combat Cargo Command finished airlifting 187th Airborne Regimental Command Team paratroopers to Kimpo.

Sept. 28: South Korean troops advanced into North Korea for the first time. MacArthur officially restored Seoul to South Korean President Syngman Rhee. The first jet fighter squadron to operate from a base in Korea, the 7th FBS moved from Itazuke to Taegu. Three RB-45 Tornadoes, the first jet reconnaissance aircraft in the USAF inventory, arrived in the Far East.

Oct. 2: In an effort to crush NKA reinforcements, 22 Bomber Command B-29s attacked a North Korean military training area at Nanam, destroying 75 percent of the buildings. The 8th TRS moved from Itazuke to Taegu, to become the first USAF day reconnaissance squadron stationed in Korea.

Oct. 3: In a message to the Indian ambassador, China warned that it would send troops to defend North Korea if non–Korean UN troops moved north of the 38th parallel.

Oct. 4: FEAF gained operational control of all land-based aircraft in Korea, including USMC squadrons at Kimpo. Anticipating the acquisition of enemy air installations, FEAF stopped most attacks on airfields south of the 40th parallel. The South African air force No. 2 Squadron, the Union of South Africa's contribution to UN airpower, arrived in the theater and was attached to FEAF.

Oct. 6: The US Air Force took charge of Kimpo airfield, which the US Marine Corps had commanded since its capture. Eighteen B-29s attacked an enemy arsenal at Kan-ni, North Korea. FEAF issued a new interdiction plan canceling attacks on bridges south of Pyongyang and Wonsan.

Oct. 7: The UN General Assembly overwhelmingly approved a resolution authorizing MacArthur to move into North Korea. For the first time, US troops crossed the 38th parallel. USAF airplanes dropped food to a group of 150 former POWs who had escaped during the North Korean retreat.

Oct. 8: Two F-80s accidentally strafed a Soviet airfield near Vladivostok, USSR, on the coast northeast of the Korean border. Stratemeyer removed the group commander, reassigning him to FEAF headquarters, and instituted a court-martial of the two pilots. Razon bomb missions resumed after more reliable radio-guided bombs arrived from the US. The 162nd TRS moved from Itazuke to Taegu, becoming the first night reconnaissance squadron stationed in Korea.

Oct. 10: A 3rd ARS H-5 crew administered, for the first time while a helicopter was in flight, blood plasma to a rescued pilot. The crew members received Silver Stars for this action.

Oct. 12: Combat Cargo Command began an airlift of South Korean military supplies to Wonsan, which South Korean forces had captured two days earlier. It also began transporting 600 tons of bridge sections to Kimpo airfield.

Oct. 14: Two Communist aircraft raided Inchon Harbor and Kimpo airfield. FEAF suspected they had come from Sinuiju, North Korea, on the Chinese border. Chinese Communist Forces (CCF) troops began to enter North Korea from Manchuria.

Oct. 15: MacArthur, in a meeting with President Truman on Wake Island, predicted that the war would be over by Christmas and China would not intervene. CCF anti-aircraft artillery for the first time shot down an F-51 over the Yalu River near Sinuiju. Headquarters 5th Air Force in Korea opened in Seoul.

Oct. 17: Just one day after the capture of Sinmak, less than 50 miles southeast of Pyongyang, Combat Cargo Command began airlifting fuel and rations there to sustain a UN offensive toward the North Korean capital. The command also began aeromedical evacuations from Sinmak to Kimpo.

Oct. 18: An RB-29 reconnaissance crew spotted more than 75 fighters at Antung's airfield in China, just across the Yalu River from North Korea, suggesting that Communist China might intervene in the war.

Oct. 19: After a battle at Hukkyori, some 10 miles south of the North Korean capital, UN forces entered Pyongyang. Fifth Air Force fighters provided crucial air support to US 1st Cavalry Division troops during this battle.

Oct. 20: Combat Cargo Command dropped the 187th Airborne Regimental Combat Team 30 miles north of Pyongyang. Seventy-one C-119s and 40 C-47s participated in the operation, dropping more than 2,800 troops and 300 tons of equipment and supplies at Sukchon and Sunchon. The command also began airlifting Eighth Army supplies to Pyongyang.

Oct. 21: UN forces from Pyongyang linked up with the 187th paratroopers in the Sukchon and Sunchon areas. H-5s of 3rd ARS evacuated some 35 paratroopers in the first use of a helicopter in support of an airborne operation. H-5s also evacuated seven American POWs from the area. A C-47 equipped with

Photo courtesy Robert Fogg via Warren Thompson

Riddled and abandoned, this Yak-3 is typical of the enemy airpower used by the North Koreans early on in the war.

loudspeakers persuaded some 500 enemy troops hiding in houses south of Kunmori to surrender. Combat Cargo Command began aeromedical evacuations from Pyongyang.

Oct. 23: The cargo command concluded its fourth consecutive day of airlift for the 187th Airborne Regimental Combat Team. Flying Boxcars had air-dropped almost 4,000 troops and nearly 600 tons of materiel, including jeeps, trucks, and howitzers.

Oct. 24: MacArthur removed restrictions on how far US troops could move into North Korea, giving them permission to go all the way to the Chinese border.

Oct. 25: FEAF Bomber Command temporarily quit flying combat missions for lack of B-29 targets in Korea. FEAF removed all restrictions on close air support missions near the Yalu River, allowing fighter operations all the way to the Chinese border. Combat Cargo Command set a new daily record by airlifting 1,767 tons of equipment within Korea.

Oct. 26: South Korean forces reached the Yalu River along the Chinese border at Chosan in northwest Korea. Chinese forces severely savaged a South Korean battalion near Onjong. South Korean and UN troops captured the first CCF troops. Combat Cargo Command C-119s dropped supplies to friendly ground troops cut off in North Korea, delivering 28.5 tons of ammunition, fuel, and oil near Unsan, some 50 miles south of Chosan.

Oct. 27: Chinese soldiers moving into Korea attacked the South Korean 6th Infantry Division near the Yalu River. The 452nd BG flew its first B-26 combat mission in the Korean War, less than a month after it was called to active duty in the United States.

Oct. 29: C-47s made aeromedical flights from newly captured Sinanju, North Korea, the northernmost Korean airfield FEAF aircraft ever used. Sinanju was located at the mouth of the Chongchon River, some 40 miles north of Pyongyang.

Nov. 1: Three Yak fighters attacked USAF airplanes, including a B-26, over northwestern North Korea. The B-26 crew claimed one Yak, and two F-51 pilots shot down the other two enemy aircraft, scoring the first aerial victories since July. F-80s attacked Sinuiju airfield, destroying several Yak fighters on the ground, but anti-aircraft artillery located across the Yalu River shot down a FEAF jet. Later that day, six MiG-15 jets appeared for the first time in the war and fired on a T-6 and a flight of F-51 Mustangs in the Yalu River area. A regiment of the USA 1st Cavalry Division experienced a strong CCF attack in the first encounter of the war between US and Chinese ground forces.

Nov. 2: FEAF flew the first RB-45 Tornado jet reconnaissance mission in the war.

Nov. 3: In the face of strong CCF attacks, Walker ordered the bulk of Eighth Army to withdraw to the Chongchon River for regrouping and resupply.

Nov. 4: B-26s providing close support for Eighth Army attacked enemy troops near Chongju, killing an estimated 500 soldiers and providing hard-pressed US troops some relief.

Nov. 5: Bomber Command began incendiary bomb attacks on North Korean cities and towns. Twenty-one B-29s of the 19th BG dropped 170 tons of fire bombs on Kanggye, located less than 20 miles south of the Chinese border. The attack destroyed 65 percent of the town's center.

Nov. 8: In the largest incendiary raid of the Korean War, 70 Superfortresses dropped some 580 tons of fire bombs on Sinuiju on the Chinese border. Other B-29s attacked bridges over the Yalu River for the first time. When MiG-15s challenged F-80s flying in the same area, Lt. Russell J. Brown, 16th FIS, shot down a MiG to score the first jet-to-jet aerial victory in history.

Nov. 9: A 91st SRS gunner, Sgt. Harry J. Levene, scored the first B-29 jet victory of the Korean War, destroying an attacking MiG-15. The damaged RB-29 limped back to Japan, but five crewmen died in the crash landing.

Nov. 10: MiG-15s near the Yalu River shot down a B-29 for the first time. The crew, assigned to the 307th BG, parachuted behind enemy lines and became POWs. Less than 36 hours after its arrival in Japan, the 437th TCW began airlifting cargo on C-46s to Korea.

Nov. 13: UN forces of X Corps, based in Hungnam, North Korea, began moving northward, with a regiment of the US 1st Marine Division advancing into the Changjin Reservoir area.

Nov. 14: Fifteen MiG-15s attacked 18 B-29s bombing the bridges at Sinuiju and damaged two.

Nov. 18: For the first time, a USAF fighter group moved to North Korea. The 35th FIG, which had also been the first fighter group based in South Korea, settled at Yonpo airfield, near Hungnam.

Nov. 19: In the first massed light bomber attack of the Korean War, 50 B-26s from Japan dropped incendiary bombs on Musan, North Korea, on the Tumen River border with China. The attack destroyed 75 percent of the town's barracks area.

Nov. 20: Combat Cargo Command air-dropped rations and gasoline at Kapsan, some 20 miles south of the Yalu River, to supply the 7th Infantry Division, the US ground unit advancing the farthest north during the war.

Nov. 24: To support the UN offensive beginning this day, B-29s attacked North Korean communications and supply centers and Yalu River bridges, while 5th Air Force fighters intensified close air support missions, and Combat Cargo Command air-dropped ammunition to front-line troops.

Nov. 25: Chinese Communist Forces launched a major offensive and, with almost double the number of MacArthur's US troops, stopped the UN offensive completely. The Royal Hellenic air force detachment, a C-47 transport unit representing Greece's airpower contribution to the war, arrived in the Far East and was attached to FEAF.

Nov. 26: USAF B-26s flew their first close air support night missions under TACP direction. The 3rd BG flew 67 B-26 missions along Eighth Army's bomb line in a five-hour period. Still, the enemy drove Eighth Army in northwest Korea and X Corps in northeast Korea southward.

Nov. 28: Combat Cargo Command began a two-week airlift of supplies to US troops, whom the Chinese had surrounded in the Changjin Reservoir area. From Yonpo, North Korea, the 35th FIG flew intense close air support missions for the encircled forces. For the first time, B-26s, using a more accurate radar than previously, bombed within 1,000 yards of the front line. A small Communist aircraft bombed US–held Pyongyang airfield, badly damaging 11 P-51 Mustangs on the ground. MacArthur informed Washington that he faced "an entirely new war."

Dec. 1: USS *Cape Esperance* arrived in Japan with F-86 fighters of the 4th FIW. Fifth Air Force headquarters moved from Nagoya, Japan, to Seoul, and its newly activated 314th Air Division assumed responsibility for the air defense of Japan. In the first prolonged MiG attack of the war, six MiG-15s engaged three B-29s for six minutes, damaging them considerably despite the F-80 escorts. Combat Cargo Command evacuated about 1,500 UN casualties from the Pyongyang area.

Dec. 3: US troops from the Changjin Reservoir area fought their way to Hagaru-ri, while a relief column from Hungnam fought its way toward them, reaching Koto-ri, about seven miles away. Communist troops prevented the two groups from linking and encircled them both, forcing them to rely on airlift for resupply.

Dec. 4: MiG-15s shot down one of the three USAF Tornado reconnaissance aircraft in the theater, making the first successful jet bomber interception in airpower history.

Dec. 5: UN forces abandoned Pyongyang, which they had held since Oct. 19. Greek C-47s joined the Combat Cargo Command airlift to supply UN troops surrounded in northeastern Korea. The command evacuated 3,925 patients from Korea to Japan in the biggest day of the war for aeromedical airlift. Transports flew most of these from a frozen airstrip at Hagaru-ri. USAF suspended attacks on the Yalu River bridges because enemy forces were crossing the frozen river on the ice.

Dec. 6: The 27th Fighter Escort Wing (FEW), a Strategic Air Command unit from Bergstrom AFB, Tex., began flying combat operations from Taegu, introducing F-84 Thunderjet fighters to the war.

Dec. 7: FEAF B-29s bombed North Korean towns in the Changjin Reservoir area to relieve enemy pressure on US Marine and Army units attempting to break out from Hagaru-ri and Koto-ri. Troops in those two locations finally linked and built crude airstrips that allowed Combat Cargo Command airplanes to land food and ammunition and to evacuate casualties. Eight C-119s dropped bridge spans to the surrounded US troops so that they could cross a 1,500-foot-deep gorge to break the enemy encirclement. This was the first air-dropped bridge in the history of warfare.

Dec. 10: A two-week Combat Cargo Command airlift for surrounded US troops in northeastern Korea concluded after delivering 1,580 tons of supplies and equipment and moving almost 5,000 sick and wounded troops. Participating airlift units conducted 350 C-119 and C-47 flights.

Dec. 11: The X Corps began loading on ships in Hungnam Harbor.

Dec. 14: As Chinese forces approached, Combat Cargo Command began an aerial evacuation from Yonpo airfield near Hamhung. A FEAF airplane dropped the first tarzon bomb to be used in Korea on a tunnel near Huichon, with limited effectiveness. The tarzon bomb was a six-ton version of the razon bomb, but generally it did not live up to expectations.

Dec. 15: The 4th FIG inaugurated F-86 Sabrejet operations in Korea. Bomber Command launched its first mission in a new zone interdiction plan. South Korean forces completed their withdrawal from Wonsan, North Korea, and Eighth Army withdrew below the 38th parallel.

Dec. 17: Lt. Col. Bruce H. Hinton, 4th FIG, scored the first F-86 aerial victory over a MiG-15 on the first day Sabres encountered Communist jets. Combat Cargo Command abandoned Yonpo airfield to Communist forces, having transported in four days 228 patients, 3,891 other passengers, and 20,088 tons of cargo.

Dec. 20: Twelve C-54s of the 61st TCG airlifted 806 South Korean orphans from Kimpo to Cheju-Do off the South Korean coast in Operation Christmas Kidlift.

Dec. 22: One USN and five USAF pilots shot down six MiG-15s, the highest daily FEAF aerial victory credit total for the month and the highest since June. A MiG-15 shot down an F-86 for the first time. Headquarters 5th Air Force, Eighth Army in Korea headquarters, and the Joint Operations Center moved from Seoul to Taegu.

Dec. 23: Three H-5 helicopter crews with fighter cover rescued 11 US and 24 South Korean soldiers from a field eight miles behind enemy lines. Eighth Army commander Walker died in a vehicle accident north of Seoul.

Dec. 24: The X Corps completed the sea evacuation of Hungnam. More than 105,000 troops and 91,000 civilians had departed since the exodus began Dec. 11. USAF B-26s and US Navy gunfire held the enemy at bay during the night as the last ships departed. The 3rd ARS flew 35 liberated POWs from enemy territory.

Dec. 25: Chinese forces crossed the 38th parallel into South Korea.

Dec. 26: Lt. Gen. Matthew B. Ridgway, USA, took command of Eighth Army in Korea, as it absorbed X Corps.

Dec. 29: From Taegu, RF-51 aircraft began flying tactical reconnaissance missions in Korea for the first time. They had longer ranges than their RF-80 predecessors.

Dec. 31: Chinese Communist Forces in Korea launched an offensive against UN troops south of the 38th parallel. Ridgway ordered Eighth Army troops to a new defensive line 70 miles farther south.

1951

Jan. 1: As almost half a million CCF and North Korean troops launched a new ground offensive, 5th Air Force embarked on a campaign of air raids on enemy troop columns.

Jan. 2: For the first time, a C-47 dropped flares to illuminate B-26 and F-82 night attacks on enemy forces. The flares also deterred enemy night attacks on US troops. Fifth Air Force withdrew forward-based F-86s assigned to the 4th FIW from enemy-threatened Kimpo airfield near Seoul to the wing's home station at Johnson AB, Japan.

Jan. 3: As massive numbers of Chinese troops crossed the frozen Han River east and west of Seoul, Eighth Army began evacuating the South Korean capital. The South Korean government began moving to Pusan. In one of the largest Bomber Command air raids, more than 60 B-29s dropped 650 tons of incendiary bombs on Pyongyang. UN forces burned nearly 500,000 gallons of fuel and 23,000 gallons of napalm at Kimpo in preparation for abandoning the base to the advancing enemy. FEAF flew 958 combat sorties, a one-day record.

Jan. 4: For the third time in six months, Seoul changed hands as CCF troops moved in. The last USAF aircraft left Kimpo airfield.

Jan. 5: Fifty-nine B-29s dropped 672 tons of incendiary bombs on Pyongyang. The 18th FBG staged its final missions from Suwon. US ground troops burned the buildings at Suwon's airfield before withdrawing.

Jan. 6: Combat Cargo Command concluded a multiday airlift of supplies to the US 2nd Infantry Division, which was fighting to prevent a break in the UN defensive line across South Korea. C-47s from 21st TCS landed 115 tons of cargo at Wonju, in central Korea, and C-119s of the 314th TCG dropped 460 tons of supplies to the division.

Jan. 8: When blizzards forced USN Task Force 77 carriers to suspend close air support missions for X Corps, 5th Air Force took up the slack. Superfortresses cratered Kimpo airfield to

Photo courtesy George Ola via Warren Thompson

Fire retardant covers this B-29 after the bomber made an emergency landing at Kimpo in 1951. Note the No. 1 engine feathered at far left.

prevent its use by enemy aircraft. US forces in central Korea withdrew to new positions three miles south of Wonju.

Jan. 10: Continued severe winter weather forced 5th Air Force to cancel close air support missions, and FEAF flew the lowest daily total of sorties since July 1950. Brig. Gen. James E. Briggs, replaced O'Donnell as commander of Bomber Command. From now on, Strategic Air Command changed commanders of Bomber Command every four months to provide wartime experience to as many officers as possible.

Jan. 11: With improved weather, 5th Air Force and Bomber Command resumed close air support missions for X Corps in north central South Korea.

Jan. 12: After Wonju fell to Communist forces, 98th BG sent 10 B-29s to attack the occupied city. For the first time, B-29s dropped 500-pound general purpose bombs fused to burst in the air and shower enemy troops with thousands of steel fragments. The innovation slowed the enemy advance. To improve bombing precision, FEAF installed shoran (a short-range navigation system) on a B-26 for the first time.

Jan. 13: FEAF flew the first effective tarzon mission against an enemy-held bridge at Kanggye, dropping a 6-ton radio-guided bomb on the center span, destroying 58 feet of the structure.

Jan. 14: Chinese Communist Forces reached their furthest extent of advance into South Korea with the capture of Wonju.

Jan. 15: The enemy began a limited withdrawal in some areas of South Korea.

Jan. 17: A 4th FIG detachment began operating from Taegu, restoring F-86 operations in Korea. For the first time, the Sabres flew in the air-to-ground role as fighter–bombers, conducting armed reconnaissance and close air support missions. FEAF temporarily suspended tarzon bombing missions because of a shortage of the radio-guided bombs. Only three, earmarked for emergencies, remained in the theater.

Jan. 17–18: Combat Cargo Command flew an extraordinary 109 C-119 sorties to drop more than 550 tons of supplies to front-line troops in Korea.

Jan. 19: FEAF launched a 13-day intensive air campaign, by fighters, light bombers, and medium bombers, to restrict to a trickle the supplies and reinforcements reaching enemy forces in the field.

Jan. 20: After weeks of almost unbroken absence, MiGs appeared again over Korea, resulting on this date in the first encounter between USAF F-84s and CCF MiG-15s.

Jan. 21: Large numbers of MiG-15s attacked USAF jets, shooting down one F-80 and one F-84. Lt. Col. William E. Bertram of the 27th FEW shot down a MiG-15 to score the first USAF aerial victory by an F-84 Thunderjet.

Jan. 23: No other day in January saw as much air action. Thirty-three F-84s staging from Taegu attacked Sinuiju, provoking a furious half-hour air battle with MiG-15s from across the Yalu. The Thunderjets shot down three MiGs, the highest daily USAF aerial victory credit total for the month. While 46 F-80s suppressed Pyongyang's anti-aircraft artillery, 21 B-29s cratered the enemy capital's airfields.

Jan. 25: FEAF replaced its Combat Cargo Command (Provisional) with the 315th Air Division (Combat Cargo), which reported directly to FEAF and did not depend on 5th Air Force for administrative and logistical support.

Jan. 25–Feb. 9: Eighth Army executed Operation Thunderbolt, the first UN offensive of the year. The objectives were to clear the area south of the Han River and recapture the port of Inchon and the airfield at Suwon. To sustain this offensive, 68 C-119s in five days dropped at Chunju 1,162 tons of supplies, including fuel, oil, sleeping bags, C rations, and signal wire.

Jan. 26: FEAF flew its first C-47 "control aircraft," loaded with enough communications equipment to connect by radio all T-6 Mosquitoes, TACP, and the Tactical Air Control Center. This was the harbinger of today's warning and control aircraft.

Jan. 30: The first USAF aircraft to land at the recaptured Suwon airfield were C-54s of the 61st TCG, delivering 270 tons of supplies for the advancing UN forces.

Jan. 31: In the first such mission recorded during the Korean War, a special operations unit of the 21st TCS dropped a UN agent behind enemy lines near Yonan, on the west coast just south of the 38th parallel.

Feb. 4: Fifth Air Force modified some B-26s to drop flares because the flare-dropping C-47s that had accompanied B-26 night raiders had trouble keeping up with the fast bombers.

Feb. 5: As part of Operation Roundup, designed to disrupt enemy preparations for a new offensive, X Corps advanced with strong air support near Hoengsong, northeast of Wonju. Maj. Arnold Mullins, 67th FBS, in an F-51 Mustang, shot down a Yak-9 seven miles north of Pyongyang to score the only USAF aerial victory of the month. Capt. Donald Nichols was transferred from Office of Special Investigations to the intelligence section of 5th Air Force to work directly on special and clandestine operations.

Feb. 6: B-26 crews proved that the new MPQ-2 radar equipment, which provided the aircrew better definition of targets, increased the accuracy of night bombing raids. To clear up a backlog of medical patients at Chungju, 315th Air Division C-47s airlifted 343 patients to Pusan. Eight C-54s airlifted a 40-ton, 310-foot treadway bridge, in 279 pieces, from Tachikawa AB, Japan, to Taegu. In a onetime effort to demoralize CCF troops, six C-119s dropped 32 booby-trapped boxes, designed to blow up when opened, on an enemy troop concentration at Kwangdong-ni. The 91st SRS performed its first night photographic mission.

Feb. 8: FEAF, using B-29s, B-26s, and fighters, launched an all-out attack on rail lines in northeastern Korea between Hoeryong and Wonsan. Brig. Gen. John P. Henebry replaced Tunner as commander of the 315th Air Division and airlift operations in the Korean War.

Feb. 9: US troops reached the Han River seven miles east–southeast of Seoul.

Feb. 10: UN forces captured the port of Inchon and the important nearby airfield at Kimpo. Air raids had cratered the field so badly that it required extensive renovation before USAF aircraft could use it. On the east coast, South Korean troops crossed the 38th parallel and entered Yangyang.

Feb. 11/12: In central Korea some 50 miles east of Seoul, Chinese and North Korean forces attacked the South Korean 3rd and 8th Divisions north and northwest of Hoengsong and in two days captured the town, forcing the UN forces toward Wonju, a few miles to the south.

Feb. 12: FEAF cargo aircraft air-dropped supplies to the X Corps command post airstrip at Wonju. A leaflet-dropping C-47 aircraft, hit by enemy anti-aircraft fire, crash-landed at Suwon. FEAF decided to launch subsequent C-47 leaflet drops at night. While B-26s attacked enemy positions at night behind the battle line by the light of air-dropped flares, two enemy aircraft used the same flare light to attack UN positions.

Feb. 13: The 315th Air Division airlifted more than 800 sick and wounded US troops from forward airstrips, such as that at Wonju, to Taegu and Pusan. This airlift used so many C-47s that they were not available for other airlift demands.

Feb. 13–16: Three CCF divisions surrounded UN troops, including members of the US 23rd Infantry Regiment and a French battalion, at a crucial road junction at Chipyong-ni in central Korea. Despite heavy enemy ground fire, 93 transports dropped some 420 tons of food and ammunition to the encircled troops. Twenty C-119s dropped supplies at night over a zone marked by burning gasoline-soaked rags. Also, H-5 helicopters delivered medical supplies to the troops and evacuated more than 40 wounded. The 5th Air Force flew close air support missions for the surrounded troops, who held out until relieved by a friendly armored column.

Feb. 16: For the first time, the US Army began using its own aircraft, the L-19 Bird Dog, for forward air control, artillery spotting, and other front-line duties, relieving 5th Air Force of demands for these types of missions.

Feb. 17/18: B-26s flew the first night bombing mission using shoran, a short-range navigation system employing an airborne radar device and two ground beacon stations for precision bombing.

Feb. 20: FEAF activated a "Special Air Mission" detachment

under 315th Air Division to provide air transportation for important officials and for psychological warfare missions, for example, aerial broadcasting and leaflet drops.

Feb. 21: Eighth Army launched Operation Killer to destroy large numbers of enemy troops while moving the UN line northward to the Han River.

Feb. 23: Bomber Command flew the first B-29 mission with the more accurate MPQ-2 radar, bombing a highway bridge seven miles northeast of Seoul.

Feb. 24: The 315th Air Division dropped a record 333 tons of cargo to front-line troops, using 67 C-119s and two C-46s.

Feb. 28: UN ground forces eliminated the last Communist presence south of the Han River.

March 1: Bomber Command B-29s launched the first mission of a new interdiction campaign. Twenty-two F-80s sent to escort 18 B-29s over Kogunyong, North Korea, arrived ahead of the Superfortresses and returned to base because they were running low on fuel. MiGs attacked the unescorted B-29s, damaging 10, three of which had to land in South Korea. One B-29 gunner brought down a MiG.

March 3: A new shipment of tarzon bombs arrived in the Far East, allowing FEAF to resume raids, suspended since Jan. 17, with the large guided weapons.

March 4: Fifty-one C-119s dropped 260 tons of supplies to the 1st Marine Division in the largest airdrop of the month.

March 6: The 334th FIS used Suwon as a staging base from which F-86 Sabres began raiding the Yalu River area after being absent for months.

March 7: UN forces launched a new offensive called Operation Ripper to cross the Han River in central Korea east of Seoul, destroy large numbers of enemy troops, and break up preparations for an enemy offensive. Fifth Air Force flew more close air support missions to support the operation.

March 14: Communist forces abandoned Seoul without a fight after Ridgway's troops seized high ground on either side of the city north of the Han River. At night B-26s began dropping specially designed tetrahedral tacks on highways to puncture the tires of enemy vehicles. They were more effective than the roofing nails dropped earlier.

March 15: UN forces entered Seoul, the fourth time the city had changed hands since the war began.

March 16: FEAF flew 1,123 effective sorties, a new daily record.

March 17: An F-80, flown by Lt. Howard J. Landry of the 36th FBS, collided with a MiG-15. Both went down with their pilots. Fifth Air Force lost no other aircraft in aerial encounters during the month.

March 20: Fifteen F-94B all-weather jet fighters arrived in the Far East for eventual service as night escorts for B-29s.

March 23: Operation Tomahawk, the second airborne operation of the war and the largest in one day, involved 120 C-119s and C-46s, escorted by 16 F-51s. The 314th TCG and the 437th TCW air transports flew from Taegu to Munsan-ni, an area behind enemy lines some 20 miles northwest of Seoul, and dropped the 187th Airborne Regimental Combat Team and two Ranger companies—more than 3,400 men and 220 tons of equipment and supplies. Fifth Air Force fighters and light bombers had largely eliminated enemy opposition. UN forces advanced quickly to the Imjin River, capturing 127 Communist prisoners. Some of the prisoners waved safe-conduct leaflets that FEAF aircraft had dropped during the airborne operation. Helicopters evacuated only 68 injured personnel from the drop zone. One C-119, possibly hit by enemy bullets, caught fire and crashed on the way back. On the same day, 22 B-29s of the 19th and 307th BGs, protected from MiGs by 45 F-86s, destroyed two bridges in northwestern Korea.

March 24: For the first time, FEAF used an H-19, a service test helicopter, in Korea for the air evacuation of wounded troops. The H-19 was considerably larger and more powerful, with greater range, than the H-5s.

March 24, 26–27: Fifty-two C-119s and C-46s dropped an additional 264 tons of supplies to troops at Munsan-ni, because they could not depend on surface lines of communication for supplies.

March 29: With fighter escorts, B-29s returned to the Yalu River to bomb bridges, which had become important targets again as the river ice thawed. Fifth Air Force light bombers and fighters, which had handled interdiction in the area during the winter, could not destroy the larger Yalu River bridges.

March 31: Flight Lt. J.A.O. Levesque, Royal Canadian Air Force, flying with the 334th FIS, scored the first aerial victory since 1950 of an F-86 over a MiG-15. Elements of Eighth Army moved northward across the 38th parallel. The 3rd ARS used the H-19 to retrieve some 18 UN personnel from behind enemy lines, the first use of this type helicopter in a special operations mission. The 315th Air Division grounded its C-119s for modification and reconditioning.

April 3: The service-test YH-19 helicopter with the 3rd ARS picked up a downed F-51 pilot southeast of Pyongyang, receiving small-arms fire during the sortie.

April 12: As of this date in the war, the heaviest concentration of B-29s against a single bridge encountered the largest and most determined enemy counterair effort, resulting in the largest jet air battle so far in the war. Forty-six B-29s attacking the Yalu River bridge at Sinuiju and 100 escorting fighters encountered between 100 and 125 MiGs, which shot down three bombers and damaged seven others. However, B-29 gunners destroyed seven MiGs, and F-86 pilots downed four more, the highest daily MiG tally thus far. The bridge, despite numerous direct hits, remained standing. At President Truman's direction, Eighth Army commander Ridgway replaced MacArthur, who had several times publicly criticized the Administration's Korean War and foreign policies.

April 14: Lt. Gen. James A. Van Fleet assumed command of Eighth Army.

April 16–20: Bomber Command flew a daily average of 10 B-29 sorties against Pyongyang, Kangdong, Yonpo, and other North Korean airfields.

April 17: President Truman signed an executive order extending US military enlistments involuntarily by nine months, an indication of the manpower shortage facing the military services during the war. An intelligence operation behind enemy lines resulted in the recovery of vital components of a crashed MiG-15. In Operation MiG, a YH-19 helicopter transported a US and South Korean team to the crash area south of Sinanju. Under friendly fighter cover, the party extracted MiG components and samples and obtained photographs. On the return flight southward the helicopter came under enemy ground fire and received one hit. The successful mission led to greater technical knowledge of the MiG.

April 18: H-5 helicopters from the 3rd ARS evacuated 20 critically wounded US soldiers from front-line aid stations to the nearest field hospital. Five of the 10 sorties encountered enemy fire.

April 19: The first modified and reconditioned C-119 returned to service.

Photo courtesy H.A. Gamblin via Warren Thompson

USAF began converting two squadrons to C-124s in May 1952, and the first operational C-124 was flown to Korea in July. This "Ol' Shaky" is parked at Kunsan.

April 21: An SA-16, 3rd ARS, attempted to pick up a downed enemy Yak pilot near Chinnampo for intelligence purposes. The aircrew landed and put out a raft but had to take off because of intense enemy fire, leaving the Yak pilot behind.

April 22/23: Enemy ground forces launched a massive spring offensive.

April 23: FEAF flew some 340 close air support sorties, one of the highest daily totals prior to 1953. The 336th FIS began operating from Suwon, so that its F-86 aircraft could operate for longer periods in MiG Alley near the Yalu River.

April 23–26: FEAF daily flew over 1,000 combat sorties, inflicting enemy casualties and destroying supplies needed to sustain the offensive.

April 24: On separate pickups, an H-5 helicopter from the 3rd ARS rescued first the pilot then the navigator of a downed B-26 near Chorwon, about 15 miles north of the 38th parallel, in the central sector. The navigator, suffering a broken leg, had been captured by two enemy soldiers. But he managed to seize a gun belonging to one of the enemy, causing them to run for cover. Friendly fighters kept them pinned down, while the helicopter made the pickup.

April 26/27: At night, over the western sector, a B-29 close air support strike against enemy troops forming for an attack on the US Army IX Corps broke up the assault.

April 30: Fifth Air Force set a new record of 960 effective sorties. On separate sorties, two H-5 helicopters each picked up a downed UN pilot behind enemy lines. Small-arms fire damaged one helicopter. The first indication of enemy radar-controlled anti-aircraft guns came with the loss of three out of four F-51s making an air-to-ground attack against a target at Sinmak.

May 5: An H-5 helicopter from the 3rd ARS rescued a downed F-51 pilot north of Seoul, encountering small-arms fire in the area.

May 8: Another H-5 helicopter picked up two US soldiers north of Seoul, encountering small-arms fire in the area.

May 9: In one of the largest counterair efforts so far, 5th Air Force and 1st Marine Air Wing fighter–bombers flew more than 300 sorties against Sinuiju airfield in extreme northwestern Korea.

May 15/16: As anticipated, the Communists launched the second phase of their spring offensive against the South Korean corps in the east, a last vain attempt to drive UN forces from the Korean peninsula. The enemy limited its tactical assaults to night because of FEAF daytime aerial attacks.

May 16–26: In a maximum effort, 315th cargo aircraft flew an average of more than 1,000 tons of supplies daily from Japan to Korea to support UN ground forces seeking to halt the Communist offensive.

May 17–22: Bomber Command B-29s flew 94 (mostly nighttime) sorties against enemy ground forces, far more close air support missions in a similar period than previously in the war. The B-29s flew few other type missions during this time.

May 19: An H-5 helicopter rescued a downed F-51 pilot southwest of Chorwon in the central sector, sustaining damage from small-arms fire during the pickup.

May 20: Capt. James Jabara, 334th FIS, destroyed his fifth and sixth MiGs in aerial combat, thereby becoming the world's first jet-to-jet ace. Eighth Army successfully blunted the Communist offensive, leaving the enemy overextended and under constant aerial attack. Stratemeyer, FEAF commander, suffered a severe heart attack.

May 21: Partridge assumed command of FEAF. Maj. Gen. Edward J. Timberlake took his place as 5th Air Force commander.

May 22: In close air support sorties, 5th Air Force fighter–bombers inflicted some 1,700 casualties on enemy forces, one of the highest daily totals thus far.

May 23: Brig. Gen. Robert H. Terrill assumed command of Bomber Command, replacing Briggs.

May 24: The 136th FBW, one of two Air National Guard organizations sent to Korea, flew its first combat sorties of the war.

May 27–28: Unit 4/Special Air Mission C-47s flew leaflet-drop/voice-broadcast sorties encouraging the enemy to surrender to elements of the US Army's IX Corps. Some 4,000 enemy soldiers surrendered, many carrying leaflets. The captives reported morale problems among the enemy because of UN aerial attacks.

May 31: Fifth Air Force began Operation Strangle, an interdiction campaign against enemy supply lines in North Korea.

June 1: One flight of F-86s from the 336th FIS, escorting B-29s, engaged 18 MiG-15s, destroying two. A flight of 343rd BS B-29s defended itself against 22 MiG-15s in the vicinity of Sonchon. The MiGs destroyed one B-29 and damaged another, while the defenders destroyed two enemy jets. Special Air Mission C-47s dropped 15 Koreans into enemy-held territory to retrieve parts from a crashed MiG-15. Unfortunately, Communist forces captured all 15. Maj. Gen. Frank F. Everest, assumed command of 5th Air Force, replacing Timberlake.

June 3: UN anti-aircraft artillery destroyed two 315th C-119s while the aircraft were attempting a resupply airdrop. This fratricide incident led to the adoption of new procedures for Identification, Friend or Foe during air-drop operations.

June 7–10: B-26 and B-29 aircraft undertook radar-directed area attacks against the Iron Triangle—the vital Chorwon-Kumhwa-Pyongyang communications and supply area—at night, raining 500-pound bombs set to explode over the heads of the enemy troops. These operations were in preparation for UN ground forces' assaults.

June 10: The airfield at Chunchon, some 50 miles northeast of Seoul and 10 miles south of the 38th parallel, opened to cargo traffic, adding to 315th Air Division's ability to meet the growing demand for air-drop capability. In Tokyo, Lt. Gen. Otto P. Weyland assumed command of FEAF, replacing Partridge.

June 11: An SA-16 of the 3rd ARS made a pickup at dusk of a downed F-51 pilot from the Taedong River near Kyomipo, North Korea. The SA-16, although receiving fire from both sides of the river, made a landing approach without lights, avoiding low electrical transmission lines and rocks and debris on the river's surface. The pilot earned the Distinguished Service Cross for the rescue.

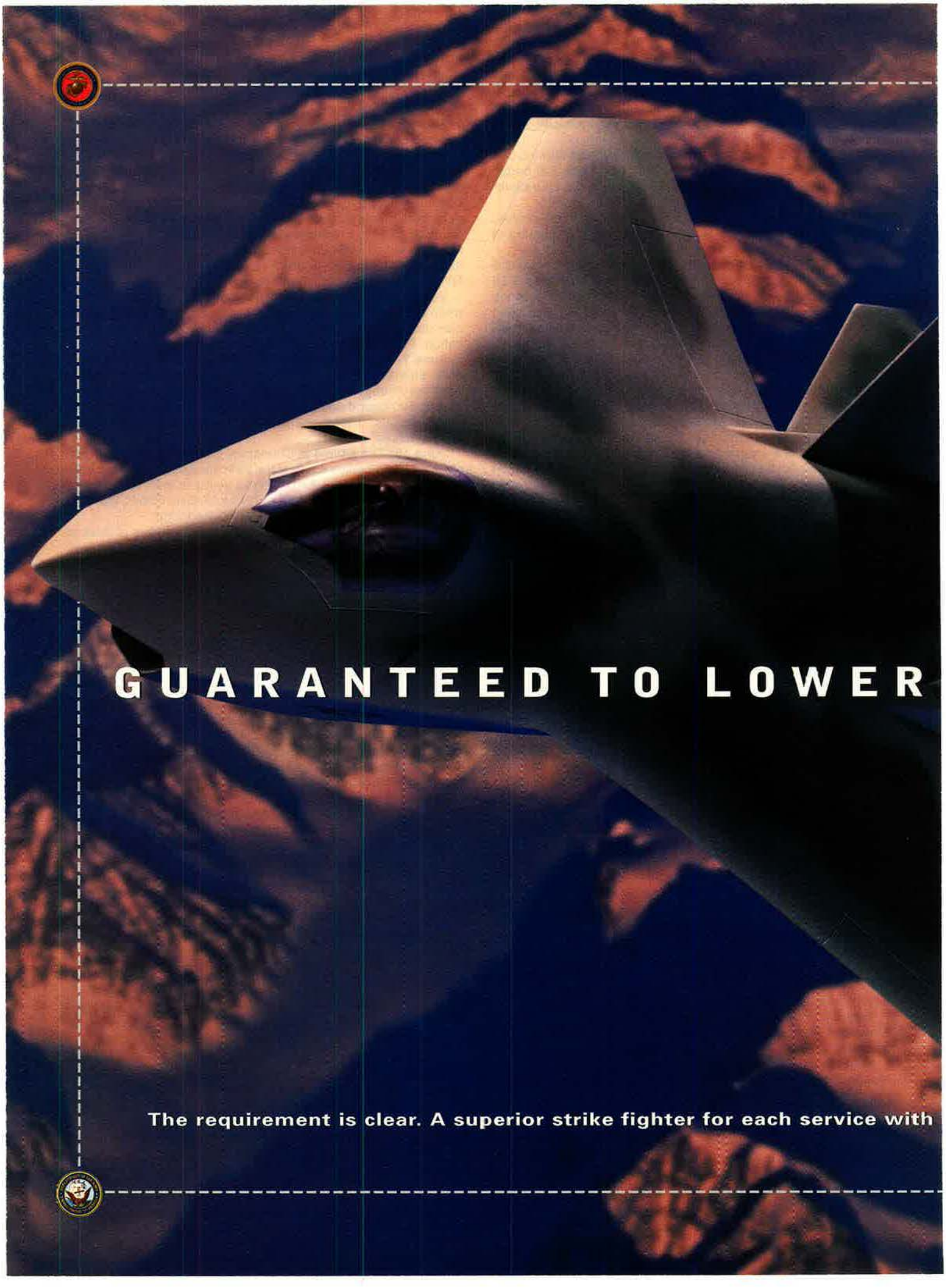
June 15: Fifth Air Force moved its headquarters from Taegu back to Seoul.

June 23: Jacob Malik, Soviet ambassador to the United Nations, called for negotiations between representatives of UN forces and Communist forces for an armistice in Korea based upon the separation of the armies along the 38th parallel.

June 25: The 8th FBG moved to Kimpo after completion of repairs to Kimpo's short runway. This marked the resumption of combat operations at Kimpo, although aviation engineers continued their work to restore the main runway.

July 1: Kim Il Sung, North Korean premier, and Paeng Tehuai, CCF commander, responded to UN overtures and agreed to participate in truce negotiations. Pioneer in aerial reconnaissance, Col. Karl L. Polifka, commander, 67th Tactical Recon-

Capt. James Jabara gets a lift from 2nd Lt. Rudolph Holley (left) and Maj. Edward Fletcher after destroying his fifth and sixth MiGs.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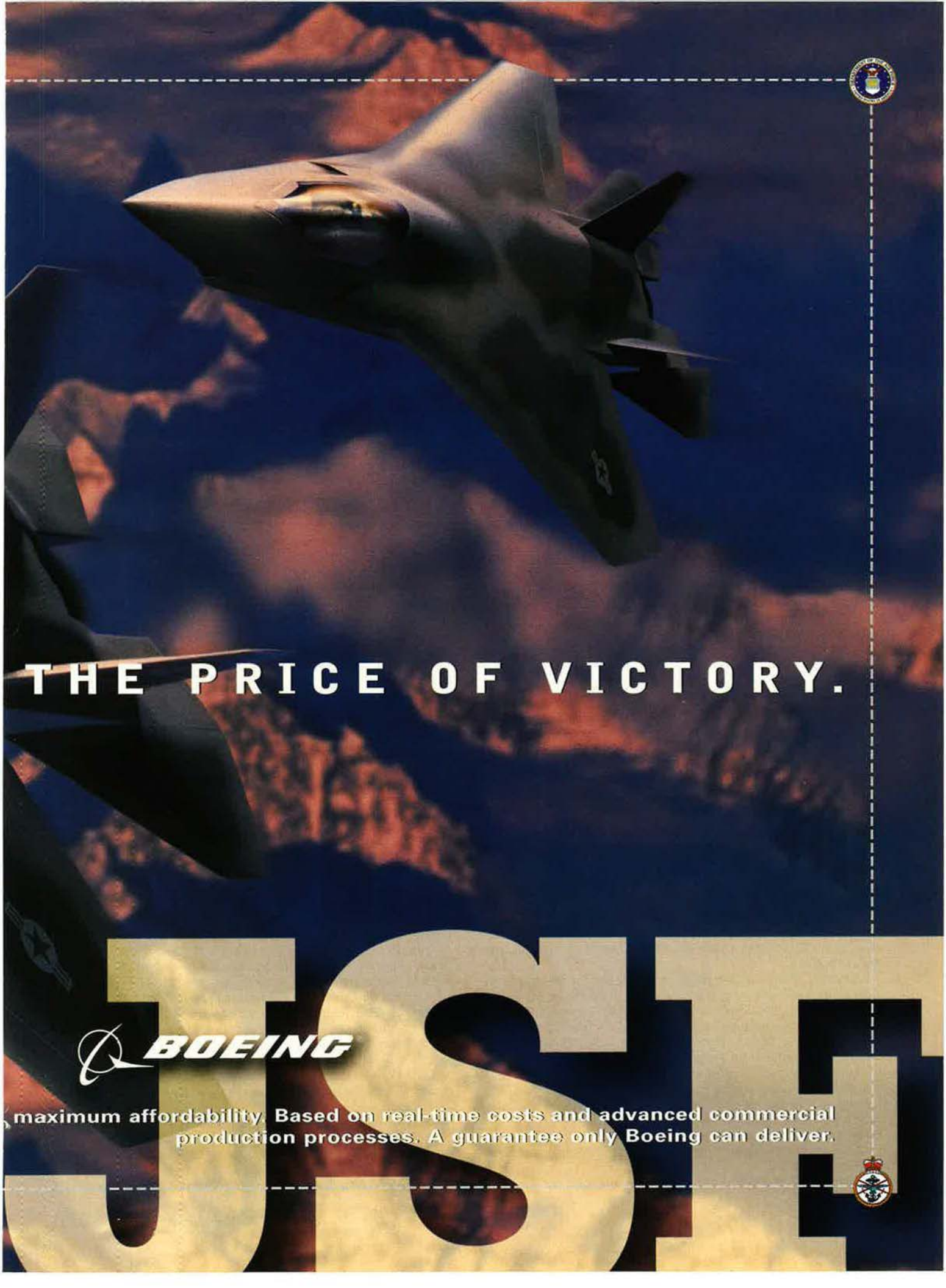
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A T-6 Mosquito from the 6147th Tactical Control Group roams low over North Korea in April 1952, looking for enemy hideouts, supply caches, and gun emplacements.

naissance Wing (TRW), was shot down and killed, while flying an RF-51 near the front lines.

July 6: An Air Materiel Command KB-29M tanker, operated by a Strategic Air Command crew assigned to the 43rd ARS, conducted the first in-flight refueling over enemy territory under combat conditions. The tanker refueled four RF-80 Shooting Stars flying reconnaissance missions over North Korea.

July 10: Naval Forces, Far East, commander Joy led the UN delegation that met the Communists at Kaesong, some 30 miles northwest of Seoul and just south of the 38th parallel, in the first conference of the armistice negotiations. A flight of F-80s reported a long convoy of NKA trucks and tanks halted by a demolished bridge. Fifth Air Force diverted every available aircraft to attack with bombs, rockets, and gunfire, resulting in the destruction of over 150 vehicles, a third of them tanks.

July 14: In one of the more spectacular night strikes of the war, a single B-26 of the 452nd BG attacked two enemy convoys north of Sinanju in the early morning hours, claiming 68 destroyed or damaged vehicles.

July 21: A detachment of the 6004th Air Intelligence Service Squadron completed a week-long effort near Cho-do Island to recover the most components ever salvaged from a MiG-15 aircraft. This combined operation involved 5th Air Force aircraft providing high cover, British carrier aircraft flying low cover, and the US Army contributing a vessel outfitted with a crane.

July 24: The 116th FBW, the second Air National Guard wing deployed to the Far East, arrived with its F-84 Thunderjets at Misawa and Chitose ABs in Japan.

July 25: Fifth Air Force directed the formal establishment of an air defense system for South Korea, utilizing the resources of the 502nd Tactical Control Group and its subordinate squadrons.

July 29: UN jet fighter–bombers and reconnaissance aircraft operating near Pyongyang encountered MiGs much farther south than usual. Evading the attacking MiGs, the UN aircraft returned safely to base.

July 30: In the largest single mass attack for the month on targets in the Pyongyang area, 91 F-80s suppressed enemy air defenses while 354 USMC and USAF fighter–bombers attacked specified military targets. To avoid adverse world public opinion during ongoing peace negotiations, the Joint Chiefs of Staff withheld information on the strike from the news media.

Aug. 4: Communist ground forces violated the Kaesong neutral zone, resulting in suspension of truce talks.

Aug. 10: Armistice negotiations resume at Kaesong with the North Korean promise to respect the neutral zone.

Aug. 17: A typhoon at Okinawa halted B-29 operations.

Aug. 18: FEAF began Operation Strangle against North Korean railroads.

Aug. 22: The Communist delegation trumped up evidence that a UN aircraft bombed Kaesong, resulting in suspension of the armistice negotiations once again.

Aug. 24/25: B-26s claimed over 800 trucks destroyed in the new campaign of night anti-truck operations.

Aug. 25: In Bomber Command's largest operation of the month, 35 B-29s, escorted by USN fighters, dropped 300 tons of bombs on marshaling yards at Rashin in far northeastern Korea. Previously excluded from target lists because of its proximity of less than 20 miles to the Soviet border, Rashin was a major supply depot.

Sept. 9: Seventy MiGs attacked 28 Sabres between Sinanju and Pyongyang. Despite such odds, F-86 pilots, Capt. Richard S. Becker, 334th FIS, and Capt. Ralph D. Gibson, 335th FIS, each destroyed a MiG, increasing the number of jet aces from one to three.

Sept. 10: South of Pyongyang a 3rd ARS H-5 helicopter, with fighter escort, rescued F-80 pilot Capt. Ward M. Millar, 7th FBS. He had suffered two broken ankles during his ejection from the jet but escaped after two months as a prisoner and then evaded recapture for three weeks. The helicopter also brought out an NKA sergeant who had assisted Millar, delivering both to Seoul.

Sept. 14: Capt. John S. Walmsley Jr., 8th BS, on a night B-26 interdiction sortie, attacked an enemy train, expending his ordnance. He then used a USN searchlight experimentally mounted on his aircraft's wing to illuminate the target for another B-26. Shot down and killed by ground fire, Walmsley earned the Medal of Honor for his valorous act.

Sept. 23: In an excellent example of shoran bombing technique, eight B-29s from the 19th BG knocked out the center span of the Sunchon rail bridge despite nine-tenths cloud cover.

Sept. 24: Attempts to reopen peace talks at Kaesong failed.

Sept. 25: In the largest air battle in recent weeks, an estimated 100 MiG-15s attacked 36 F-86s flying a fighter sweep over the Sinanju area. Sabre pilots destroyed five MiGs in aerial combat, the daily high for the month.

Sept. 27: In Operation Pelican, a service-test C-124A Globemaster flew its first payload from Japan to Korea, delivering 30,000 pounds of aircraft parts to Kimpo airfield.

Sept. 28: On the longest flight to date for a jet aircraft using in-flight refueling, a Yokota–based RF-80 flew for 14 hours and 15 minutes on a Korean combat sortie, refueling multiple times from two KB-29M tankers.

Sept. 30: Replacing Terrill, Brig. Gen. Joe W. Kelly assumed command of Bomber Command.

Oct. 1–3: In Operation Snowball, 315th C-119s experimentally dropped 55-gallon drums filled with napalm behind enemy lines.

Oct. 10: FEAF marked a significant date for the Chinese, the anniversary of the overthrow of the Manchu Dynasty, by dropping special leaflets and making radio broadcasts aimed at Chinese Communist Forces in Korea.

Oct. 16: Fifth Air Force Sabre pilots destroyed nine MiG-15s in aerial combat, a record daily high.

Oct. 16/17: B-29s flew 31 day and night sorties, the high for the month, including attacks against rail bridges, marshaling yards, and the Samchang airfield and leaflet drop and reconnaissance sorties.

Oct. 19: The US Army opened a 1,000-bed hospital at Camp Drew, north of Tachikawa AB, Japan. Henceforth, C-54s flew medical evacuees from Korea to Tachikawa, then C-47s shuttled them to Camp Drew, thereby reducing transit time.

Oct. 21–30: The enemy flew sorties over North Korea daily for the first time in the war. MiGs appeared in numbers over 100, consistently outnumbering their F-86 counterparts and downing three F-86s at a cost of five MiGs lost to Sabres.

Oct. 22: Two 3rd ARS SA-16s rescued the 12-man crew of a downed B-29, the highest number rescued by SA-16s on any day in the war.

Oct. 23: In one of the bloodiest air battles of the war, during a 307th BW raid on Namsi airfield, MiG-15s destroyed three B-29s and one F-84 and damaged five other bombers. Fighter pilots and B-29 gunners shot down five MiGs.

Oct. 25: In an unusually effective close air support strike, F-51

Mustangs inflicted approximately 200 casualties on enemy troops in the I Corps sector. Enemy small-arms fire hit a rescue helicopter picking up a downed UN pilot. The H-5 made a forced landing in enemy territory. The next day, two other H-5s hoisted all four men to safety from the mountainside where they had hidden from Communist troops during the night. At the request of the Communists, peace negotiations resumed.

Oct. 27: MiGs flew approximately 200 sorties, the high for the month. On a last medium bomber daylight raid, B-29 gunners shot down six MiG-15s, their highest number of enemy aircraft downed on any day of the war. A 3rd ARS H-5, with fighter escort, rescued a downed UN fighter pilot despite intense fire from enemy ground troops.

Oct. 31: The service-test C-124A departed for the United States, having successfully completed its test in the Far East and convinced the 315th Air Division of the need for a Globemaster squadron.

Nov. 3: Enemy ground fire damaged a 3rd ARS SA-16 engaged in a failed rescue attempt; however, the aircrew, in spite of six- to eight-foot seas, successfully landed in Korea Bay, off the west coast of North Korea, and rescued another downed pilot.

Nov. 4: Thirty-four F-86s encountered an estimated 60 MiG-15s in the Sinamju area. The F-86 pilots destroyed two and damaged three others.

Nov. 6: Eleven enemy piston-type, twin-engine light bombers, probably TU-2s, bombed Taehwa-do, a UN–controlled island. This raid was the first confirmed report of air-to-ground action by an enemy light bomber formation since the Korean War started.

Nov. 8: F-86s and F-80s encountered more than 100 MiG-15s, but only a small number chose to fight. USAF pilots destroyed one MiG and damaged another, while losing one F-86.

Nov. 9: A C-47 landed on the beach of Paengnyong-do Island, off the southwest coast of North Korea, and rescued 11 crewmen of a downed B-29. The 19th BG attacked marshaling yards at Hwang-ju, Kowon, and Yangdok; the Saamcham airfield; and a barracks area. In other night attacks, 98th BW B-29s bombed Taechon airfield, flew five close support sorties and a leaflet sortie, and struck Hungnam.

Nov. 12: Peace negotiations moved to Panmunjom, a village less than five miles east of Kaesong, in a newly established demilitarized zone on the 38th parallel. UN Command ceased offensive ground operations.

Nov. 16: Fifth Air Force fighter–bombers made more than 100 rail cuts between Sinanju and Sukchon and between Kunu-ri and Sunchon. They also damaged bridges, knocked out gun positions, destroyed supply buildings, fired fuel dumps, and took a toll of enemy railcars.

Nov. 18: F-86 aircraft strafed eight MiG fighters on the ground at Uiju, destroyed four, and damaged the rest. MiG-15s forced three flights of F-84 fighter–bombers to jettison their bombs and abort prebriefed rail-cutting missions near Sinanju.

Nov. 24: In night operations, 98th BW bombed Taechon airfield and the marshaling yard at Tongchon and flew five close support sorties; 307th BW bombed the marshaling yard at Hambusong-ji; and 19th BG bombed Namsi airfield, the Hoeyang highway bridge, and the marshaling yards at Munchon and Hambusong-ji.

Nov. 27: Maj. Richard D. Creighton, 4th FIG, shot down a MiG to become the fourth ace of the war.

Nov. 28: Representatives of all intelligence gathering organizations in Korea met at Far East Command, Liaison Division, to discuss how to coordinate their activities. Capt. Donald Nichols represented Det. 2, 6004th Air Intelligence Service Squadron. The conference resulted in the establishment of the Combined Command for Reconnaissance Activities in Korea.

Nov. 30: In one of the largest aerial battles of the war, F-86 pilots of the 4th FIG engaged over the island of Taehwa-do 44 enemy aircraft flying south to bomb a UN target. The Sabre pilots destroyed 12 and damaged three others. Maj. George A. Davis Jr., 334th FIS, achieved Korean War ace status by downing a Tu-2 and a MiG-15. He was the first to be an ace in two wars, since he had been an ace in World War II, as well. Maj. Winton W. Marshall, 335th FIS, also became an ace, destroying an La-9 and a Tu-2. Enemy forces attacked Taehwa-do, north of Cho-do, forcing friendly forces to retreat to Cho-do. Fifth Air Force aircraft dislodged the enemy, enabling friendly forces to retake the island.

Dec. 3: Enemy jets made their first air–ground attack of the war, bombing and strafing UN ground positions near Chorwon, almost 60 miles northeast of Seoul.

Dec. 13: Twenty-nine F-86s encountered 75 MiG-15s over Sinanju, and in a wild melee the F-86 pilots shot down nine MiGs, giving USAF pilots a total of 13 aerial victories for the day.

Dec. 14: In the night, 19th BG B-29s inflicted severe damage on marshaling yards at Maengjung-dong.

Dec. 19: The 307th BW sent 10 B-29s to bomb marshaling yards at Chongju.

Dec. 21: Fifth Air Force units flew 530 sorties, making 30 cuts in the main rail line between Sinanju and Sukchon and attacking a supply complex near Kunu-ri.

Dec. 24: In a typical nighttime mission, B-29s from the 98th BW cratered the runway at Taechon airfield and bombed the railroad bridge at Sinanju.

Dec. 27: FEAF aircraft flew 900 sorties, the largest number of the month, damaging or destroying locomotives, railcars, buildings, vehicles, and gun positions.

1952

Jan. 12: F-84s caught three supply trains at Sunchon, racing for the shelter of a tunnel. They blasted the tunnel mouth shut, trapping the trains in the open, then destroyed the boxcars and at least two locomotives.

Jan. 12/13: Ten Okinawa–based Superfortresses dropped 396 high-explosive 500-pound bombs on the railroad bridge east of Sinanju across the Chongchong River, rendering the bridge unserviceable.

Jan. 25: A helicopter rescued a downed airman, near the coastline of the Yellow Sea, while F-84s strafed enemy troops in the area. Escorting F-86s destroyed three MiG-15s during the pickup. In other air-to-air combat, UN jets destroyed six and damaged four Communist aircraft.

Jan. 26: A rescue helicopter, behind enemy lines near the coastline of the Yellow Sea, received small-arms fire while rescuing an F-84 pilot, Capt. A.T. Thawley.

Feb. 9: In a typical mission, 10 medium bombers used radar-aiming methods to drop 100 tons of 500-pound bombs, rendering the north bypass Chongju rail bridge unserviceable.

Feb. 10: Leading a flight of three F-86s on a patrol near the Manchurian border, Maj. George A. Davis Jr. engaged 12 MiG-15s in aerial combat. Davis shot down two enemy aircraft and completely disrupted the enemy formation, but the MiGs destroyed his aircraft as well. Because he executed his attack against superior numbers and successfully protected the fighter–bombers his flight had been escorting, Davis posthumously received the Medal of Honor for his valor.

Feb. 16–22: MiG-15 pilots flew close to 1,400 sorties this week.

Feb. 17: Fifth Air Force flew an impressive 695 sorties, cratering rail tracks in more than 50 locations, damaging a locomotive and 15 railcars north of Huichon, strafing a convoy of trucks near Sinanju, and destroying supply buildings and dumps between Kumsong and Sibyon-ni.

Feb. 19: The Communists flew approximately 389 MiG-15 sorties, the largest aerial effort to date. In aerial combat, USAF pilots destroyed three enemy aircraft.

Feb. 23: By shooting down a MiG-15, Maj. William T. Whisner Jr., 25th FIS, achieved ace status.

Feb. 26: Ten Superfortresses, using radar-aiming methods, dropped 100 tons of bombs on the Sinhung-dong railroad bridge near Huichon in north central Korea, knocking out two spans. Col. Cecil H. Childre replaced Henebry as commander, 315th Air Division.

March 5: While jet fighters stilled enemy anti-aircraft fire, a

USAF helicopter lowered a hoist sling and rescued a downed USN pilot in the vicinity of Yongyon.

March 11: Fighter–bombers dropped 150 tons of bombs and approximately 33,000 gallons of napalm on a four-square-mile supply storage and troop training area near Sinmak. Fifth Air Force operations officers reported this to be the most intensive napalm attack on a single area in the war.

March 11/12: Ten B-29s struck the Sinchang-ni choke point, 10 miles east of Sunchon, with 91 tons of high explosives, rendering the point unpassable.

March 15: Brig. Gen. Wiley D. Ganey replaced Kelly as commander, Bomber Command.

March 20: In the Sui-ho Reservoir area, MiG-15s attacked a USAF patrol. The F-86 pilots destroyed five MiGs and damaged approximately 13 others.

March 25: Fifth Air Force flew 959 sorties, concentrating on interdiction of the rail line from Sinanju to Chongju and making approximately 142 cuts in the track. Some aircraft struck the Sunchon–Pyongyang highway, scoring 27 hits.

March 27: A helicopter crew, learning that Chinese troops had captured a downed US pilot near Pyoksong, made several low passes, enabling him to escape. While one helicopter crew member fired at the Chinese soldiers with a rifle, others lowered a hoist and rescued the pilot.

March 31/April 1: Bomber Command B-29s flew 29 sorties, approximately twice the normal rate, mostly against the Sinhung-dong rail bridge and Kwaksan railroad track.

April 1: Fifth Air Force Sabre pilots destroyed 10 MiGs while losing one F-86. Col. Francis S. Gabreski, commander, 51st FIW, destroyed a MiG to become the eighth jet ace of the war.

April 3: In aerial combat, Capt. Robert H. Moore, 336th FIS, destroyed his fifth MiG to become an ace.

April 6: In air-to-air operations, Capt. Iven C. Kincheloe Jr., 25th FIS, destroyed a MiG, becoming the war's 10th ace.

April 10: Brig. Gen. Chester E. McCarty assumed command of the 315th for the remainder of the war.

April 14: The first Air Force Reserve wing ordered to active duty service, the 403rd TCW (Medium), arrived at Ashiya. An SA-16 of the 3rd ARS, while under enemy small-arms fire from the shoreline, rescued a US naval aviator from the water.

April 21: In aerial combat, Capt. Robert J. Love, 335th FIS, destroyed two MiGs to become an ace.

April 22: Because of shortage of fighter–bombers, 5th Air Force assigned Sabres of the 4th FIW and 51st FIW a new commitment—the armed reconnaissance of enemy lines of communication.

April 26: In air-to-air operations, Maj. William H. Wescott, 51st FIG, destroyed his fifth MiG in four weeks to become the war's 12th ace.

April 28: An H-19 helicopter of the 3rd ARS picked up a downed Royal Netherlands air force Sea Fury pilot. It was the second time in three weeks that the same pilot had been picked up by a 3rd ARS helicopter.

April 29–30: Unrelated crashes of a C-47, a C-119, and a C-46 claimed the lives of 16 people, the greatest loss for the 315th Air Division in the first half of 1952.

May 3: Sabre pilots destroyed five MiG-15s, with Maj. Donald E. Adams, 16th FIS, destroying two and Capt. Robert T. Latshaw Jr., 335th FIS, downing another to increase the number of aces to 14.

May 4: Twenty-five F-86s strafed and destroyed five of 24 Yak-9s parked in revetments at Sinuiju airfield.

May 8: In the first of four major interdiction strikes, 5th Air Force fighter–bombers flew approximately 465 sorties against the enemy supply depot at Suan, located about 40 miles southeast of Pyongyang, in the largest one-day attack since the war began. Over a 13-hour period, the UN pilots damaged or destroyed more than 200 supply buildings, personnel shelters, revetments, vehicles, and gun positions. Enemy anti-aircraft fire downed an F-86 on a dive-bombing strike against the Kunu-ri marshaling yards, the first loss of a Sabre on a fighter–bomber sortie.

May 12: Gen. Mark W. Clark, USA, replaced Ridgway as CINC, UN Command and Far East Command.

Photo courtesy Russ Rogers via Warren Thompson

Four F-80s head into battle. USAF's first operational jet fighter, the Shooting Star flew extensively in the Korean War in the ground attack role.

May 13: Fifth Air Force Sabres destroyed five MiG-15s in aerial combat. In the morning, 12 F-86s attacked targets in Sinuiju and Sinuiju and Uiju airfields. In early afternoon, Sabres struck the marshaling yards at Kunu-ri and, in late afternoon, bombed Sinuiju with 1,000-pound bombs. Unfortunately, Col. Walker M. Mahurin, commander, 4th FIG, who had led all three missions, was shot down and captured.

May 15: Fifth Air Force fighter–bombers flew 265 sorties against a vehicle repair factory at Tang-dong, north of Pyongyang, destroying at least 39 buildings and a power plant. First Lt. James H. Kasler, 335th FIS, destroyed two MiGs to become an ace.

May 16–17: In an outstanding example of emergency unit movement by air, 315th C-119, C-54, and C-46 aircraft transported 2,361 members of the 187th Airborne Regimental Combat Team and combat equipment, vehicles, and supplies from Japan to Pusan. The team quelled rioting POWs at Koje-do, where the UN Command had established a large POW compound.

May 18: An SA-16 amphibian from the 3rd ARS, while under fire from the enemy shoreline, rescued a downed F-84 pilot.

May 20: Col. Harrison R. Thyng, commander, 4th FIW, destroyed his fifth MiG to become the 16th jet ace of the war.

May 22: Fifth Air Force flew 472 fighter–bomber sorties against the Kijang-ni industrial area southwest of Pyongyang to destroy more than 90 percent of the complex, which produced hand grenades, small arms, and ammunition.

May 23: In the last of four major interdiction strikes, 5th Air Force flew 275 fighter–bomber sorties against a steel factory complex in the Kijang-ni area, destroying 80 percent of the target. Because of poor weather, an H-19 helicopter from 3rd ARS flew most of a sortie on instruments and picked up a downed Marine Corps AD-2 pilot—one of the first instances of a primarily instruments helicopter rescue.

May 23/24: B-26s seeded the Kijang-ni area with delayed-action bombs to hamper repair efforts.

May 26: The 315th Air Division received its first Globemaster as two squadrons began the conversion from C-54 to C-124 aircraft.

May 26/27: Ten B-29s from the 19th BG attacked the Sinhung-cong rail bridge, destroying one locomotive, 16 boxcars, 350 linear feet of the bridge, and nearly 400 feet of track on the approaches.

May 30: Lt. Gen. Glenn O. Barcus replaced Everest as commander, 5th Air Force.

June 4: An H-19 helicopter of 3rd ARS picked up a downed British pilot, encountering automatic weapons fire during the rescue.

June 6: Fifth Air Force Sabres destroyed eight MiGs in aerial combat, the highest daily tally for the month.

June 7: In initiation of an air refueling test, code-named Operation Hightide, 35 F-84 Thunderjets took off from Japan,

refueled from KB-29M aircraft over Korea, and attacked targets in the north.

June 9: A 3rd ARS H-19 helicopter picked up a downed UN pilot, encountering moderate small-arms fire en route.

June 10/11: Eight 19th BG B-29s attacked the rail bridge at Kwaksan. Enemy MiGs, operating in conjunction with radar-controlled searchlights and flak, destroyed two B-29s and badly damaged a third. This new development in the enemy's air defense system prompted FEAF to improve electronic countermeasures to jam and confuse enemy radar.

June 14: Following reconnaissance flights that indicated repairs at the Pyongyang airfield, 5th Air Force fighter–bombers cratered the runways, rendering them unserviceable in approximately 150 sorties without a loss.

June 15: In aerial combat, 2nd Lt. James F. Low, 335th FIS, destroyed his fifth MiG, becoming an ace just six months after completing flight training.

June 19/20: B-29s flew 35 sorties against North Korean targets, nearly three times the nightly average for the month. Twenty-seven medium bombers attacked the Huichon rail bridge.

June 23: Fifth Air Force fighter–bombers, with F-86 cover, flew approximately 250 sorties against North Korean hydroelectric power plants. The Sui-ho complex sustained 70 percent structural damage, rendering it nonoperational.

June 24: FEAF flew 1,043 sorties, the highest daily total for the month. Fifth Air Force fighter–bombers flew more than 250 sorties against North Korean hydroelectric power plants, four of them having been targets the previous day.

June 24/25: Twenty-six B-29s flew close air support sorties, one of the largest such medium bomber missions since the early days of the war. Fifth Air Force fighter–bombers rendered temporarily unserviceable the Samdong-ni rail complex, the choke point of the east–west and north–south rail lines in North Korea. Night-flying B-26s seeded the area with delayed-action bombs to hamper repair efforts.

June 30: The first two aircrews of the 374th TCW completed their proficiency checks in the C-124 Globemaster.

July 3: McCarty, 315th Air Division commander, flew the 374th TCW's first operational C-124 from Japan to Korea. In 13 sorties over enemy territory, C-47s dropped more than 22 million leaflets, over one-sixth of all dropped during the month.

July 4: Approximately 53 MiGs, some piloted by Soviets, attacked some 50 F-86s and 70 F-84s during a raid on the North Korean military academy at Sakchu near the Yalu. Fifth Air Force pilots downed 13 MiG-15s at a cost of two Sabres. Although four MiGs succeeded in passing through the protective fighter screen, they failed to destroy any fighter–bombers. Bombing results were poor, however.

July 10: Beginning this date, over the next three weeks the 315th airlifted the 474th FBW from Misawa to Kunsan, the largest unit movement by air to date.

July 11: FEAF flew 1,329 sorties, the highest daily total for the month. In the first raid of Operation Pressure Pump, nearly every operational air unit in the Far East attacked 30 targets in Pyongyang, in the largest single strike so far of the war. Attacking aircraft destroyed three targets, including the North Korean Ministry of Industry. Most others sustained heavy damage.

July 11/12: As part of Pressure Pump, B-29s flew 71 effective sorties, more than 50 against the Pyongyang supply area.

July 13: FEAF initiated a new general-warning leaflet-drop program over enemy territory. The new leaflet identified specific towns and targets to be destroyed by air attacks.

July 15: Fifth Air Force fighter–bombers flew approximately 175 sorties against the Sungho-ri cement plant and a nearby locomotive repair facility.

July 20: Fifty-eight F-84Gs of the 31st FEW arrived in Japan, the first large-scale Pacific crossing of jet fighters using in-flight refueling.

July 30: Following extended heavy rains, helicopters of the 3rd ARS carried approximately 650 flood-stranded US military members and Koreans to safety. Flying more than 100 sorties, five large H-19s transported some 600 evacuees, while two H-5s carried the rest. In the I Corps sector, two H-5s flew more than 30 sorties to rescue 60 flood-stranded Koreans and US soldiers.

July 30/31: In one of the largest medium bomber raids against a single target, 60 B-29s destroyed a noteworthy 90 percent of the Oriental Light Metals Co. facility, only four miles from the Yalu River. The B-29s achieved the unusually extensive destruction of the target in spite of encountering the largest nighttime counterair effort to date by the enemy. The attacking bombers suffered no losses.

Aug. 6: Fifth Air Force pilots observed an estimated 250 MiGs, the largest daily total since April 1. In the major air-to-air battle of the month, 34 F-86s destroyed six of 52 MiG-15s. FEAF organized Det. 3, 6004th Air Intelligence Service Squadron, to increase effectiveness of evasion and escape techniques by downed airmen. The detachment continued ongoing experiments, such as "snatching" downed personnel by especially equipped C-47s. It also emphasized aircrew training in emergency procedures, the use of radios and survival equipment, and helicopter rescue procedures.

Aug. 7–8: Capt. Clifford D. Jolley, 335th FIS, destroyed three additional MiGs in two days to become the 18th ace of the war.

Aug. 8: Fifth Air Force fighters flew 285 close air support sorties, the highest daily total for the month. Indicative of FEAF's increased use of propaganda, at night B-26s flew three voice-broadcast sorties totaling almost four hours over enemy-held positions near the east coast.

Aug. 15: The 315th transported 300 medical evacuees, the highest daily total for the month.

Aug. 19/20: FEAF aircraft dropped general-warning leaflets over Pyongyang concerning the next night's attacks.

Aug. 20/21: Thirty-eight B-29s bombed supply areas of the enemy's capital, the highest number of medium bomber sorties against a single target this month.

Aug. 22–23: On successive nights, three C-47s flew 60-minute voice-broadcast sorties near the front lines, indicating a greater emphasis by UN Command on psychological war.

Aug. 29: At the request of the US Department of State, FEAF conducted against Pyongyang the largest air attack to date as a dramatic military action during a visit by China's foreign minister, Chou En-lai, to the Soviet Union. The State Department hoped that the attack might lead the Soviets to urge the Chinese to accept an armistice rather than expend further Communist resources in the war. FEAF aircraft, protected by USAF Sabres and RAAF Meteors, flew approximately 1,400 air-to-ground sorties. The 31 targets sustained moderate to severe damage, but 5th Air Force lost three aircraft to ground fire.

Aug. 31: The 31st FEW, stationed at Misawa, completed the last phase of the USAF air refueling test program, Operation Hightide, begun in June.

Sept. 3/4: B-29s flew 52 effective sorties, the monthly high,

USAF's 38 Korean War aces included (l–r) Lt. James Low, Capt. Robinson Risner, Col. Royal Baker, and Capt. Leonard Lilley.

Photo courtesy Caroll Blum via Warren Thompson

In Korea, USAF pilots and the F-86 Sabre proved superior to their counterparts in the faster MiG. Above, a 67th Fighter–Bomber Squadron F-86 flies over Korea in 1953.

and all but two against the Chosin hydroelectric power plant complex.

Sept. 4: Seventy-five fighter–bombers flew well north of the Chongchon River to attack targets, flushing out an estimated 89 MiGs from their Manchurian bases. The 39 Sabres screening the F-84s engaged the MiGs, destroying 13, to equal the one-day records set on Dec. 13, 1951, and July 4. Four F-86s fell to the MiG pilots. Maj. Frederick C. Blesse, 334th FIS, destroyed his fifth enemy aircraft to become an ace. An H-19 from the 3rd ARS rescued a downed fighter pilot and two crewmen of a USN helicopter, which had lost power and crashed in the water while attempting to pick up the pilot.

Sept. 5: In two daylight strikes, FEAF flew more than 200 sorties against an ore-processing plant located northeast of Sinanju, damaging or destroying approximately 70 buildings and repair shops.

Sept. 9: Protected by F-86s, 45 F-84s attacked the North Korean military academy at Sakchu. Of approximately 64 MiGs in the area, some penetrated the Sabre screen, shot down three Thunderjets, and forced several flights to jettison their bombs. The F-86s suffered no losses during the aerial combat and destroyed five MiGs.

Sept. 12/13: Twenty-five B-29s attacked the generator building at the giant Sui-ho power plant. Prior to and during the attack, USAF B-26s and USN aircraft dropped low-level fragmentation bombs to suppress enemy searchlights, rendering eight of approximately 30 unserviceable. At the same time, four B-29s orbiting to the east jammed enemy radar. Enemy fighters shot down one medium bomber and flak damaged several others, but the B-29s dropped their bombs on target, again rendering the plant unserviceable. FEAF concluded that searchlight suppression and electronic countermeasures probably had saved the B-29s from greater losses.

Sept. 15: To improve air–ground coordination and mutual understanding between the US Air Force and the US Army, 5th Air Force commander Barcus began sending groups of 15 pilots at a time on three-day tours to the front lines.

Sept. 16: Fifth Air Force flew 110 B-26 sorties, the high figure for the month, mostly night armed reconnaissance and interdiction. Using the recently developed roadblock tactics, the light bombers damaged or destroyed more than 100 enemy vehicles.

Sept. 19: In the first daylight medium bomber raid in 11 months, 32 B-29s with F-86 escorts attacked an enemy barracks and two supply areas southwest of Hamhung. An RB-45 preceded the B-29 formation, and an RB-29 orbited in the assembly area, providing weather information.

Sept. 21: Sabre pilot Capt. Robinson Risner, 336th FIS, destroyed two MiG-15s to become an ace when the enemy responded to an attack on the Pukchong munitions plant by 41 F-84s.

Sept. 27: At night, three B-26s flew in the central sector loudspeaker sorties totaling 3.5 hours, an unusually high amount of broadcast time.

Sept. 29: Fifth Air Force fighter–bombers flew against enemy bunkers and gun positions 207 close air support sorties, the highest figure this month and well above the daily average.

Sept. 30/Oct. 1: Including five electronic countermeasures flak suppression aircraft, 48 B-29s from three units—19th BG, 98th BW, and 307th BW—destroyed the last strategic-type target in Korea, the Namsan-ni chemical plant located 1,300 feet from the Yalu River and near the Sui-ho dam. During the bombing, seven B-26s swept in at low altitudes to suppress eight of some 40 searchlights.

Oct. 4: Brig. Gen. William P. Fisher succeeded Ganey as commander, Bomber Command.

Oct. 5: Fifth Air Force combined attacks with USN aircraft against barracks and supplies of the Chinese 67th Army at Loeyang.

Oct. 7: Fifth Air Force fighter pilots and USN aviators attacked the CCF 26th Army at Yongpyongni.

Oct. 8: To support the Kojo amphibious hoax, 10 B-29s of the 98th BW conducted a rare daylight visual bombing mission on the supply area at Kowon in eastern Korea in coordination with USN fighter–bomber attacks. Truce talks at Panmunjom recessed over the issue of forced repatriation of POWs. The UN delegates proposed to allow enemy POWs to choose repatriation or not; the Communist delegates insisted on the repatriation of all POWs at the end of the war.

Oct. 9: Fighter–bombers attacked widely scattered Communist communications centers from Huichon in North Korea south to the bomb line. Fifth Air Force aircraft inflicted heavy casualties on a Communist regiment, delaying its commitment to the enemy attack under way.

Oct. 12: An SA-16 pilot, 3rd ARS, participated in two rescues within 30 minutes and more than 100 miles apart. After directing a helicopter pickup of a downed Sabrejet pilot, the SA-16 pilot landed in the Haeju Harbor and, while overhead fighters suppressed ground fire from the shore, picked up from a dinghy a 69th FBS pilot who had parachuted from his burning F-84.

Oct. 12–14: The 315th conducted paratroop-drop exercises with the 187th Airborne Regimental Combat Team as part of the Kojo deception.

Oct. 12/13: Twenty-six B-29s from all three medium bombardment units struck nine separate troop concentrations on Haeju Peninsula.

Oct. 13: In preparation for the Kojo amphibious demonstration, FEAF and USN aircraft hit enemy positions around Kojo, and USN surface craft shelled the beach area. After a respite of almost a year, the enemy, using small fabric-covered biplanes, hassled Cho-do and the Seoul area with "Bedcheck Charlie" raids.

Oct. 15: For the amphibious Kojo hoax, assault troops climbed down to assault landing craft, which made a pass at the shore then returned to the ship. In addition, 32 C-119s, 403rd TCW, flew to Chorwon, let down to paradrop altitude of 800 feet, then returned to Taegu.

Oct. 16: North Korea sent a strongly worded protest to Far East Command concerning the recess in armistice negotiations but continued to insist on total repatriation of Chinese and North Korean POWs.

Oct. 24: Fifth Air Force and Eighth Army completed a successful 30-day test in IX Corps area of a new flak-suppression technique that allowed friendly artillery to continue firing while close support strikes were in progress.

Oct. 25: Fifth Air Force B-26s and fighter–bombers attacked the Kumgang political school, starting fires and almost completely destroying the installation.

Oct. 27: Fifth Air Force aviation engineers completed a heavy-duty runway for combat cargo operations at the Seoul municipal airport.

Oct. 31: North Korea presented a new POW camp list.

Nov. 1: Fifth Air Force fighter–bombers attacked three railroad bridges at Yongmi-dong. The 61st TCG began to phase its C-54s out of the airlift in preparation for the group's return to the US.

Nov. 4: Dwight D. Eisenhower, having campaigned on a promise to seek an end to the Korean War, was elected President. FEAF photographic surveillance showed the three railroad bridges at Yongmi-dong again in serviceable condition and two bypass bridges nearing completion.

Nov. 5: Typhoon conditions on Okinawa forced cancellation of all scheduled B-29 missions.

Nov. 6: On a return attack against the Yongmi-dong railroad bridges, 100 fighter–bombers found that the enemy had moved in anti-aircraft artillery and begun to build a fifth bypass bridge.

Nov. 10: The 315th air evacuated the 250,000th patient from Korea to Japan.

Nov. 12/13: Six B-29s of the 98th BW knocked four spans out of Pyongyang's restored railway bridges.

Nov. 13/14: Five B-29s from the 307th BW in an experimental attack used incendiary clusters against the Sopo supply area but obtained poor results.

Nov. 15: In the first fatal accident of 315th's airlift of rest and recreation passengers, a 403rd TCW C-119, returning 40 travelers to Korea, crashed in Japan, killing all on board.

Nov. 16: USMC aircraft attached to 5th Air Force attacked hydroelectric facilities at Kongosan.

Nov. 17: USAF fighter–bombers attacked hydroelectric facilities at Kongosan. Col. Royal N. Baker, commander, 4th FIG, flying in MiG Alley with the 335th FIS, scored his fifth MiG kill.

Nov. 18: When USN Task Force 77 attacked the North Korean border town of Hoeryong in the far northeast, unmarked but obviously Russian MiG-15s flying from Vladivostok attempted to attack the fleet. Carrier-based F9F aircraft engaged several MiGs and downed one of them. In MiG Alley, 334th FIS pilot Capt. Leonard W. Lilley scored his fifth MiG kill.

Nov. 18/19: Six B-29s from the 98th BW attacked the Sonchon supply center, 35 miles from the Manchurian border. On this night, weather in the target area was clear, and enemy interceptors used new tactics to shoot down one B-29. The enemy dropped flares so that searchlights could lock on the bomber, and four fighter passes riddled it, forcing its crew to abandon ship over Cho-do.

Nov. 19: The 49th and 58th FBWs, in two separate strikes totaling 179 aircraft, attacked a troop and supply concentration at Kanggye. An Eighth Army–5th Air Force indoctrination team completed a tour begun in late October to brief key Eighth Army officers on the nature and functioning of the air–ground system.

Nov. 22: The 8th FBW lost two F-80s to ground fire during close support missions for IX Corps. One of the pilots, Maj. Charles J. Loring Jr., leading a flight of four F-80s, was hit near Sniper Ridge by enemy ground fire. He deliberately crashed his aircraft into the midst of enemy gun emplacements, destroying them completely. Loring was posthumously awarded the Medal of Honor. In MiG Alley, 16th FIS pilot 1st Lt. Cecil G. Foster scored his fifth MiG kill to add his name to the list of aces.

Nov. 28/29: All three medium bomber units at 45-minute intervals hit at Sinuiju and Uiju targets defended by approximately 116 heavy guns, 94 of which were radar-controlled, and 40 searchlights, as well as enemy interceptors. Preceding the attacks, five B-26s flew flak-suppression missions. Fourteen B-29s bombed Sinuiju airfield, six struck the Sinuiju locomotive repair facilities, 10 hit the Uiju airfield, and four attacked the Uiju communications center. In spite of clear weather, using electronic countermeasures equipment and chaff, the B-29s escaped losses in a generally successful mission.

Dec. 2–5: President–elect Eisenhower toured the front in Korea and met with South Korean President Syngman Rhee.

Dec. 2–7: Bomber Command increased from one to three the number of B-29s allocated for radar-directed bombing in front of IX Corps during the battle for Sniper Ridge north of Kumhwa.

Dec. 3: F-86 pilots engaged enemy swept-wing jets in strength in the Pyongyang area for the first time since Aug. 9.

Dec. 5: Shortly after 9 p.m., enemy aircraft dropped three bombs on Cho-do, causing no damage in the fifth reported attack on this installation.

Dec. 6: New flak-suppression technique across the Eighth Army front became effective for close support sorties.

Dec. 11: A fully loaded B-26 of the 3rd BW caught fire at Kunsan airfield and exploded. The accident soon destroyed three other B-26s and caused major damage to six F-84s of the co-located 474th FBW.

Dec. 17: Two F-86 Sabre pilots claimed the first sighting of the enemy's IL-28 twin-jet bombers, one having crossed the Yalu River a few miles south of the Sui-ho reservoir, escorted by two MiG-15s, while the other remained over Manchuria.

Dec. 19: Photoreconnaissance of the Pyongyang main airfield revealed the presence of three aircraft, the first observed there since October 1951.

Dec. 21: The 366th Engineering Aviation Battalion completed a new landing strip at Pusan East.

Dec. 22: An SA-16 crew landed in an inlet near Haeju, a North Korean port just north of the 38th parallel on the Yellow Sea, and rescued a downed HMS *Glory* Sea Fury pilot in his dinghy. The only fatal aeromedical evacuation accident of the war occurred when a Royal Hellenic air force C-47 transporting patients collided with an F-80 jet fighter–bomber at Suwon.

Dec. 27–31: The 581st Air Resupply and Communications Wing (ARCW) flight of four H-19 helicopters at Seoul flew several experimental agent-insertion sorties into enemy territory for covert and clandestine intelligence activities.

Dec. 28: An SA-16 crew of the 3rd ARS picked up a downed pilot in the Yellow Sea north of Cho-do. He was in the water less than three minutes.

Dec. 29/30: Eleven B-29s of the 307th BW attacked the Teagam-ni headquarters area, destroying 146 buildings.

Dec. 30: As a part of Project Spotlight, an RB-26 located five locomotives in one marshaling yard, and two B-26 light bombers destroyed four and damaged the fifth.

Dec. 30/31: The 19th BG bombed the Choak-tong ore-processing plant near the Yalu. Aided by a full moon and a signaling aircraft, enemy interceptors downed one B-29 and damaged two others so badly that they were forced to land at Suwon.

1953

Jan. 4: Fifth Air Force mounted a 124-airplane strike against the Huichon supply center.

Jan. 4/5: Twelve B-29s of the 307th BW bombed the Huichon supply areas and railroad bridge.

Jan. 9/10: Seventeen B-29s kicked off an air campaign against the Sinanju communications complex by bombing rail bridges at Yongmi-dong, anti-aircraft gun positions near Sinanju, and two marshaling yards at Yongmi-dong and Maejung-dong.

Jan. 10: Fighter–bombers followed up the B-29 night attacks with a daylight 158-aircraft raid against bridges, rail lines, and gun positions.

Jan. 10/11: 307th BW B-29s bombed Sonchon and Anju marshaling yards. Enemy searchlights illuminated a B-29 apparently betrayed by its contrails, and fighters shot it down.

Jan. 11: Battle damage assessment indicated that all rail lines in the Yongmi-dong area were unserviceable.

Jan. 12-15: After missing a day because of weather, fighter–bombers continued around-the-clock attacks in the Sinanju area.

Jan. 13: Some 12 enemy fighters shot down a B-29 on a psychological warfare, leaflet-drop mission over North Korea. The crew included Col. John K. Arnold Jr., commander, 581st ARCW.

Jan. 13/14: 307th BW and 19th BG attacked Sinanju and Kunu-ri marshaling yards.

Jan. 14: Following up on the B-29 attacks the night before, fighter–bombers struck gun positions, railroads, and bridges in the Sinanju area.

Jan. 15: Aerial photographs revealed a new camouflaged yard at the Sui-ho hydroelectric dam and two of the four generators working.

Jan. 17/18: The 98th BW attacked the Pyongyang radio installation, which was 42 feet underground and only 1,000 feet from a possible POW camp. The 11 B-29s scored eight to 10 hits with 2,000-pound general-purpose bombs, but these did not penetrate deeply enough to destroy the radio station.

Jan. 22: The 18th FBW withdrew its remaining F-51 Mustangs from combat and prepared to transition to F-86 Sabres, thus ending the use of USAF single-engine, propeller-driven aircraft in offensive combat in the Korean War. Peking radio announced the capture of Arnold and his surviving crew members, three having perished when the B-29 went down Jan. 13. The Communists did not release Arnold until 1956.

Jan. 24: Two pilots of the 51st FIW, Capt. Dolphin D. Overton III, 16th FIS, and Lt. Harold E. Fischer, 39th FIS, achieved ace status. In addition, Overton set a record for becoming a jet ace in the shortest time of four days.

Jan. 25: Beginning this day, UN Command limited immunity for only one Communist convoy each way per week between Pyongyang and the Panmunjom area. The enemy could no longer use the armistice negotiations as a pretense for sending supplies and reinforcements unthreatened by UN airpower to the front lines.

Jan. 28: In a break from interdiction of enemy transportation targets, fighter–bombers attacked a troop concentration near Pyongyang.

Jan. 28/29: A 19th BG B-29 exploded over the target southwest of Sariwon. Enemy fighters apparently silhouetted the B-29 against a full moon and shot it down. This was the fourth B-29 loss since December but the last of the war. USMC Skynight aircraft escorting B-29s used new tactics to down an enemy night interceptor, the first enemy jet destroyed at night by a radar-equipped jet fighter.

Jan. 29: Fighter–bombers followed up the previous day's attack near Pyongyang.

Jan. 29/30: Enemy fighters badly damaged another B-29 in the same circumstances as the previous night. USMC Skynights once again shot down an enemy night fighter. A 319th FIS F-94 tracked by radar and destroyed an La-9 aircraft late on the night of the 30th. This marked the first Starfire kill in Korea.

Jan. 30: A 4th FIW F-86 pilot intercepted and shot down a Russian–built Tu-2 twin-engine bomber over the Yellow Sea, northeast of Pyongyang, the first reported destruction of this type aircraft since Nov. 30, 1951.

Jan. 30/31: Approximately 10 enemy fighters so badly damaged a 307th BW B-29 that it barely made an emergency landing in South Korea.

Feb. 2: Ninety-six 5th Air Force fighter–bombers struck a troop billeting area located six miles south of Kyomipo, destroying 107 buildings.

Feb. 9: At Kyomipo, 5th Air Force fighter–bombers and light bombers left in smoldering ruins the former steel mill being used as a munitions factory and locomotive repair shop.

Feb. 15: In the strike of the month, 22 F-84 Thunderjets of the 474th FBW struck the Sui-ho hydroelectric power plant. With no losses, 82 escorting F-86 Sabres drew off 30 MiGs while the Thunderjets dropped their 1,000-pound bombs. The attack halted power production at Sui-ho for several months.

Feb. 15/16: Radio Pyongyang went off the air when B-29s attacked the nearby Pingjang-ni communications center, damaging power lines.

Feb. 16: Capt. Joseph C. McConnell Jr., 39th FIS, achieved ace status. The 1st Marine Air Wing led a 178-aircraft formation, including 5th Air Force fighter–bombers, in an attack against troop billeting and supply storage in the Haeju to Sariwon region of western North Korea. The 45th TRS transferred all its remaining RF-51s to Japan, leaving it an all-jet RF-80 unit.

Feb. 18: In one of the highlights of the air-to-air war, four F-86s attacked a formation of 48 MiG-15s just south of the Sui-ho reservoir, shooting down two enemy aircraft. Two other MiGs, attempting to follow an F-86 through evasive maneuvers, went into uncontrollable spins and crashed. In this battle, Capt. Manuel J. Fernandez, 334th FIS, achieved ace status, downing his fifth and sixth MiGs.

Feb. 18–19: In one of the largest all-jet fighter–bomber strikes of the war, 511 aircraft placed high-explosive bombs on a tank and infantry school at Kangso, southwest of Pyongyang, destroying 243 buildings.

Feb. 22: In a letter to Kim Il Sung, North Korean premier, and Paeng Te-huai, CCF commander in Korea, the UN Command stated its readiness to repatriate immediately seriously ill and wounded POWs who were fit to travel and asked whether the North Korean and Chinese leaders were prepared to do the same.

Feb. 26: Fifth Air Force instituted routine armed daylight reconnaissance over northwestern Korea in response to the enemy's vehicle movements.

Feb. 28: Third Air Rescue Group received two new and larger H-19 helicopters. MATS C-124s had flown the dismantled helicopters directly from the factory in the US to Japan, where they were assembled and test-flown before being ferried to Korea.

March 5: Good weather permitted 5th Air Force to complete 700 sorties. Sixteen F-84 Thunderjets attacked an industrial area at Chongjin, just 63 miles from the Siberian border, destroying buildings and two rail and two road bridges, damaging seven railcars, and inflicting several rail and road cuts. Fighter–bombers flying ground support missions reported damage or destruction to 56 bunkers and gun positions, 14 personnel shelters, and 10 supply stacks.

March 5/6: Seventeen 98th BG B-29s attacked a supply area deep in North Korea at Onjong. Two 19th BG medium bombers flew close support missions opposite the US Army's IX and X Corps. Two other B-29s employed shoran to attack on the east coast the Naewan-ni marshaling yard.

March 9: Responding to press reports that US pilots routinely pursued Communist jets across the Manchurian border, UN Command CINC Clark asserted that UN pilots broke off engagements at the Yalu River boundary, enabling many damaged MiGs to escape, although some border violations might have occurred in the heat of combat. Informing the US Joint Chiefs of Staff that air operations in Korea were conducted strictly within limitations established by appropriate authority, Clark also directed FEAF to comply with directives concerning violation of the Manchurian border.

March 13/14: On a deep penetration raid, 12 307th BW B-29s struck a cantonment area near the Choak-tong ore-processing plant near the Yalu River.

March 14: To provoke aerial engagements with Communist fighters, 5th Air Force combat crews dropped leaflets asking, "Where is the Communist air force?" over each ground concentration they attacked.

March 17/18: Serving notice that medium bombers would continue striking in MiG Alley, the 307th BW and 19th BG raided the Punghwa-dong troop concentration area just three miles south of the Communist fighter base at Sinuiju. The bombers sustained very minor flak damage.

March 21: North Korean truce negotiators expressed their willingness to observe the provisions of the Geneva Convention and exchange sick and wounded POWs. At the same time they hinted that the exchange might lead to a resolution of other issues hindering an armistice.

March 21/22: Operation Spring Thaw began when 18 19th BG medium bombers knocked spans out of two principal bridges at Yongmi-dong and rendered the third unserviceable.

March 22/23: Eight 19th BG B-29s continued the attack on Yongmi-dong bridges. The raiders observed that the enemy had repaired one of the bridges damaged the night before. Despite reports of backed-up traffic on the approaches to the bridges, Bomber Command suspended further raids, suspecting that bombers returning for a third time might sustain heavy losses.

March 26: UN pilots sighted 289 MiGs, the highest daily total observed since Aug. 6, 1952.

March 27: MiG-15s equipped with external fuel tanks jumped two RF-80s and two RAAF Meteors between Sariwon and Sinmak, only 38 miles north of the front lines. This was one of several MiG forays close to front-line positions, seemingly in response to UN leaflet drops goading the enemy air forces to come out and fight. Assigned to the 18th FBW, Maj. James P. Hagerstrom destroyed his fifth MiG to become the 28th Korean War ace.

March 28: Col. James K. Johnson, 4th FIW, downed his fifth MiG to achieve ace status.

March 29: Lt. Col. George L. Jones, 4th FIW, became the 30th jet ace.

March 30: Chou En-lai, China's foreign minister, suggested that POWs not desiring repatriation might be placed in the temporary custody of a neutral nation until negotiations determined their final status. Prior to this proposal the Communists had insisted on the repatriation of all POWs. Their new flexibility on this issue provided an opportunity to resume truce negotiations.

April 1: One 307th BW B-29, unable to attack its primary target, visually bombed a truck convoy, reporting excellent results in an attack believed to be the first of its type since Bomber Command began operations in North Korea.

April 6/7, 7/8, 11/12: At night, Bomber Command B-29s raided the three serviceable railroad bridges spanning the Chongchon River at Sinanju. The following mornings, fighter–bombers struck traffic backed up on the approaches to the damaged bridges.

April 12: An H-19 helicopter assigned to the 581st ARCW hoisted Capt. Joseph C. McConnell Jr., F-86 pilot with eight victory credits to date, from the Yellow Sea, after he had ejected from his battle-damaged aircraft.

April 13: An 8th FBW pilot flew an F-86F model Sabre on its first air-to-ground combat mission.

April 15: The Communists completed approximately 75 miles of railroad linking Kusong with Kunu-ri and Sinpyong-ni. Built in less than 70 days, the new line bypassed numerous bottlenecks created by USAF bombing of the Chongju, Sinanju, and Sunchon railroad complexes.

April 20–May 3. During Operation Little Switch, Communist and UN forces exchanged sick and injured prisoners.

April 26: Suspended for six months, armistice negotiations between Communist and UN forces reconvened.

April 26/27: A B-29 medium bomber dropped leaflets over North Korea to kick off Project Moola, the FEAF effort to obtain an operational MiG-15.

May 1: Fifth Air Force fighter–bombers struck Radio Pyongyang. Screened by the 4th and 51st FIWs, the 8th and 18th FBWs briefly headed toward the Yalu River then abruptly swooped down on North Korea's capital to bomb the broadcasting facility and its power supply. Monitoring the battle from the air, 5th Air Force commander Barcus promised that his aircraft would return every time the Communists broadcast "filthy lies" about 5th Air Force.

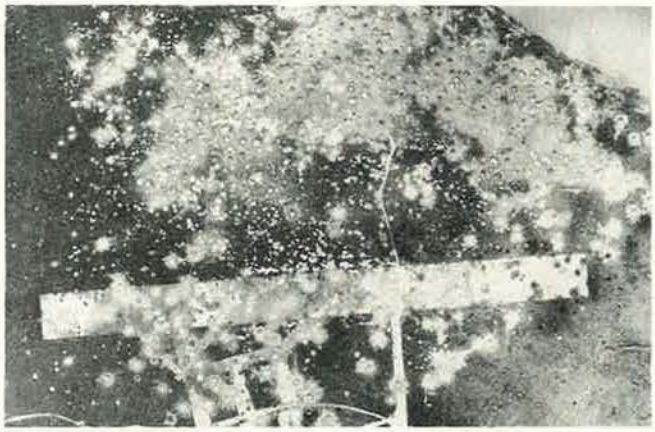
May 10: Flying through intense flak Col. Victor E. Warford, commander, 58th FBW, led eight Thunderjets to attack the hydroelectric generating facilities at Sui-ho near the Yalu River.

May 10/11: Thirty-nine Superfortresses raided the 375-acre Yangsi troop concentration area 12 miles southeast of Sinuiju, achieving 63 percent destruction of one of the last large lucrative targets remaining in North Korea.

May 13: Thunderjets of the 58th FBW, in the first attack against previously excluded irrigation dams, bombed the Toksan Dam holding the Potong River's water 20 miles north of Pyongyang.

Photo courtesy Ron Wilson via Warren Thompson

39th Fighter Squadron commander—and MiG ace—Lt. Col. George Ruddell (left) talks with 5th Air Force commander Lt. Gen. Glenn Barcus in this 1953 photo at Suwon.



The 3,900-foot concrete runway at Pyongyang shows the effects of a round-the-clock bombing by FEAF aircraft in 1953.

Floodwaters swirling from the breached dam washed out six miles of embankment and five bridges, destroyed two miles of the major north–south highway, rendered Sunan airfield inoperable, and ruined five square miles of prime rice crop.

May 14: Communist and UN truce negotiators recessed indefinitely over differences concerning POWs who refused repatriation.

May 16: Ninety 58th FBW sorties breached the Chasan irrigation dam. Surging waters washed away three railroad bridges and destroyed rice ripening in surrounding fields.

May 18: An H-19 helicopter rescued two members of a B-26 crew 20 miles inside enemy territory by using tactics presaging those of later conflicts. The helicopter scrambled from its base and flew to a small island off the Haeju Peninsula to await fighters to clear the path to the downed airmen. Penetrating enemy territory at 5,000 feet, the helicopter followed the fighter pilots' directions until it located the survivors who were signaling with a mirror. After the survivors set off a flare to indicate wind direction, the helicopter landed and rescued them, staying on the ground for approximately 30 seconds.

Lt. Col. George I. Ruddell, commander, 39th FS, became the 31st jet ace. Another squadron member, McConnell, downed three more MiG-15s to become the first triple jet ace and, with 16 victories, the highest scoring ace of the Korean War.

May 18/19: Eighteen Superfortresses returned to complete the destruction of the Yangsi troop concentration area.

May 19/20: A formation of 19th BG B-29s attacked a large supply complex at Unsan-dong, destroying 140 buildings. Located eight miles west of Sinanju, the complex probably sheltered coast defense forces and was a bivouac area for troops moving south.

May 21/22: Using shoran to aim the bombs, B-29s scored seven direct hits on the Kuwonga dam but failed to burst it because North Koreans had lowered the water level by 12 feet, significantly reducing the pressure on the dam.

May 25: The UN armistice delegation vainly attempted a compromise with the Communists, proposing that nonrepatriate POWs remain in neutral custody for up to 120 days after the armistice, until their governments could confirm their attitude toward repatriation.

May 27: Aerial reconnaissance discovered Communist preparations for a major ground offensive.

May 28/29: The B-29s returned to the Kuwonga dam, scoring five direct hits with 2,000-pound bombs. Although the dam did not burst, North Koreans had to finish draining the reservoir to accomplish repairs, thus exhausting the supply of water available for irrigation.

May 28: The Communists launched a series of company- to regiment-sized attacks that lasted into early June. Gen. Duk Shin Choi, the senior South Korean army delegate to the UN armistice delegation, informed negotiators that his government

Repatriated American POWs take a group photograph with their flight nurses at Tachikawa AB, Japan. They are displaying a flag they made while in captivity.

considered the May 25 proposals by the UN Command unacceptable and announced that he was boycotting future negotiations on the instructions of his government.

May 29: Clark warned the Joint Chiefs of Staff that the South Korean government might release POWs unilaterally.

May 31: Lt. Gen. Samuel E. Anderson assumed command of 5th Air Force, replacing Barcus.

June 2–3: Bomber Command B-29 bombers began night close support missions, mostly against targets where the Communists were training and building up troops and supplies in the western sector of the US IX Corps area.

June 5: Lt. Col. Vermont Garrison, 335th FIS, became the Korean War's 32nd jet ace.

June 10: Fifth Air Force and Bomber Command made coordinated strikes against North Korean serviceable and near-serviceable airfields. Sixteen B-29s from the 98th BW struck Sinuiju and Uiju, encountering flak and fighters without losses. In the heaviest 5th Air Force raid of the airfield campaign, 31 F-84s struck Kanggye airfield.

June 11: Fighter–bombers made their deepest penetration of the war when 13 F-84s attacked Chunggang-jin airfield located midway on the North Korean–Manchurian border. Pilots reported that the raid had rendered the runway unserviceable.

June 13–18: To flood airfields at Namsi and Taechon, F-84s, B-29s, and Marine F4U Corsair fighter–bombers struck irrigation dams at Toksan and Kusong. The raids failed to breach the dams because the Communists had lowered water levels to decrease water pressure.

June 15: Brig. Gen. Richard H. Carmichael replaced Fisher as commander, Bomber Command.

June 16: Setting a single day record, 5th Air Force flew 1,834 sorties. More than half were close support missions against enemy troops in the Pukhan Valley area.

June 17/18: The South Korean government unilaterally released 27,000 anti–Communist POWs.

June 18: Flying for the 335th FIS, Capts. Lonnie R. Moore and Ralph S. Parr Jr. became the Korean War's 33rd and 34th jet aces, respectively.

June 22: Assigned to the 25th FIS, Col. Robert P. Baldwin became a jet ace.

June 22–23: The 315th employed 27 C-46s and 61 C-119s in 284 sorties to transport the 187th Airborne Regimental Combat Team—3,252 paratroopers and 1,771 tons of cargo—to Korea to reinforce Eighth Army reserves.

June 23: With all North Korean airfields but one inoperable, FEAF commander Weyland advised his air forces to limit attacks to follow-on raids to damage airfields sufficiently so that another series of air raids could knock them out in four or five days.

June 28–July 2: C-46, C-54, and C-119 transports of the 315th airlifted the 19th and 34th Infantry Regiments—3,937 soldiers and 1,227 tons of cargo—from Japan to Korea.

June 30: Sabres set a record by destroying 16 MiGs in a single day. The previous record, 13 kills, had been set Dec. 13, 1951, and matched July 4 and Sept. 4, 1952. Flying with the 25th FIS, 1st Lt. Henry Buttelmann became the Korean War's 36th jet ace.

July 4/5: Twenty-four B-29s attacked airfields at Taechon, Namsi, and Pyongyang.

July 7/8: Sixteen medium bombers raided a supply area and marshaling yard at Namsi.

July 10: Fifth Air Force fighter–bombers began raiding rail bridges at Sinanju and Yongmi-dong to hinder the buildup for the final Communist assault.

July 10/11: The 98th BW B-29s attacked the Sinanju bridges. The 307th BW B-29s bombed rail bridges at Yongmi-dong.

July 11: South Korean President Syngman Rhee agreed to accept a cease-fire agreement in return for promises of a mutual security pact with the United States. Maj. John Bolt, USMC, flying with the 39th FIS of the 51st FIW, shot down his fifth and sixth MiGs to become the Marines' only Korean War ace.

July 12: RF-80 reconnaissance aircraft photographed heavy concentrations of anti-aircraft artillery opposite sectors of the front held by the US IX Corps and the South Korean II Corps, providing warning of an enemy offensive.

July 12–20: Close air support sorties by FEAF aircraft contributed significantly to staunching the Communist onslaught against the South Korean II Corps.

July 13–19: B-29 medium bombers flew nearly 100 ground support missions dropping 4,000-pound airburst and delayed action anti-personnel bombs to blunt the Communist offensive.

July 15: Maj. James Jabara, 334th FIS, scored his 15th aerial victory to become the world's second triple jet ace.

July 16: Cmdr. Guy Bordelon, flying with 5th Air Force, became the war's 38th ace and the only ace for the US Navy.

July 16–20: Fighter–bombers completed a series of attacks on the Chongchon bridges, rendering them unusable.

July 19: Capt. Clyde A. Curtin, 335th FIS, shot down two MiGs to become the 39th ace. The final session of armistice negotiations at Panmunjom convened. After meeting one day, the top negotiators agreed to adjourn while technical experts worked out the cease-fire details.

July 20: Maj. Stephen L. Bettinger, 336th FIS, became the 40th ace of the Korean War with his fifth MiG-15 kill.

July 21/22: Eighteen B-29s close out the war for Bomber Command, striking Uiju airfield.

July 22: Combat between USAF Sabres and Communist MiGs ended with an air battle between three 51st FIW and four Communist jets. During this engagement, Lt. Sam P. Young, 25th FIS, scored the last MiG kill of the Korean War.

July 27: At 10 a.m. Lt. Gen. William K. Harrison, USA, the senior delegate for the UN Command, and Gen. Nam Il, the senior delegate for the North Korean Army and the Chinese Volunteers, signed the armistice agreement to produce a cease-fire in the Korean War.

Capt. Ralph S. Parr Jr. became a double ace with the last air-to-air victory of the war by shooting down an IL-12 transport. In the final hours before the cease-fire, 5th Air Force fighter–bombers hammered North Korean airfields. Poststrike photography from 67th TRW aircraft confirmed that every airfield in North Korea was unserviceable for jet aircraft landings, indicating the successful conclusion of the airfield neutralization program.

Flying a 91st SRS RB-29, Lt. Denver S. Cook piloted the last Bomber Command sortie, dropping leaflets over North Korea. An 8th BS B-26 dropped the last bombs of the Korean War in a night, radar-directed close support mission. Aircraft from the same squadron had flown the first combat strike into North Korea. A RB-26 of the 67th TRW made the last combat sortie of the war over North Korea.

As the Korean War formally ended, by 10:01 p.m., all FEAF's aircraft were located either south of the front line or more than three miles from North Korea's coast.

In accordance with the Armistice Agreement, in August, POWs were exchanged in Operation Big Switch—77,000 Communists for 12,700 UN men, of whom 3,597 were Americans. ■

There are two dangers: The plan for an all–European defense force will fail—or it will succeed.

By James Kitfield

Will Europe Ruin NATO?

Last July 14, the largest Western military parade of the year took place, as always, in Paris. The huge throng of Bastille Day marchers wound its way through the center of the capital and down the Champs Elysees, much as it has done in preceding years. In a notable break with tradition, however, French troops this time were joined by foreign contingents. Soldiers of eight other European nations marched in the streets, even as British Jaguar and German Tornado fighters roared overhead.

The alteration was no accident. The Bastille Day parade was a symbolic gesture meant to emphasize and celebrate the birth of a distinctly European military force to back the continent's vast economic and diplomatic power.

Indeed, as France began its six-month presidency of the European Union, Paris made it a top priority to follow through on commitments to forge a strictly European corps of up to 60,000 troops ready to deploy to a world hot spot by 2003. In what was seen as a precedent-setting move in that direction, the five-nation European Corps headquarters took command earlier this year of the 46,000 NATO forces in Kosovo, 80 percent of which are European.

France is the most passionate promoter of this distinct European Security and Defense Identity (ESDI). "The European Union must make its voice heard more clearly on the international stage," French President Jacques Chirac declared in a recent speech. "We have conviction, as well as courage. But our commitment lacks coherence, and, it must be said, Europe's action does not have a high profile."

The dream of a distinctly European foreign policy and defense identity has inspired the French at least since the times of President Charles De Gaulle, who in 1966 withdrew France from NATO's integrated military command structure in reaction to the preponderant US role in the Alliance. Today, however, the vision is endorsed not only in Paris but also in London, Brussels, and even Washington.

After last year's successful launch of the euro, the common European monetary unit, European Union officials headquartered in Brussels are brimming with confidence and anxious to match their growing economic and diplomatic clout with military might. Though long skeptical of any European initiatives that could jeopardize its "special relationship" with the United States, Britain under Prime Minister Tony Blair has become a key proponent of ESDI.

Clinton Administration officials, meanwhile, see the ESDI process as the most promising way to motivate European allies to modernize their military forces and shoulder more of the West's defense burden.

Unanswered Questions

"There should be no confusion about America's position on the need for a stronger Europe," said Deputy Secretary of State Strobe Talbott at a NATO conference shortly after the unveiling of the ESDI plan last December. "We are not against. We are not ambivalent. We are not anxious. We are for it. We want to see a Europe that can act effectively through the Alliance, or, if NATO is not engaged, on its own."

Even so, US officials and lawmakers are troubled by a number of specific and as-yet-unanswered questions. Among them:

- Will the effort to create EU crisis management and military staffs and separate European headquarters bring wasteful duplication that drains resources and energy from NATO?
- Will the creation of a distinct European defense identity lead to a decline in the commitment of European states to NATO as the primary security agency of first resort in times of crisis?
- Is that very outcome—the decline of NATO—an unspoken European goal, especially in France?
- How will the EU reconcile its views with those of non–European Union NATO allies such as Turkey and Norway, who could conceivably be asked to bail out an errant EU–led operation despite having had little say in its launching?
- How can an EU renowned for bureaucracy, fractiousness, and tenacity on trade issues develop the instinct for trans–Atlantic cooperation and consensus that has proved critical to the success of NATO for the past 50 years?
- Most importantly, why should one believe that the Europeans will finally, this time, manage to find the money and political backbone to turn their defense and foreign policy ambitions into reality?

"The Europeans have raised the bar pretty high," said Sen. Joseph R. Biden Jr. (D–Del.), the ranking Democrat on the Senate Foreign Relations Committee. "Whether they go over it or under it, there are likely to be consequences."

If Europeans fail to live up to their rhetoric and dramatically undershoot their military force goals, the political fiasco could reinforce calls by NATO skeptics in Washington for a US disengagement from the affairs of Europe. "If this is handled badly from a public relations standpoint, it could well fuel a growing sense of isolationism in the United States," said Biden. "That's why it's so important that the Europeans stay the course in terms of dollar and troop commitments to Kosovo and with ESDI."

Defining Moment

Historic and at times harrowing events over the past two years have conspired to accelerate Europe's campaign for unified, autonomous positions in foreign affairs and defense.

One significant boost came in December 1998, when Blair and Chirac issued the St. Malo declaration on European defense. The accord stated in unequivocal terms that "the [European] Union must have the capacity for autonomous action, backed up by credible military forces, the means to decide to use them, and a readiness to do so in order to respond to international crises."

Simon Serfaty, director of the Europe Program at the Center for Strategic and International Studies in Washington, saw the declaration as a pivotal moment. "St. Malo was important because it signaled a change in traditional stances on the part of both Great Britain and France," he said. "Because Britain was now a leader in the effort, it also assuaged US concerns."

Blair managed to mute London's own traditional skepticism about such a Eurocentric force. He claimed—convincingly—that it was the only thing that would prod European nations to make the military investments necessary and that the United States had been demanding.

"The French have also taken great pains in recent years to emphasize that they now believe a European

defense force should be developed with NATO, rather than outside the Alliance," said Serfaty.

Realization of the long-held dream of a common European currency also gave the 15 EU member states confidence they could indeed surmount monumental challenges in the name of unity. The value of the euro dropped 14 percent after its introduction—and a number of key EU members such as Britain have yet to adopt it—but participating members are on schedule to fully abandon their national currencies in favor of the euro in 2002.

The dual goals of monetary union and common foreign and security policy originated in the same document, the Treaty on European Union, drawn up in December 1991 and known as the Maastricht Treaty. It has largely charted Europe's post–Cold War course toward greater unity.

"One reason the United States is now taking the concept of ESDI more seriously is because the Europeans actually introduced the euro, despite a lot of naysayers who insisted it would never happen," said Serfaty. "And once you get the money right, it's natural to start working on the foreign policy and military force pieces of the puzzle."

Flexing Muscles

The growing confidence with which the European Union has been flexing its muscles in foreign affairs and security matters has been clearly evident in recent months.

Take, for example, the Austrian case. When Austria, an EU member, installed a coalition government that included the far-right Freedom Party of Nazi–sympathizer Joerg Haider, the EU took the unprecedented step of threatening sanctions designed to isolate Austria diplomatically.

In other assertive moves, European Courts of Justice and of Human Rights struck down laws in Germany banning female soldiers from jobs involving weapons and a British law banning gays in the military, thus raising questions of national sovereignty and provoking controversial showdowns on two issues that have bedeviled US military policy for years. Rather than fight the courts, both EU countries moved with little fanfare to bring their militaries into compliance with the rulings.

NATO's 50th anniversary summit in Washington in 1999 was notable for having codified the quid pro quo at the heart of the European drive for its own security arrangement. Washington endorsed ESDI and proposed procedures whereby NATO might transfer assets to an EU–led operation if the Alliance opted out. The Europeans, in turn, pledged themselves to a Defense Capabilities Initiative to close a trans–Atlantic gap in defense capabilities and advanced military technologies.

The 1999 war in Kosovo added urgency to both impulses. European leaders were unsettled to find themselves embroiled in a shooting war whose outcome was wholly dependent on the actions of a nation whose President had for months been in the grip of impeachment and whose national legislature seemed unsupportive of the war effort. Suddenly, the Europeans were forced to think seriously about what would happen in a crisis should America not answer the bell. This nightmare vision made some Europeans determined to develop their own defense wherewithal.

Kosovo also forced American and European officials to face the fact that a great gap had opened up in technological prowess and power projection capabilities of the two sides—a gap so great as to have created, in essence, a two-tier Alliance. Out of necessity, US forces conducted 90 percent of the precision airstrikes in Kosovo, and the United States supplied an overwhelming proportion of the required command and control, intelligence, reconnaissance, strategic lift, and logistics.

"The Kosovo air campaign demonstrated just how dependent the European allies had become on US military capabilities," remarked Lord George Robertson, NATO secretary general.

Robertson further noted that the Europeans became major contributors only after hostilities ended. (They supplied most of the on-the-ground peacekeepers.) Whether it was precision-guided weapons or all-weather aircraft, ground troops able to reach a crisis quickly or battle management systems, the Europeans were found lacking.

The danger was put bluntly by Robertson. He said, "We must avoid ... a two-class NATO, with a precision class and a bleeding class. That would be politically unsustainable."

Devilish Details

After fully endorsing ESDI in principle at the Washington summit in 1999, US officials began riding herd on the process to try to ensure that the Europeans lived up to their commitments as part of the plan and to ensure that the process did not lead to rifts between NATO and the EU.

There have been annoying moments. For example, Clinton Administration officials were alarmed last year by diplomatic language that emerged from an EU summit in Cologne in June 1999. It seemed to suggest that the Europeans were backing away from the bedrock principle that NATO, and not the EU, would remain the option of first resort in times of future crisis. When EU officials also seemed reluctant to formalize consultations between the EU and NATO, US officials im-

mediately suspected the French of reverting to form and once again trying to keep the United States at arm's length on European security deliberations.

Amb. Alexander Vershbow, the permanent US representative to NATO, chided his European counterparts on the point. "Sometimes one suspects that there are fears on the part of some members of the EU—[French Strategic Affairs Director] Regis de Belenet may want to comment on this—that if the NATO–EU connection were established too soon, the United States would somehow pollute or contaminate the EU's internal workings. It's as if the United States were some kind of computer virus that, once let in the door, would cause a complete meltdown of the EU's ability to make decisions."

Vershbow later developed this theme in an interview. "We did sense a real disconnect between the Washington summit and the EU summit in Cologne," he said, "and it's taken quite some time to get things back on track. There are still some potential pitfalls we haven't solved that fall under the heading of unfinished business."

Vershbow went on, "We must preserve the important principle that NATO remains the option of first resort in security matters. The US has to establish how non–EU allies such as Turkey and Norway will be included in their deliberations on possible EU–led operations. And we need to formalize the NATO–EU connection."

The most delicate unfinished business concerns whether Europeans will match their muscular rhetoric with resources and political willpower.

There's no getting around the fact that, nearly two years after the emergence of ESDI, most European defense budgets remain flat. Germany has even proposed significant defense cuts. Many European armed forces also remain largely configured for the Cold War, with inadequate strategic lift and logistics capability and bloated personnel rosters. In 1999, personnel expenses consumed a stultifying 61 percent of European defense budgets, compared to only 39 percent of US defense spending. Unavoidably, the large force sizes leave little money for modernization. In 1999, the US spent 24 percent of its defense budget on new systems. The corresponding figure in the EU was 14 percent.

Doing What Europeans Do

Vershbow noted, "The important thing is that the Europeans not use smoke and mirrors to reach their goals, because already there are signs that they may be using some accounting tricks. The Europeans are now talking the talk, but they're not yet walking the walk."

Concern about trans–Atlantic burden-sharing—a perennial flash point in Congress—flared anew this past spring. Secretary of Defense William S. Cohen traveled to Munich to complain that the European allies were tardy in supplying 4,000 civilian police and $36 million in reconstruction funds they had promised for Kosovo. Following up, outraged Senators attached a provision to a defense bill setting a July 2001 deadline for the withdrawal of all US forces from Kosovo and threatening a major reduction in funds for the Kosovo operation. Ultimately the bill was defeated but not before greatly alarming European allies.

"The concern I have raised with our European colleagues was that this problem in Kosovo comes on top of a dangerous pattern of defense budget cuts in Europe," Sen. Chuck Hagel (R–Neb.) said in an interview. "They're talking about new defense structures and ESDI, but that begs the question of where the resources are going to come from when their defense budgets are declining. At the same time, we Americans need to be careful not to prematurely drive a stake in the heart of ESDI, because we should encourage our allies to take a serious look at their collective defense capabilities."

In June, NATO Secretary General Robertson traveled to Washington to argue that European allies had gotten the message. He also stressed that the same forces the Europeans have pledged to upgrade as part of a deployable 60,000-troop Eurocorps would also be available to NATO if the Alliance decided to take the lead of an operation.

"I believe we have turned the corner and are now winning the argument over reduced defense budgets in Europe," Robertson said, speaking to defense reporters. "There are very few European countries now contemplating defense cuts, and the majority are actively reshaping their armed forces. That reflects the alarm bells we in Europe still hear ringing in our ears over the Kosovo conflict. We in Europe recognize that we have to rebalance the Alliance to meet future threats."

Beneath the wrangling over defense expenditures lies a less obvious but deep-seated anxiety within NATO over the bureaucratic culture of the European Union.

When ESDI was envisioned, plans called for all–European operations to be handled by the Western European Union, a much smaller organization that specialized in security issues. Last year, national leaders chose to subsume the WEU to the EU, which itself has laid out an aggressive agenda to expand to as many as 20 countries in the next few years.

The Leviathan

Even with its current 15 members, the European Union already has a formidable reputation for spinning red tape and inducing inertia. Meanwhile, the EU's executive body, known as the European Commission, was forced to resign en masse last year after publication of a 140-page report that detailed cronyism and financial irregularities.

US officials in Brussels in recent years have fought EU counterparts to bloody stalemates over trade issues ranging from "hush kits" on US aircraft to bananas and hormones in beef. That tradition of confrontation, if applied to sensitive and weighty trans–Atlantic security issues, could have disastrous repercussions.

"The EU is a huge institution with no culture in defense decision-making and a number of members like Ireland and Sweden with a tradition of neutrality," said an official on NATO's international staff. "Compared to the WEU—which was a small organization that had no grand aspirations—the EU is also much less modest. If ESDI is not managed very carefully, I can easily see fissures developing in relations between NATO and the EU."

Publicly, the US continues to endorse ESDI as a way to increase European burden-sharing within the Alliance. Privately, senior US officials display significant ambivalence. They believe that the ESDI–ization

process has gained nearly irreversible momentum. They further note that European success no less than failure would inevitably lead to a decline in US predominance in NATO. Europe would demand influence and senior military positions commensurate with its increased contribution.

That in itself could cause a serious political reaction in Congress. Said a top US officer at Supreme Headquarters Allied Powers Europe in Belgium: "My concern is that, if we don't find exactly the right balance in this effort, this whole notion of a separate European defense identity could be leveraged by those in Washington who would like to bring US troops home from Europe."

Former Secretary of State Henry Kissinger used to lament that there was no phone number a statesman could dial to speak to "Europe." Trying to forge a common policy response from Europe's fractious nations—even in the face of a monolithic Soviet threat—was no easy task. One positive result of the ESDI initiative, however, is that such a phone number now exists. Dial 285-5000, city code Brussels, and a phone will ring just off historic Schumanplatz at the center of the European Union's vast headquarters complex, a sweeping structure of pink marble columns, glass-and-steel walls, and a stone courtyard that at once invokes old world splendor and new age aspirations. The ring will be answered at a new diplomatic crisis center near room 50DH 30, office of the man some experts have taken to simply calling "Mr. Europe." His name is Javier Solana, a former Spanish politician and Secretary General of NATO who was named late last year as the first EU High Representative for Common Foreign and Security Policy.

"Does the United States now have a single phone number to get European Union opinion on defense and foreign policy issues?" he asked rhetorically. "I suppose my number will serve, at least as much as we in Europe have any single number to call in Washington, D.C., for similar discussions."

Since taking office, Solana has argued forcefully that the events of the past year have propelled Europe beyond the point of no return in its long quest to match its vast economic power with political and military influence on the world stage.

"Imperative"

As former Secretary General of NATO, however, Solana is determined to minimize the trans–Atlantic tensions. "Establishing a European Security and Defense Identity while still maintaining strong trans–Atlantic ties is not only possible, it's imperative," said Solana.

Solana is well aware that the US is skeptical of Europe's commitment to reaching its goals. "Certainly if the European countries do not significantly improve their power projection and defense capabilities, they will not reach the capability to adequately conduct EU–led operations, or NATO operations for that matter," he said. "No one denies that European forces that in the past focused on homeland defense will have to restructure to be able to deploy, much like US forces that have never had to worry about homeland defense have always been deployable. But I'm very hopeful they will improve those capabilities. The commitment of the European leaders is clear that this transformation must be made. It won't happen in the next 24 hours, but it will happen."

Solana pleads for the US, until then, to have patience. "We're only months from the Helsinki summit, so of course all the formalities have not yet been worked out," said Solana, stressing that the target date for creation of Europe's rapid-reaction corps is 2003. The EU is committed to finding ways to include the considerations of non–EU allies in future decisions, he said, and is developing a formal mechanism for bilateral EU–NATO relations.

"And if anyone suggests that some conflict over trade or bananas will be allowed to undermine the trans–Atlantic alliance and the common values and fundamental security partnership that we share, they have a very narrow view of what the Alliance is all about," Solana added. "As for the European Union itself, which is something absolutely new and unprecedented in history, I think it will prove a necessary element of stability if we want a globalized world that is ruled by law and not the law of the jungle."

In the meantime, US officials in Brussels already have seen at least one positive result of Europe's quest for a foreign policy and defense identity all its own. In the past, much to the chagrin of the US diplomatic corps, the European Union offices would simply close up during the holidays without even a skeleton staff. When a fairly urgent dispatch arrived on the desk of an official at the US Embassy last Christmas, however, he decided on a lark to dial 285-5000 to pass it along to the Europeans. To his ever-lasting surprise and delight, someone actually answered the phone. ■

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Six fighter pilots went to see again the rugged backcountry in Vietnam where they had once flown and fought.

The Misty FACs Return

By Richard J. Newman

Above and right, two views of the cave on the "Disappearing River" that North Vietnamese defended with 37 mm anti-aircraft artillery. What that cave hid was a mystery several former Air Force fighter pilots uncovered during a return to Vietnam last spring. Today, the cave is a bustling tourist attraction.

It was one of the most maddening targets of the war. Deep in the mountainous jungle of North Vietnam, about 40 miles north of the Demilitarized Zone, a small, slow-moving stream flowed out of a cave at the base of a 1,000-foot limestone cliff. The cave might have gone unnoticed by US pilots flying overhead in search of North Vietnamese supply lines, except that it was savagely defended by 37 mm anti-aircraft guns.

"We used to wonder what the hell was in there," said Ed Risinger, one of the Forward Air Controllers who flew the risky missions just north of the DMZ, looking for targets. "We knew there was something inside." The "Misty" pilots, as they were called, eventually deduced that the cave hid a ferry the North Vietnamese Army used at night to shuttle war materiel across the river on its way to the Ho Chi Minh Trail and South Vietnam.

US warplanes dropped hundreds of bombs on the mouth of the cave, and in the process many were shot down. Even if an aircraft managed to survive the withering anti-aircraft artillery on the approach, it would then encounter the cliff, which rose to an imposing height. Pilots could not fly low enough to execute an accurate drop and still have time to pull up and clear the cliff face. The Air Force, in fact, never managed to close the tunnel or find the ferry. Nor did it ever figure out exactly what went on inside the perplexing hole in the mountainside.

That mystery and other unfinished business from Vietnam receded as the American role in the war ended in the early 1970s and the men who fought the war went on with their lives. But like a deeply buried splinter, it eventually worked its way back to the surface. At Misty FAC reunions, tales of engagements along the "Disappearing River" were among the most cherished of all the war stories. Finally, Dick Rutan—call sign Misty 40—decided he needed to go back to Vietnam and see some things for himself. Risinger and four other Mistys agreed to go with him. No family members were allowed. The pilots did not want to have to explain the war or their emotions. Moreover, the State Department had issued warnings that Americans could encounter hostility and violence.

Photos by Don Shepperd

Six Who Went Back

Mick Greene (Misty 30)	61 missions
Wells Jackson (Misty 50)	107 missions
Ed Risinger (Misty 32)	58 missions
P.K. Robinson (Misty 45)	101 missions[1]
Dick Rutan (Misty 40)	105 missions[2]
Don Shepperd (Misty 34)	58 missions

[1]Shot down in 1972, POW for nine months.
[2]Shot down on last mission, rescued.

Photo by Don Shepperd

Six former Misty FACs returned to North Vietnam to relive some old missions and the camaraderie they felt and just out of curiosity. Above, five of the group and their van are photographed on a ferry at the Disappearing River.

What They Found

So it was that, in the spring of 2000, on the kind of overcast day that would have been a bust for the Misty FACs trying to spot targets through the clouds, six former Air Force fighter pilots touring the now–Communist Republic of Vietnam boarded a sampan that took them upstream. Just a few miles away was the Phong Na Cave, where the Disappearing River flowed out of the mountain.

The Americans went around a few bends in the river, and then, suddenly, there it was—the cave. They went inside. Instead of the cramped hideout they had expected, the Mistys discovered a vast cavern spiked with stalactites and stalagmites—and filled with other tourists. "We all stood there and looked at it," said Rutan, "the beauty and majesty of it, to think what we were trying to destroy." The Mistys learned that, during the war, the cave had indeed housed the ferry—plus much more. There had been a North Vietnamese field hospital inside, with more than 2,000 patients, refugees, and soldiers. From the mouth of the cave, it became apparent that the layers of rock on top of it made it virtually impregnable. "When I think of the bombs we wasted and the airplanes shot down—it was sheer folly," said Rutan.

The Mistys didn't need to make a trip to Vietnam to grasp the general folly of the war, as it was conceived and executed by President Lyndon Johnson and his Secretary of Defense, Robert S. McNamara. The Misty FAC mission evolved from it. For most of the war, political leaders in Washington refused to allow attacks on the key targets of Hanoi and Haiphong Harbor, where most northern war supply shipments originated. Instead, Washington settled on a strategy of interdicting supplies truck by truck, as they neared the South Vietnam border under cover of night, clouds, and triple canopy jungle.

That decision led to the formation in 1967 of the Misty detachment—a group composed entirely of volunteers, flying fast and low in two-seat F-100 fighters. The unit was activated in June 1967 at Phu Cat AB, South Vietnam, a newly built facility located 20 miles northwest of the city of Qui Nhon. Their job, when they weren't orchestrating rescues of downed pilots, was to continuously scout for targets and mark them for bombers. The four- to six-hour scouting sessions made the Mistys such inviting targets that the Communist gunners gave them special attention. One-quarter of them were shot down.

The reasons for returning to Vietnam were simple and did not feature attempts at "shedding old demons" and such. "I don't think we had much of that," said Mick Greene, Misty 30. "It was just going back with these guys and reliving some of the missions that we flew." Some couldn't resist trying to acquire a final taste of the camaraderie they once felt as warriors whose lives depended on each other. "When I left [Vietnam] in 1973, it never crossed my mind that I would ever go back," said P.K. Robinson, Misty 45, who spent nine months as a POW after getting shot down in 1972. "My wife kept asking me, 'Why do you want to go back?' I said, 'I have no idea.' Rutan made a plan, and I decided I wanted to be part of the action." Others were driven by simple curiosity. Risinger, Misty 32, said, "I wanted to see what was in that cave and the Mu Gia Pass,"

Photo via Don Shepperd

From left, P.K. Robinson, Wells Jackson, Mick Greene, Dick Rutan, Don Shepperd, and Ed Risinger stand in a bomb crater in a field on the Ho Chi Minh Trail, west of Dong Hoi.

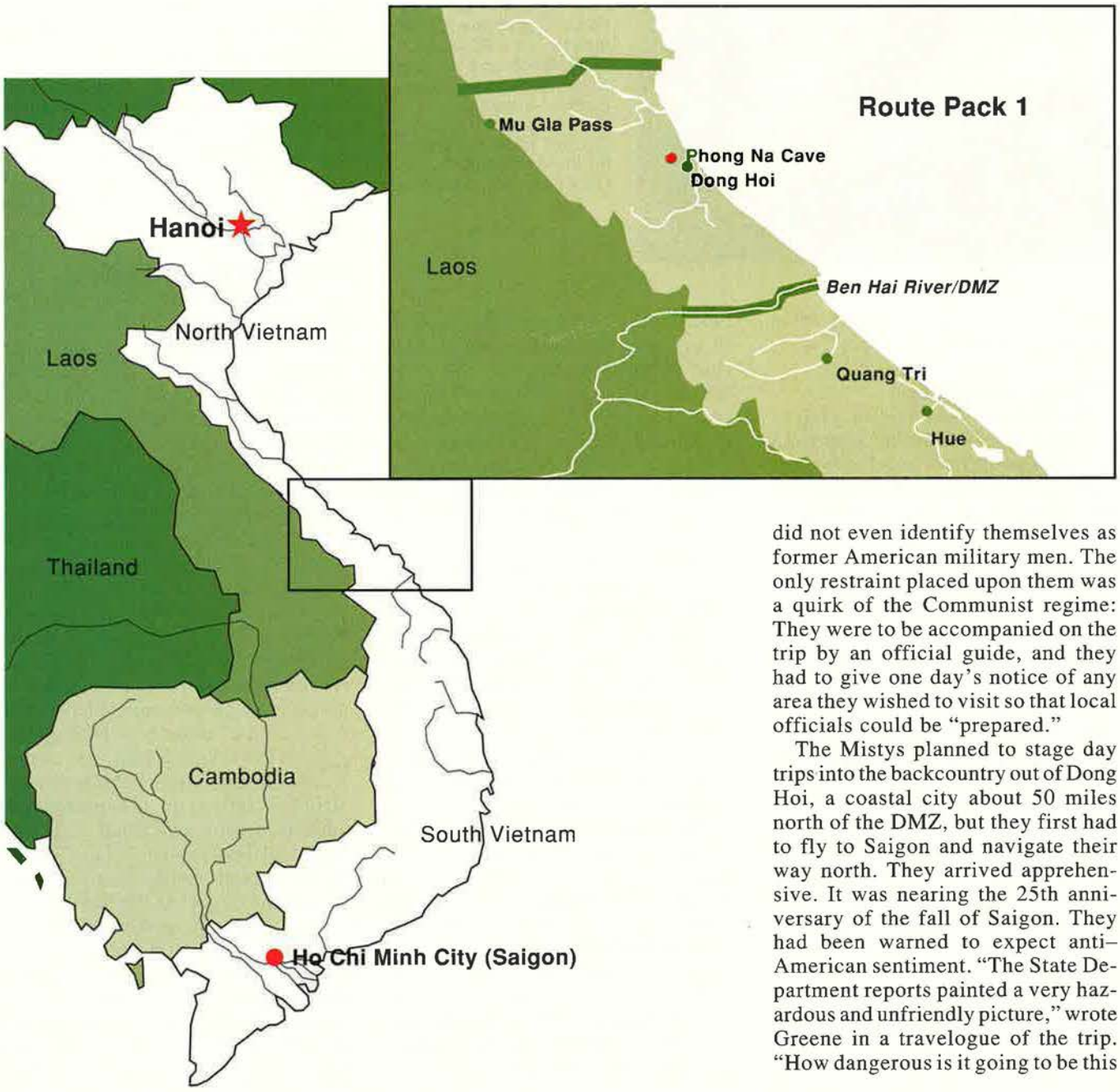
the busy mountain crossing into Laos that was a key target for US air attacks.

Route Pack 1

Many American veterans have made pilgrimages back to Vietnam, but the Mistys were different. They had little interest in exploring Ho Chi Minh City (they still call it Saigon), Hanoi, or other urban centers of the war. They were, instead, drawn to the rugged backcountry below Route Pack 1, the 8,000-square-mile swath of North Vietnamese airspace patrolled by Misty FACs. During the war, they became intimately familiar with landmarks of the terrain. There were, in addition to the Disappearing River and Mu Gia Pass, Bat Lake, Butterfly Lake, and Pork Chop—so named for the shapes they resembled. There were also significant places that appeared on no maps—anti-aircraft gun pits known for their vicious effectiveness, mountaintops, rice paddies that had been the focus of intensive rescue operations, and sites where empty parachutes gave the last signs of fellow pilots.

For all their familiarity with the terrain, only those who got shot down had ever seen it at ground level. "I had a haunting desire to walk around on the ground and just see what it was like," said Rutan. Beyond that, he had one specific quest: To stand on the spot near the Mu Gia Pass where a fateful truck had been parked in 1968. While flying a pass over the truck, Rutan was hit by AAA and shot down and had to be rescued several hours later.

The group of Mistys had a celebrity among them—in 1986, Rutan and Jeana Yeager flew *Voyager* around the world nonstop, without refueling, the first and only persons to do so—but the Mistys wanted to travel the country as ordinary tourists. They found a tour operator who rounded up local guides to take them wherever they wanted to go. The Mistys asked no special assistance from the Vietnamese government and



did not even identify themselves as former American military men. The only restraint placed upon them was a quirk of the Communist regime: They were to be accompanied on the trip by an official guide, and they had to give one day's notice of any area they wished to visit so that local officials could be "prepared."

The Mistys planned to stage day trips into the backcountry out of Dong Hoi, a coastal city about 50 miles north of the DMZ, but they first had to fly to Saigon and navigate their way north. They arrived apprehensive. It was nearing the 25th anniversary of the fall of Saigon. They had been warned to expect anti–American sentiment. "The State Department reports painted a very hazardous and unfriendly picture," wrote Greene in a travelogue of the trip. "How dangerous is it going to be this

Photo by Ed Risinger

In 1972, P.K. Robinson had been shot down by an SA-2 and spent nine months as a POW. In 2000, Robinson (second from right) poses with Rutan, Jackson, Greene, and Shepperd in front of an SA-2 at a military museum in Ho Chi Minh City (Saigon).

time?" he recalls remembering. "Can we expect hostility or worse?"

"Yankee Air Pirates"

The return to old Saigon quickly put them at ease. On the way from the airport to their hotel, they noticed that the buses no longer had anti–hand grenade screens on the windows, as was the case in the war years. "The people were very friendly, happy, and smiling," wrote Greene. "They treated us with open friendliness, even when it was revealed that we were 'Yankee Air Pirates.' "

The Mistys flew the next day to Hue, about 60 miles south of the old DMZ. There they met their guide, who during the war had been a combat interpreter for the US Marines. Then they began exploring in earnest. At first, they wanted to drive to Khe Sanh, where Mistys had made extensive flights during the North Vietnamese siege of 1968. The guide talked them out of it, explaining that the old fire base was completely overgrown, marked only by a simple monument to the North Vietnamese troops who died storming the base.

So the Mistys set out for other landmarks, some meaningful only to them. Near the old Con Thien Marine outpost, just across the river from what had been North Vietnam, they stopped and inspected the one remaining bunker. The outpost is totemic to the Mistys. Bud Day, the first Misty commander, had been shot down 25 miles north of Con Thien in 1967. He was captured by Communist forces but escaped after four days. Barefoot and badly injured, he trudged south for two weeks until he was within two miles of Con Thien and safety. Then, while trying to attract the attention of a US airplane overhead, he was shot by two North Vietnamese soldiers, recaptured, and sent to a Hanoi prison for nearly six years. For his gallantry, Day was awarded the Medal of Honor.

The pilots shot pictures of the bridge near the village of Cam Lo, near the DMZ, where North Vietnamese tanks streamed into the south in 1972. US commanders wanted to destroy the bridge but couldn't because a downed pilot was hiding nearby. Then, just before crossing the Ben Hai River, which had formed the center of the DMZ and marked the boundary between North and South Vietnam, the Mistys stopped at the Cemetery of the Martyrs of the Ho Chi Minh Trail.

"For me, it was the most emotional moment of the trip," said Don Shepperd, Misty 34 (and, in the period 1994–98, director of the Air National Guard). "The entire magnitude of the war hits you when you're walking around there. ... We've got the Wall here. They've got the cemeteries there. And what did we accomplish?"

The Mistys crossed the Ben Hai River and were on the territory of the old North Vietnam. The rice fields stretching to the horizon were dotted with bomb craters, filled with water and put to use growing shrimp and other fish. At nightfall they arrived at Dong Hoi, which had been leveled by US bombs but is now totally rebuilt and shows no obvious scars from the war. After a few go-arounds with the hotel staff, the Mistys managed to get a bucket of cold Heinekens and settled in to prepare for the next day's journey—the trip to the Disappearing River.

Panda, Sandy, and Jolly

At the cave, they photographed the bomb-scarred cliff that soars above it, where one of the most dramatic rescues of the war took place. Panda 01, an F-105 pilot, had gone down smack on top of the cave. Fighters, controlled by the Mistys, worked for two days to silence at least 18 AAA guns defending the area. At one point, Robinson's jet got so low on fuel that he probably would have flamed out had not a KC-135 tanker flown 20 miles beyond its permitted flight path—into North Vietnamese airspace—to help out. Finally, as one of the Jolly Green rescue helicopters was hovering in place and a pararescueman climbed down a rope ladder to snatch up the pilot, fire erupted from an unnoticed gun site. An A-1 Sandy rescue airplane rolled in and performed what Robinson described as a "heroic, selfless move." The Sandy made himself, rather than the Jolly Green, the target. As the Sandy dove toward the gun position, tracers started firing at him instead of the chopper. The Sandy continued flying straight into the gunner's fire, strafing and dropping cluster bombs. He pulled off just feet above the gun. The Sandy won the kill-or-be-

killed showdown, enabling the Jolly Green to hoist the pilot to safety. The rescue, said Robinson, "evokes strong memories every time I tell the tale."

Spirits were high after the visit to the cave, and they soon rose higher. The Mistys hired a sampan to take them back down the river in search of the spot where a notorious six-position 57 mm AAA site routinely harassed them. They found no signs of the gun site, but there were plenty of craters caused by bombs that had been dropped to take it out. They also photographed another mountaintop where an F-105 pilot had crashed. Rutan had seen his parachute and flown to a tanker to fuel up for a rescue effort, but when he returned, there was no sign of the pilot. Most likely, the North Vietnamese found and killed him.

The trip down the river also brought the Mistys into a number of villages where they were not sure whether they would be greeted with warmth or anger. Their anxiety rapidly dissolved, however, as they were mobbed by poor but polite kids. Risinger delighted the children with a disappearing handkerchief trick, and the Mistys passed out candy, pencils, and other small gifts that they had brought along. Some of the kids practiced the halting English they had learned in school. The Mistys in general found the Vietnamese friendliness to be a surprise. "If I lived there and you'd been bombing me daily, I'd be [angry]," said Shepperd, "but they're not. I don't understand it."

Photo by Mick Greene

The group expected anti–American sentiments, especially since they arrived close to the 25th anniversary of the fall of Saigon, but they found friendly people everywhere. Above, Cholon Market in downtown Ho Chi Minh City.

Sign Language

One evening in Dong Hoi, Risinger decided to go for an after-dinner stroll, and he ran into Rutan doing the same thing. Although the town was poorly lit, they felt comfortable enough to walk far from their hotel. Eventually, they came across a shop near the seafront, filled with locals watching a single, ancient television set. They waded into the crowd, began chatting with gestures and simple words, and eventually explained they had been enemy pilots flying over Dong Hoi during the war. Some of the townsmen put their fingers in the air and went, "Duh-duh-duh-duh-duh"—indicating they had been air defense gunners. There was no animosity between the former foes. "The people were incredibly friendly," said Risinger.

For some Mistys, wartime frustration at the doggedness of the enemy turned into admiration. "They are courageous, inventive people," said Shepperd. "I have respect for them as soldiers and as people for what they underwent." The impression was reinforced a couple of days after the visit to the Disappearing River, when the group toured the Vinh Moc tunnels just north of the old DMZ. For years, the tunnels housed more than 3,000 locals, even though the passageways were so narrow people could only turn around at junctions where two tunnels intersected. The Mistys had to stoop to walk through most of the tunnels. Robinson, the former POW, could not even bring himself to descend into the complex. "I got about one foot in and decided I didn't want to do this," he said.

The trip caused some of the FACs to consider the possible ways they would help their former enemies. Wells Jackson, Misty 50, said he wished he could use 30 years' worth of accumulated entrepreneurial skill to aid the locals. "I have always respected the Vietnamese people as

Photo via Don Shepperd

The former FACs were welcomed even in small villages and even after they explained that they had been pilots during the war. The trip nevertheless left the group still frustrated by Washington's conduct of the war.

A Small and Special Group

"Misty" was the radio call sign used by USAF's F-100F Forward Air Controllers, Fast FACs, during the Vietnam War. These pilots flew missions over North Vietnam from June 15, 1967, through May 19, 1970.

Only 155 pilots were officially assigned. Twenty-one other attached pilots flew occasional missions. There were also intelligence officers, flight surgeons, and maintenance officers assigned. It was a small, tight-knit group of special people given a difficult task in a terrible war.

The mission was hazardous. Of the 155 Mistys, 36 (23 percent) were shot down—two of them twice. Seven were killed in action. Four were captured and held as Prisoners of War.

This was an unusually accomplished group, by any measure. From the Misty ranks came:

- A recipient of the Medal of Honor
- Two USAF Chiefs of Staff
- Six general officers
- A director of the Air National Guard
- A Congressional candidate
- Two astronauts
- A winner of the Collier Trophy, Louis Bleriot Medal, and Presidential Citizen's Medal of Honor
- The first man to fly nonstop, unrefueled around the world

Now, more than 30 years after the last flight of the last Misty, 27 of the 155 are deceased.

friendly, attractive, and hardworking," said Jackson. However, corruption and Communist restraints, he believes, make economic progress unlikely. "This greatly saddens me," he said. Still, not all of the Mistys are so enamored with the Vietnamese. One former pilot Rutan invited on the trip said he was still so mad at Vietnam that he'd do "terrible things" if he were to travel there.

The day after trekking to the Disappearing River, the Mistys set out for the Mu Gia Pass, tucked even farther into the Vietnam backcountry. The principal objective was to find the site of the gun that shot down Rutan's aircraft. Along the way, the Mistys conducted an old fighter pilot ritual. On an indistinct hilltop, where they figured no American had ever stood, they steered off the road and found a clump of grass. They pulled out a nickel given to them by Mary Fiorelli, wife of the late Jim Fiorelli, Misty 31, who died in 1994. Tossing it onto the grass, they sang:

Hallelujah! Hallelujah!
Throw a nickel on the grass,
Save a fighter pilot's ass.
Hallelujah! Hallelujah!
Throw a nickel on the grass,
And you'll be saved.

The ceremony took perhaps 30 seconds, but it was a time of introspection. "We had a silent moment," said Rutan. "I was thinking of all the guys who died up here."

They returned to the van. As they neared the Mu Gia Pass, where the Ho Chi Minh Trail crossed into Laos, the road became narrower and then, finally, impassable. Rutan persuaded the group to continue on foot. A couple of miles up ahead, a sign informed them that, during the latter years of the war, the road had been converted into an airstrip for North Vietnamese MiGs. They paced off the length of the strip and found it measured about 8,000 feet—too short for comfortable operations by US fighters of that era. They never made it to the Mu Gia Pass, although Rutan announced a plan to return someday and backpack from the airfield to the pass, then into Laos, and then back across the Vietnam border to Khe Sanh—a 100-mile excursion. He got no takers.

The next day the Mistys began the drive back to Hue, where they spent the night before flying back to Saigon. On stops at villages along the way, they were repeatedly mobbed by kids. In one town, they were invited to join in a wedding celebration, "totally disrupting the reception," according to Greene. In Hue, they visited the "American War Museum," which, like the one they later toured in Saigon, is replete with anti–American propaganda. One picture showed 11 girls who supposedly wiped out a US combat battalion. Also on display are some of the 37 and 57 mm guns that regularly shot at the Mistys, along with the reinforced bicycles couriers used to transport as much as 1,000 pounds of materiel down the North Vietnamese supply lines.

Old Haunts

Back in Saigon, the Mistys struck out to visit old haunts such as an airfield near Bien Hoa where many of the American fighter pilots had been based. They toured the Cu Chi tunnel complex just 15 miles from Bien Hoa, which the Viet Cong had used as a staging area for attacks on targets in the Saigon area. The Americans never knew it was there.

As the trip wound down, the camaraderie among the six pilots intensified. Something nagged at them, too. After the tour of the war museum in Saigon, Shepperd wrote in his notes that "we leave angry about lots of things and at lots of people, not all of them NVA—names like McNamara and Johnson come to mind." Jackson recalled, "I really enjoyed the camaraderie I felt with my old flying buddies, but, as we told war stories and remembered our past war days, old memories and frustrations crept back in. By the end of our time together I was rather pensive as I recalled those frustrations."

When they got home, the war and its memories remained unsettling. "I had hoped to find a deeper meaning," said Rutan. "I didn't find it. It was my last hope. Now I just have to live with it." Even those who went with minimal expectations came home feeling a hollowness. The worst feeling, wrote Shepperd in his trip notes, "is that many, too many, of our comrades died for a cause for which the politicians lacked the resolve to win." ■

Richard J. Newman is the Washington–based defense correspondent and senior editor for US News & World Report. *His most recent article for* Air Force *Magazine, "Recruiting in Cyberspace," appeared in the July 2000 issue.*

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Russian Military Almanac

By Tamar A. Mehuron, Associate Editor, **with Harriet Fast Scott, William F. Scott, and David Markov**

Organization of the Russian Armed Forces

THE Russian military's most recent year had three highlights: Consolidation of military and political power in the hands of the newly elected Russian President, Vladimir V. Putin, renewed fighting in the breakaway province of Chechnya, and the loss of the submarine *Kursk* and her crew.

Russian authorities blamed Chechens for the September 1999 explosions in Moscow apartment buildings and in other cities. Putin, then Prime Minister, strongly supported a military response to these "acts of terrorism." After President Boris Yeltsin resigned Dec. 31, 1999, Putin, a former KGB officer and former Director of the Federal Security Service (FSB), the domestic successor to the KGB, became acting President. He was subsequently elected President March 26, 2000.

In May 2000 Putin created seven federal districts to consolidate his political power. These districts correspond closely to the seven military districts. He appointed seven Presidential Representatives (five of whom were retired general officers) for the federal districts. These actions provided Putin with centralized top-down control throughout the 89 regions making up the Russian Federation.

Putin also designated the federal district representatives as new members of the Security Council, a body he chaired. Overall direction of Russia's military forces was provided by the Security Council. The "permanent members" of the Security Council, in addition to the President, were the Prime Minister, Secretary of the Security Council, Director of the Federal Security Service, and Ministers of Foreign Affairs and Defense. Other members included the Directors of the Foreign Intelligence Service, Federal Border Guard Service, and Ministers of Internal Affairs and Emergency Situations. The Chief of the General Staff (Gen. of the Army Anatoliy V. Kvashnin) was, for the first time, made a member of the Security Council. Putin also retained control over the power ministries (which have their own troops) and the Ministries of Foreign Affairs and Justice.

The Security Council approved a new military doctrine in April 2000. It provided for the use of nuclear weapons not only in response to a nuclear attack but also in the case of a large-scale conventional weapons attack against Russia or its allies. The doctrine also highlighted terrorism within Russia as a military threat.

Armed forces under the Ministry of Defense consisted of four military services: Strategic Rocket Forces, Air Forces, Navy, and Ground Forces. In 1999, their authorized personnel strength totaled 1.2 million, although the actual figure was 1.01 million.

Russia's previous war with Chechnya had ended in 1996. In the aftermath of September's explosions in Moscow, Russia's armed forces moved on Chechnya in October. The General Staff for the first time exercised operational control in actual combat conditions in Chechnya over all Russian forces involved: troops of the Ministry of Defense, Internal Troops, Border Guards, and other power ministries. In May 2000, the First Deputy Chief of the General Staff, Gen. Valeriy Manilov, stated that there were 80,000 Russian army troops and police officers in Chechnya with "a maximum of 3,000" separatist rebels facing them. In June the Russian military leadership announced that, for all practical purposes, the war was over.

Less than a week after these assurances, Chechen forces killed more than 100 Russian soldiers. The conflict continued.

The Chechnya conflict exacerbated the poor condition of Russia's armed forces. Students at several military institutes graduated early due to a shortage of young officers. Modernization of military weapons and other equipment slowed, except for prototypes. Forty percent of the men discharged from the armed forces had no pension security. Military housing remained critical.

In August, the Security Council decided to cut the number of Russia's nuclear warheads to 1,500 and transfer the savings to strengthen its conventional forces. Furthermore, as the land-based nuclear arsenal shrinks in the next five years, the separate status of the Strategic Rocket Forces will also be re-evaluated. The decision follows a public dispute between Minister of Defense Marshal Igor D. Sergeyev and Kvashnin concerning the future composition and size of the Russian armed forces. To gain more funding and support for the conventional forces, Kvashnin, a tank officer, argued for a sharp cut in the number of land-based ICBMs and the merger of the separate elite Strategic Rocket Forces into the Air Forces. By contrast, Sergeyev, former Strategic Rocket Forces head, advocated a separate strategic deterrence force composed of all nuclear forces.

But the decision to reform the military was quickly overshadowed by the sinking of the *Kursk,* Russia's newest and most modern attack submarine, on Aug. 12 in the Barents Sea. The nuclear-powered submarine, built in 1994, had been participating in exercises when it suffered apparent explosions and sank, and its 118 crew members perished. Rescue efforts by Russians, Norwegians, and British were hampered by severe weather and the 60-degree tilt of the submarine on the seabed. The tragedy highlighted the deterioration of Russia's military forces.

Strategic Rocket Forces (RVSN). A second regiment of the new SS-27 Topol-M missile system was placed on alert duty. The Commander, Gen. of the Army Vladimir N. Yakovlev, asserted that the new missile can be equipped "with a powerful set of means to breach anti-missile defense." Weapons and supporting equipment deteriorated throughout the Strategic Rocket Forces. More than 70 percent of its missiles require extensive work to extend their operational life, as do the majority of fixed command-and-control facilities and 60 to 70 percent of battle management assets.

Air Forces (VVS). The 37th Air Army gained one Tu-160 bomber and three Tu-95Ms in 1999 from Ukraine. In early 2000, Ukraine returned an additional seven Tu-160s to Russia. One additional new Tu-160 is being completed at the Kazan plant. Russia modified its Kh-55 nuclear armed cruise missile, now designated Kh-55SM, to carry non-nuclear warheads. The Kh-55SM missiles can be launched by either the Tu-160 or Tu-95. Fighter aircraft developments included the first test flights of Sukhoi's Berkut S-37, with its swept-forward wings, and the MiG prototype Project 1-44.

The average annual flying time was 10 to 16 hours for fighter pilots, 18 to 24 hours for pilots in ground-attack aircraft, 12 to 26 hours for bomber pilots, 20 hours for long-range aircraft pilots, and 44 to 60 hours for military transport pilots. Exceptions to this were the bomber, ground-attack, and reconnaissance pilots flying missions in Chechnya.

Navy (VMF). Repairs on the missile cruiser *Slava,* which began in 1990, were completed in November 1999. It was re-designated the guard missile cruiser *Moscow.* The first in a series of nuclear surface ships, the heavy guided missile cruiser *Admiral Ushakov* is undergoing repairs. The *Yuriy Dolgorukiy* ballistic missile submarine, under construction at the Severodvinsk yard, is 47 percent completed. It is the first of the Borey (Arctic wind)–class fleet.

Ground Forces (SV). The Chechnya war exposed weaknesses in Russia's ground forces. Conscripts were poorly trained; contract troops were little better. Equipment generally was in poor condition, and most was obsolete by NATO standards. Chechen fighters, with manpower odds of 10-to-1 against them, and lacking artillery, air support, or tanks, remained in the field.

Russian helicopter gunships flew approximately 40,000 missions, striking Chechen forces, providing air cover for ground troops and transporting personnel and supplies. Five military transport helicopters were equipped with Global Positioning System satellite navigation, which significantly improved their effectiveness, especially during night operations. The new Ka-52 helicopter, Alligator, made its first flight in February.

Airborne forces currently number about 40,000 personnel and were scheduled to increase. These forces remain directly subordinate to the Supreme High Command. As Russia's only mobile forces, they are heavily involved in the Chechen war. As of June 2000, 171 airborne troops had been killed and 420 wounded. Of those killed, approximately one-third were lost in a single battle.

Photo by Paul Kennedy

Structure of the Russian Armed Forces

As of July 27, 2000

President of the Russian Federation—Supreme Commander in Chief

Security Council

Federal Protection Service

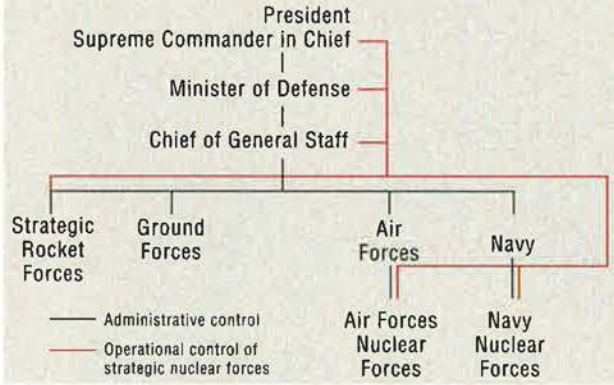
Commonwealth of Independent States

- Heads of State Council
- Defense Ministers Council
- Border Guard Commanders Council
- Chief of Staff for Coordination of Military Cooperation
- Chiefs of Staff Committee
- Peacekeeping Forces
- Air Defense Coordinating Committee

- Director, Federal Security Service
- Director, Foreign Intelligence Service
- Minister of Defense (Marshal I.D. Sergeyev)
- Minister, Internal Affairs
- Director, Federal Border Guard Service
- Minister, Civil Defense & Emergency Situations

- Secretary of State–First Deputy Minister of Defense (Dr. N.V. Mikhaylov)
- Deputy Minister of Defense & Chief of Rear Services (Logistics) (Gen. Col. V.I. Isakov)
- Chief of General Staff–First Deputy Minister of Defense (Gen. of Army A.V. Kvashnin)
- Deputy Minister of Defense & Chief, Construction & Billeting of Troops (Gen. Col. A.D. Kosovan)
- Deputy Minister of Defense (Gen. of Army V.M. Toporov)
- Reserves of Supreme High Command:
  - Airborne Forces
  - Strategic Air Army
  - Military Transport Aviation

Supreme High Command of the Armed Forces of the Russian Federation



Main Directorates:

- Operations
- Organization & Mobilization
- Military Intelligence
- Intl. Military Cooperation
- Nuclear Weapons
- Ground Forces

- Main Directorate for Combat Training of the Armed Forces

- CINC, Strategic Rocket Forces (Gen. of Army V.N. Yakovlev)
  - Military Space Forces
  - Space Missile Defense Forces
- CINC, Air Forces (Gen. of Army A.M. Kornukov)
  - Military Air Force & Air Defense District (Moscow)
- CINC, Navy (Adm. of Fleet V.I. Kuroyedov)
  - Naval Infantry
  - Coast Artillery
  - Fleets:
    - Baltic Sea (Kaliningrad Special Region)
    - Black Sea
    - Northern
    - Pacific (Joint Command of Russian Northeast)
  - Flotilla: Caspian

Military Districts:	Operational Strategic Commands:
Far Eastern	Far Eastern
Leningrad	Northwestern
Moscow	Western
North Caucasus	Southwestern
Siberian	Siberian
Ural	Central Asian
Volga	Central Asian

- Air Forces and Air Defense Armies
- Army Aviation
- Air Defense of Ground Troops
- Rocket Troops & Artillery
- Ground Forces units

KEY

- —— Organization
- ▬ Operational command
- --- Forces of Supreme High Command

Lineup of Russian Aerospace Power, 1999

Strategic Forces

Includes deployable Russian and deactivated Ukrainian strategic forces.

783–Intercontinental Ballistic Missiles
SS-18 (RS-20): 180. SS-19 (RS-18): 150. SS-24 (Silo) (RS-22): 37. SS-24 (Rail) (RS-22): 36. SS-25 (RS-12M): 360. SS-27 (RS-12M2): 20.

106–Long-Range Bombers[a]
Tu-95 (MS6) Bear-H6: 29. Tu-95 (MS16) Bear-H: 54. Tu-160 Blackjack: 23.

105–Medium Range Bombers
Tu-22M Backfire: 105.

20–Tanker Aircraft
Il-78 Midas: 20.

308–Submarine-Launched Ballistic Missiles[b]
SS-N-18 (RSM-50): 176. SS-N-20 (RSM-52): 20. SS-N-23 (RSM-54): 112.

21–Strategic Ballistic Missile Submarines[c]
Delta III (Kalmar): 11. Delta IV (Delfin): 7. Typhoon (Akula): 3.

100–Strategic Anti-Ballistic Missile Launchers
ABM-3 (SH-11) Gorgon: 36. AMB-3 (SH-08) Gazelle: 64.

[a] Ukraine sent one Tu-160 Blackjack and three Tu-95 Bear-Hs to Russia to pay off its energy debts.
[b] The SS-N-20 SLBMs decreased from 80 on four Typhoon SSBNs in 1998 to 20 on one operational Typhoon SSBN in 1999.
[c] All Delta Is and Delta IIs have been withdrawn from active deployments and are not counted as operational strategic forces. Since 1994, operational forces of Delta IIIs and Typhoons have shrunk from 14 to 11 and six to three, respectively.

Air Forces

885–Fighter–Interceptors
MiG-29 Fulcrum: 260. MiG-31 Foxhound: 300. Su-27 Flanker: 325.

490–Ground-Attack Aircraft
Su-24 Fencer: 295. Su-25 Frogfoot: 195.

200–Reconnaissance/Electronic Countermeasures Aircraft
MiG-25 Foxbat: 40. Su-24 Fencer: 150. Tu-22MR Backfire: 10.

20–Airborne Early Warning and Control Aircraft
A-50 Mainstay: 20.

425–Aircraft of Military Transport Aviation
An-12 Cub: 45. An-22 Cock: 25. An-24 Coke: 25. An-32 Cline: 50. An-72/74/79: 20. An-124 Condor: 24. An-225 Cossack: 1. Il-76 Candid: 220. Tu-134/154 Careless: 15.

2,400–Strategic Surface-to-Air Missile Launchers
SA-5 (S-200): 200. SA-10 (S-300P): 2,100. SA-12 (S-300V): 100.

Navy

1–Aircraft Carrier
Kuznetsov–class CTOL ship: 1.

60–Bombers and Strike Aircraft
Tu-22M Backfire: 60.

55–Fighter–Interceptors
Su-27 Flanker: 30. Su-33 Flanker: 25.

35–Fighter–Attack Aircraft
Su-24 Fencer: 35.

42–Reconnaissance/Electronic Warfare Aircraft
An-12 Cub: 5. Il-20 Coot: 8. Su-24 Fencer: 12. Tu-22MR Backfire: 5. Tu-95 Bear: 12.

270–Anti-Submarine Warfare Aircraft
Be-12 Mail: 25. Ka-25 Hormone-A: 50. Ka-27 Helix-A: 85. Il-38 May: 35. Mi-14 Haze-A: 20. Tu-142 Bear-F: 55.

135–Helicopters
Ka-25 Hormone: 15. Ka-29 Helix: 30. Ka-31 Helix: 5. Mi-6 Hook: 10. Mi-8 Hip: 35. Mi-14 Haze: 40.

Russian aviation was restructured in 1998. Three commands—the Strategic Forces, Air Forces, and Air Defense Forces—were merged into two. The Strategic Forces and Air Forces survived, but the Air Defense Forces disappeared. Our table reflects the changes.

The Strategic Forces absorbed all medium-range theater bombers and aerial tankers (formerly part of the Air Forces) and the 100-launcher Moscow ABM system (formerly part of Air Defense Forces). The Air Forces picked up all strategic SAMs, interceptors, and airborne early warning aircraft (formerly part of Air Defense Forces).

Increases in some categories in 1999's military aircraft lineup reflect equipment changes to maintain minimal readiness and force levels. In addition, new information on inventory types is also reflected in changes to individual numbers.

Russian Military Emblems

These are emblems of the Russian armed forces approved in December 1995. They depict the services, plus service branches and rear services. The Air Defense Troops were amalgamated with the Air Forces and Strategic Rocket Forces. The Navy emblem has been added.

DoD photo by R.D. Ward

US Secretary of Defense William S. Cohen (left) is greeted by Russian Federation Minister of Defense Marshal Igor D. Sergeyev on arrival at the Ministry of Defense building in Moscow in June. The visit was part of Cohen's week-long trip to meet European government and defense leaders.

Russian and US Grades

Naval grades in italics

Russia	US
Five Stars	
Marshal of Russian Federation	General of the Army General of the Air Force *Fleet Admiral*
Four Stars	
General of the Army	General (USA)
General of the Army	General (USAF)
Admiral of the Fleet	*Admiral (USN)*
Three Stars	
General Colonel	Lieutenant General
Admiral	*Vice Admiral*
Two Stars	
General Lieutenant	Major General
Vice Admiral	*Rear Admiral (Upper Half)*
One Star	
General Major	Brigadier General
Rear Admiral	*Rear Admiral (Lower Half)*
O-6	
Colonel	Colonel
Captain (1st Class)	*Captain*
O-5	
Lieutenant Colonel	Lieutenant Colonel
Captain (2nd Class)	*Commander*
O-4	
Major	Major
Captain (3rd Class)	*Lieutenant Commander*
O-3	
Captain	Captain
Captain Lieutenant	*Lieutenant*
O-2	
Senior Lieutenant	First Lieutenant
Senior Lieutenant	*Lieutenant Jr. Grade*
O-1	
Lieutenant	Second Lieutenant
Lieutenant	*Ensign*

Minister of Defense Sergeyev currently holds the rank of Marshal of Russian Federation. Four Marshals of Soviet Union are alive today: S.L. Sokolov, V.G. Kulikov, V.I. Petrov, and D.T. Yazov. All four are officially listed as advisors to the Russian Federation Ministry of Defense.

Active Duty Military Population, 1999

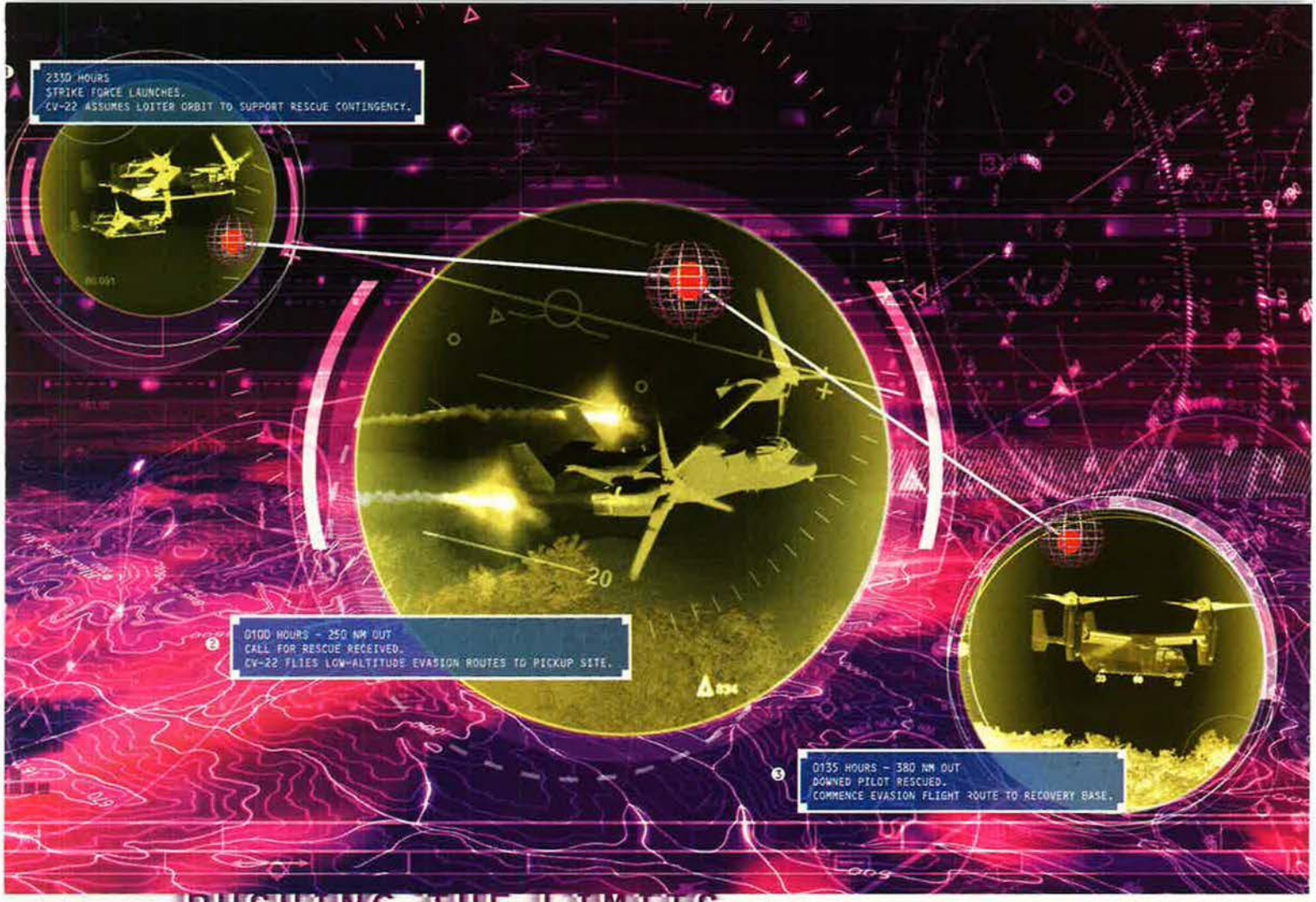
As of Dec. 31, 1999

Force element	Authorized	Actual
Ground forces	440,000	350,000
Air forces	210,000	180,000
Naval forces	200,000	170,000
Strategic offensive/defensive forces	150,000	140,000
Command and rear services	200,000	170,000
Total	**1,200,000**	**1,010,000**

External Deployments and Peacekeeping Forces

As of Dec. 31, 1999

Angola (peacekeeping)	100
Armenia (group of forces)	3,000
Bosnia (peacekeeping)	1,300
Croatia (peacekeeping)	30
Cuba	800
Georgia/Abkhazia (peacekeeping)	1,500
Georgia/South Ossetia (peacekeeping)	1,700
Georgia (group of forces)	5,000
Iraq/Kuwait (peacekeeping)	10
Kosovo (peacekeeping)	3,500
Moldova/Dniestria (peacekeeping)	2,500
Moldova/Trans–Dniestria (peacekeeping)	500
Syria	150
Tajikistan (peacekeeping)	8,000
Ukraine (naval infantry unit)	1,500
Vietnam	700
Western Sahara (peacekeeping)	25
Total	**30,315**



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Russian Defense Ministry

As of July 1, 2000

Marshal of Russian Federation Igor Dmitriyevich Sergeyev

Born 1938 in Ukraine. Russian. Russian Federation Minister of Defense since May 1997. Permanent member of the Security Council. **Service:** Transferred from coastal artillery to Strategic Rocket Troops in 1960. Chief of Staff, then Division Commander (1975). Chief of Staff and First Deputy Commander, Rocket Army (1980–83). Deputy Chief of Main Staff of Strategic Rocket Forces (1983), then First Deputy (1985). Deputy CINC, Rocket Troops, USSR, for Combat Training (1989–December 1991). Deputy Commander, Strategic Forces, Joint Armed Forces, CIS (April 1992), and Deputy Commander, Strategic Rocket Forces for Combat Training (January–August 1992). Commander in Chief, Strategic Rocket Forces, Russian Federation (August 1992). Promoted November 1997. **Training:** Black Sea Higher Naval School (1960). Dzerzhinskiy Military Engineering Academy (with distinction, 1973). Military Academy of the General Staff (1980).

Gen. of the Army Anatoliy Vasilyevich Kvashnin

Born 1946. Chief of the General Staff of the Armed Forces of the Russian Federation and First Deputy Minister of Defense since June 19, 1997. Member of the Security Council (June 2000). **Service:** Served in command posts in Czechoslovakia, Central Asia, and Belarus. Commander of a tank civision (1978). First Deputy Commander, then Commander of an army (1989). Deputy Chief, then First Deputy Chief of the Main Directorate of Operations of the General Staff (1992–95). Commander of Military Operations in Chechnya (December 1994–February 1995). Commander of the Troops of the North Caucasus Military District (February 1995), in charge of Russian armed forces in the Chechen conflict. Acting Chief of the General Staff (May 23, 1997). Promoted November 1997. **Training:** Kurgan Engineering Institute (1969). Malinovskiy Military Academy of Armored Forces (1976). Military Academy of the General Staff (1989).

Gen. Col. Aleksandr Davydovich Kosovan

Born 1941. Deputy Minister of Defense and Chief of Construction and Billeting of Troops since April 1997. **Service:** Worked in Special Construction until 1984. Assigned to the Volga Military District, then again to the Main Directorate of Special Construction. Deputy Commander for Construction and Billeting Troops of the Transcaucasus Military District (1988). First Deputy Chief of Construction and Billeting of Troops (1992). Promoted 1996. Honorary Builder of Russia. **Training:** Novosibirsk Construction Engineering School (1996).

Dr. Nikolay Vasilyevich Mikhaylov

Born 1937. Secretary of State–First Deputy Minister of Defense (since September 1997). The only civilian in the top echelons of the Ministry of Defense. Responsible for the reform of defense industry and science. **Service:** Until 1986, in defense industry as Director of a leading scientific research institute working on anti-missile defense. Headed the Vympel Central Research & Production Association, after 1991, the Vympel Interstate joint stock corporation. Became a Deputy Secretary of the Security Council in July 1996, responsible for the military–industrial complex, assuring technological independence, and ecological safety. **Training:** Graduated from Moscow Bauman Institute of Technology (1961). Doctor of Sciences (Economics) and Grand Doctor of Philosophy. Professor. Full member of a number of national and international academies. Government prize winner (1984, 1997) for creating an early warning system, a space control system, and a system of anti-missile defense.

Gen. Col. Vladimir Il'ich Isakov

Born 1950. Deputy Minister of Defense and Chief of Rear Services (Logistics) since June 30, 1997. **Service:** Deputy Commander of an army for Rear Services. Served in Afghanistan (1984–86). Chief of Staff of Rear Services, Western Group of Forces (Germany, 1991). Deputy CINC–Chief of Rear Services, Western Group of Forces (Germany, 1992). Instructor at Academy of the General Staff (1994). Chief of Staff of Rear Services (1996). Promoted 1997. **Training:** Moscow Military School of Civil Defense, Military Academy of Rear Services and Transport, Military Academy of the General Staff.

Gen. of the Army Vladimir Mikhaylovich Toporov

Born 1946. Russian. Deputy Minister of Defense, Russian Federation, since June 1992. Plans and organizes Ground Forces combat training (December 1998). Member of Commission on the Social Affairs of Servicemen and Others Discharged from Military Service and Their Families (December 1996). **Service:** Twenty years in Airborne Troops. Chief of Staff and First Deputy Commander, Far Eastern Military District (1989–91). Commander of Moscow Military District (September 1991). Coordinator for sales of military equipment through *Voentekh* (1992–95). Under the military reform, main directorates replacing the Ground Forces were subordinated to Toporov (January 1998). Promoted 1996. **Training:** Odessa Artillery School (1968). Frunze Military Academy (1975). Military Academy of the General Staff (1984).

Uniformed Chiefs of the Military Services

As of July 1, 2000

Commanders in Chief are listed in the same order of service precedence as applied in the days of the Soviet Ministry of Defense. However, these commanders are no longer Deputy Ministers of Defense.

Gen. of the Army Vladimir Nikolayevich Yakovlev

Born 1954. Commander in Chief, Strategic Rocket Forces, since June 30, 1997. **Service:** Commander of a missile regiment (1985). Deputy Commander (1989), Commander of a missile division (1991). Chief of Staff–First Deputy Commander of a missile army (1993). Commander of a missile army (1994). Chief of the Main Staff–First Deputy CINC of the Strategic Rocket Forces (December 1996). Promoted June 2000. **Training:** Kharkov Higher Military Command Engineering School (1976). Dzerzhinskiy Military Academy (command faculty) (with gold medal, 1985). Military Academy of the General Staff (1999). Candidate of sciences (military).

Gen. of the Army Anatoliy Mikhaylovich Kornukov

Born 1942. CINC of the Air Forces since January 1998. **Service:** Commander of Air Forces fighter division (1980–85) and an Air Forces fighter corps (1985–87). First Deputy Commander of Air Defense Aviation (1988). First Deputy Commander of a detached Air Defense Army (1989), later Commander. Commander of the Moscow Air Defense District (September 1991). Promoted February 2000. **Training:** Chernigov Higher Aviation School for Pilots (1964). Military Command Academy of Air Defense (1980). Military Academy of the General Staff (1988).

Adm. of the Fleet Vladimir Ivanovich Kuroyedov

Born 1944. CINC of the Navy since November 1997. **Service:** Pacific Fleet (1967–76). Flotilla Commander in the Pacific Fleet (1989). Chief of Staff and First Deputy Commander of the Baltic Fleet (1993). Commander of the Pacific Fleet (February 1996). Chief of the Main Naval Staff and First Deputy CINC of the Navy (July 1997). Promoted February 2000. **Training:** Pacific Ocean Higher Naval School (1967). Naval Academy (1978). Military Academy of the General Staff (with gold medal, 1989).

Strategic Nuclear Weapons of Russia and the Other Nuclear-Armed Former Soviet Republics, 1999

	Russia	Ukraine	Kazakhstan	Belarus	Total
ICBMs	756	27	0	0	**783**
Warheads	3,540	0	0	0	**3,540**
Bombers	74	32	0	0	**106**
Warheads	592	0	0	0	**592**
SSBNs	21	—	—	—	**21**
SLBMs	308	—	—	—	**308**
Warheads	1,176	—	—	—	**1,176**
Total vehicles	**1,138**	**59**	**0**	**0**	**1,197**
Total warheads	**5,308**	**0**	**0**	**0**	**5,308**

All data are current as of Dec. 31, 1999. Adjustments in Russian strategic forces reflect START deployable delivery systems as noted in the Jan. 1, 2000, MOU on Data Notification. All Delta Is and Delta IIs, as well as three Delta IIIs and three Typhoons, have been withdrawn from active deployments and are not counted as operational strategic forces.

While there are 21 SSBNs, press reports indicate that only one Typhoon SSBN is operational with 20 SS-N-20 SLBMs.

Zero indicates that that particular nuclear weapon type was deployed in that country at one time but is not deployed there now; a dash indicates that a weapon was never deployed in that country.

Strategic Nuclear Warheads, 1991–99

Nation	USSR 1991	1992	1993	1994	1995	1996	1997	1998	1999
Russia		7,644	6,766	6,902	5,961	6,410	6,414	5,326	5,308
Ukraine		1,408	1,264	1,594	1,056	0	0	0	0
Kazakhstan		1,360	1,260	1,040	0	0	0	0	0
Belarus		54	54	36	18	0	0	0	0
Total	**11,159**	**10,466**	**9,344**	**9,572**	**7,035**	**6,410**	**6,414**	**5,326**	**5,308**

Moscow's Active Duty Military Forces, 1989–99: USSR and Russian Federation

	Theater forces—ground, air, naval	Strategic forces—offensive/defensive	Command and rear services	Total forces
1989	2,690,000	890,000	1,450,000	**5,030,000**
1990	2,187,000	876,000	925,000	**3,988,000**
1991	2,150,000	755,000	650,000	**3,555,000**
1992	1,205,000	366,000	180,000	**1,751,000**
1993	1,082,000	230,000	100,000	**1,412,000**
1994	1,045,000	245,000	105,000	**1,395,000**
1995	923,500	279,200	176,000	**1,378,700**
1996	985,000	274,000	175,000	**1,434,000**
1997	776,000	260,000	164,000	**1,200,000**
1998	725,000	149,000	200,000	**1,074,000**
1999	700,000	140,000	170,000	**1,010,000**

The active military population of the Soviet Union peaked in 1989, the year the Berlin Wall fell and the Warsaw Pact collapsed. Moscow initiated major force reductions, which continued throughout the 1990s. In late 1991, the USSR itself collapsed, leaving Russia with a portion of Soviet forces while large numbers of troops stayed in newly independent nations. After 1991, none of the forces of Ukraine, Kazakhstan, and Belarus (or any other former Soviet republic) are counted in this table.

Russian aviation was restructured in 1998. Many of the troops of the Air Defense Forces (formerly counted in the second column, "Strategic forces—offensive/defensive") went to the theater forces or command and rear services or left the military altogether. This accounts in part for the large one-year 1997–98 changes in strength in this table.

Strategic Nuclear Forces, 1989–99: USSR and Russian Federation

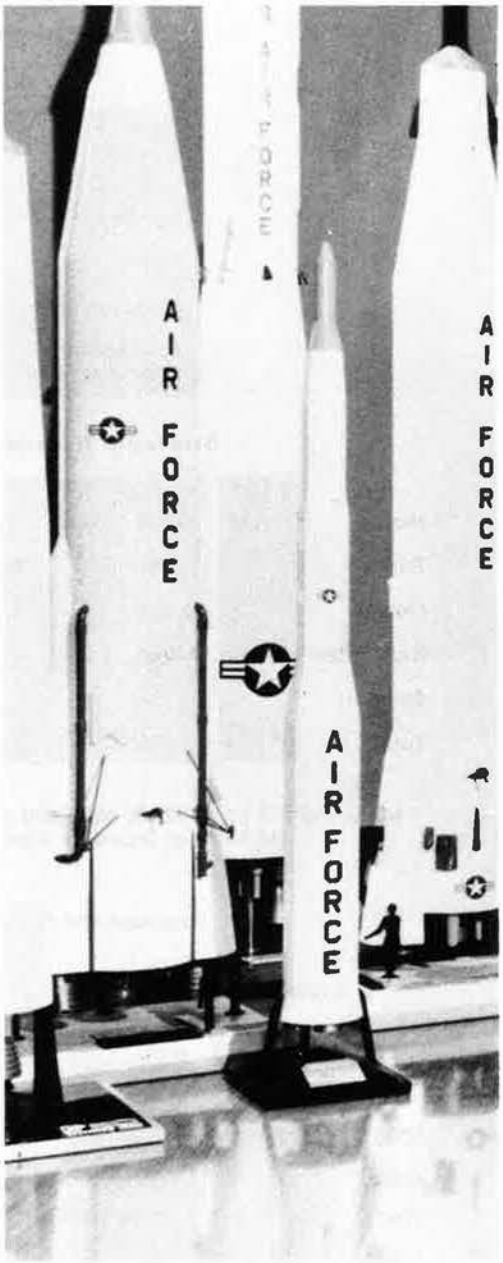
	Long-range bombers: ICBMs	Long-range bombers	Submarine-launched ballistic missiles	Ballistic missile submarines
1989	1,378	150	954	70
1990	1,373	155	924	61
1991	1,393	141	912	59
1992	1,031	135	864	57
1993	884	74	788	52
1994	773	95	732	47
1995	671	69	524	33
1996	747	69	440	26
1997	756	70	424	25
1998	756	70	368	22
1999	756	74	308	21

Russia retained all of the sea-based strategic weapons. Russia also retained most of the ICBM and bomber forces, though a significant number of these weapons came under control of Ukraine, Kazakhstan, and Belarus. None of the forces of these nations are counted in this table after 1991.

Gen. Bernard Schriever not only produced an ICBM force in record time but also led the way to American dominance in space.

The Man Who Built the Missiles

By Walter J. Boyne



GEN. Bernard A. "Bennie" Schriever, unquestionably one of the most important officers in Air Force history, ranks alongside the legendary Hap Arnold and Curtis LeMay in terms of long-term effect upon the service and the nation. Foremost among his many achievements was the development and acquisition in the 1950s and early 1960s of a reliable and operational ICBM force. It was a towering accomplishment—one that helped propel the United States to military dominance in space, as well.

No one doubts Schriever's pivotal role in these two stupendous achievements. In April 1957, his image appeared on the cover of *Time* magazine, which called him "America's Missileman." His official USAF biography flatly proclaims that Schriever is "the architect of the Air Force's ballistic missile and military space program."

Schriever himself is quick to point to the critical contributions of other members of his team, but the fact remains that he was the man in charge. Had the ICBM program failed or fallen short, Schriever would have been held responsible. The program succeeded beyond all expectations, however.

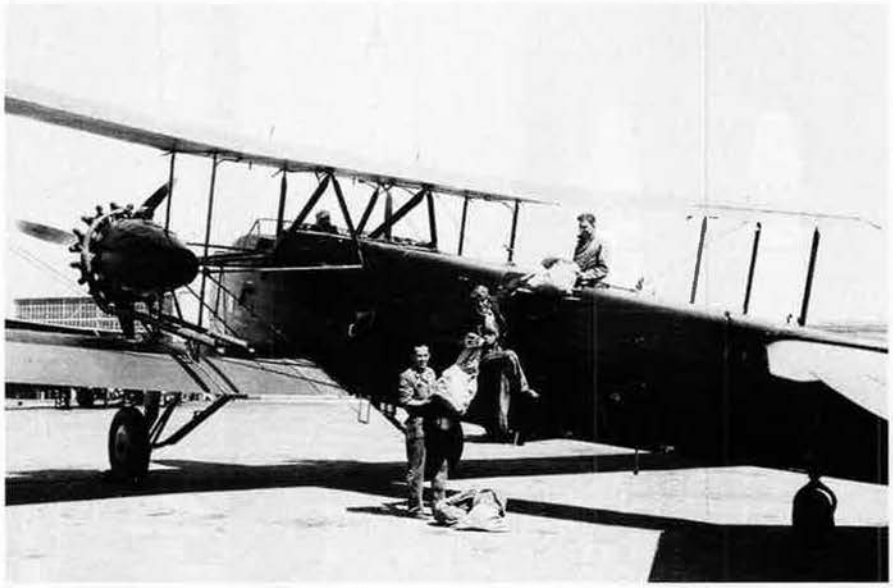
That Schriever reached the pinnacle of American aerospace technology is an unlikely but very American story. Born Sept. 14, 1910, in Bremen, Germany, Bernard Adolph Schriever was the son of an engineering officer on a German ship line. His mother, Elizabeth, spent 10 years living in the New York area. It was there that she met her future husband. The couple were married in New Jersey but returned to Germany, settling in Bremerhaven just as a world war was set to explode. Schriever, now 90, vividly recalls how, as a child, he would watch the enormous German zeppelins pass overhead on their way to bomb England.

When the war eventually soured German–American relations, numerous German ships were interned in New York Harbor—including his father's. Faced with indefinite separation from her husband, Elizabeth Schriever managed to get herself and her two young sons aboard a Dutch freighter bound for New York. It was a very rough voyage. They arrived in January 1917. About three months later, Washington declared war on Germany and joined the Allies.

The Schrievers, marooned in the US, were forced to make the best of it. They journeyed to Texas, settling in New Braunfels (a town with a large German–speaking population) and later moving to San Antonio. In fall 1918, after his father died in an industrial accident, young Bennie and his brother lived in a foster home for eight months until their grandmother came from Germany to care for them while their mother worked.

Fascination With Aviation

In 1923, Schriever became a naturalized US citizen. He attended Texas A&M, graduating near the top of the class of 1931, and was



First commissioned in field artillery, Schriever later entered flight school and participated in the Air Corps' 1934 program to deliver airmail in aircraft like this one. He flew mail from Salt Lake City to Cheyenne in B-4s and O-38s.

commissioned as a second lieutenant in field artillery. Though an artilleryman, Schriever long had been fascinated with aviation, and he decided to enter flying school at Randolph Field, Tex.

He did so in July 1932, but the move required him to revert from officer status to that of aviation cadet. Flying came easily to Schriever. When he graduated in June 1933 at Kelly Field, Tex., he was commissioned as a second lieutenant for the second time. The Army soon promoted him to first lieutenant and assigned him to March Field, Calif., where he flew B-4 and B-10 bombers under the command of Lt. Col. Henry H. "Hap" Arnold. Arnold was impressed with Schriever's abilities and would later remember the young Texan when he needed an airman to whom scientists could relate.

Schriever soon became caught up in the Army's 1934 misadventure in carrying domestic airmail. He flew ill-equipped Army Air Corps O-38 and B-4 aircraft on the hazardous Salt Lake City-to-Cheyenne, Wyo., route. Neither aircraft was equipped for instrument flying. He survived, but many of his colleagues were killed. For Schriever, the "airmail fiasco," as it was called, showed the high price a military force and a nation would pay because of inferior or inadequate technology.

Schriever went on to spend a six-month tour at Hamilton Field, Calif. However, the tight military budgets of the day forced him to go off active duty and onto the inactive reserve list.

In the Great Depression, commercial flying billets were scarce, and Schriever in 1935 ran a Civilian Conservation Corps camp of 200 boys in New Mexico. When that job ended in October 1936, he was able to return to active status. He was assigned in December to Panama, where he was stationed at Albrook Field as a P-12 pilot. In August 1937, he accepted a position as a pilot with Northwest Airlines.

A year later Schriever learned that the Air Corps had 200 regular commissions available. He passed the exam for regular officer and, on Oct. 1, 1938, was sworn in once again as a second lieutenant. Schriever served with the 7th Bomb Group at Hamilton Field and then moved on to test pilot duties at Wright Field, Ohio. He flew almost every type of Army aircraft, working with Stanley Umstead and some of the finest pilots in the world. He attended Air Corps Engineering School and graduated in July 1941.

Stuck in Stanford

Schriever gave stellar academic and flying performances while at Wright Field, so much so that he gained admission to Stanford University's graduate program—a rare privilege for a military officer. He was hitting the books in Palo Alto, Calif., when, on Dec. 7, 1941, Imperial Japanese forces attacked the United States fleet in Pearl Harbor.

Schriever requested immediate assignment to a combat unit. The Air Force denied the request, ordering him instead to stay in California and finish his graduate work at Stanford. He did so, earning a master's degree in mechanical engineering (aeronautical) in June 1942.

Within the month, Schriever joined the 19th Bombardment Group in Australia and quickly jumped into the shooting war with Japan. The Japanese had transformed Rabaul, on the northeast end of New Britain Island in the Bismarck Archipelago, into their most important base. Ferocious opposition by fighters and flak forced the 19th by August 1942 to turn to night bombing.

The newly minted Major Schriever developed a flare-dispensing system for use in night attacks and tested it in two raids with an old Hamilton Field comrade, then Maj. Jack Dougherty, who had survived being shot down over the jungles of Java. They flew in a formation of about a dozen B-17s in a night raid on Rabaul. Their airplane carried the flares and half the regular bomb load. The flare system worked well, but Schriever wanted to check on the bombing results, so they made another circuit over the target area. Flak was heavy but ineffective at the 10,000-foot altitude from which they were bombing.

As they turned, the No. 3 engine burst into a ball of flames. Dougherty, in the left seat, feathered the prop and shut the engine down. They still had bombs on board but did not want to set up another bombing approach. A quick conference on the intercom led to a decision: They would dive-bomb the ships in the harbor. Schriever laughs ruefully today at the thought of dive-bombing in a three-engine B-17 from a relatively safe altitude down into the flak over Rabaul, but they pulled it off, sinking a ship and returning to base.

Kenney's Command

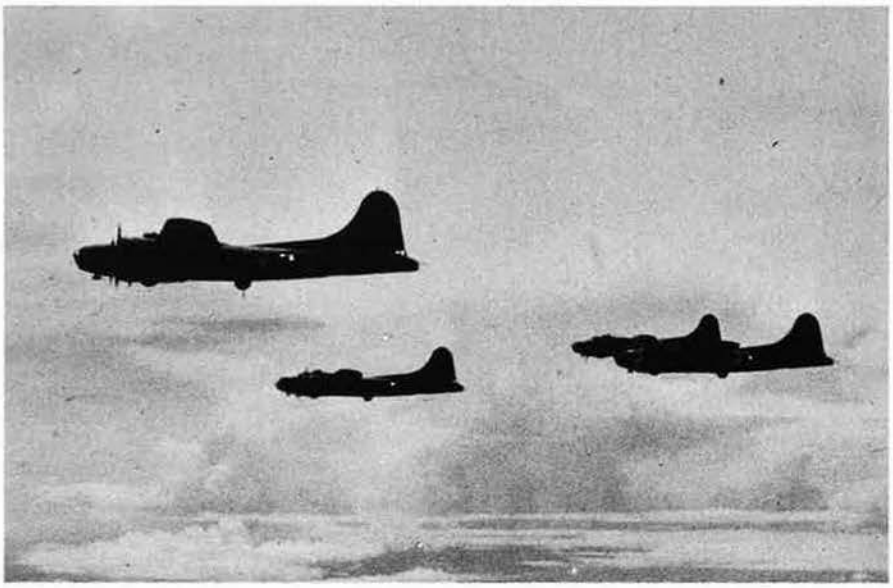
Schriever flew 38 combat missions in B-17s, B-25s, and C-47s, but his truly important contribution to the war effort lay in managing the Air Corps engineering effort for Gen. George C. Kenney, commander of Fifth Air Force and ultimately commanding general of Allied Air Forces in the Southwest Pacific. When 19th BG was told it was being returned to

the States, Kenney called Schriever in to his office. "I'm not letting you go home," he said. "I need as much engineering help as I can get out here."

Schriever welcomed the news, for the title "engineering officer" also encompassed supply and what later became known as logistics. It was absolutely vital to the war effort in the Pacific. He became chief of the Maintenance and Engineering Division, 5th Air Force Service Command, in January 1943. Thereafter, his duties expanded as the war progressed. He became chief of staff, 5th Air Force Service Command, and then commander of the advance headquarters, Far East Air Service Command, where he was responsible for maintenance in 5th, 7th, and 13th Air Forces.

His rank rose swiftly as he moved his headquarters from New Guinea to Leyte to Manila to Okinawa. Promoted to colonel at age 33 in December 1943, he kept in the forefront of the war, moving his headquarters into the battle zone before the firing ceased, sometimes landing on the nearest highway. He took over the Manila airport while the shooting was still going on and landed his C-47 on Naha strip on Okinawa the day the Marines captured it.

After spending 42 months overseas, Schriever returned home to an assignment in the Pentagon. The Army Air Forces were in the midst of a precipitous demobilization and at the same time were fighting for independent status. At the end of his career, ailing physically and beset with all the problems implicit in his job as Commanding General of the Army Air Forces, Hap Arnold still had the vision to continue the emphasis on Research and Development fostered by the Scientific Advisory Group he formed in 1944.



Schriever flew 38 combat missions in World War II and developed a flare-dispensing system for night attacks and tested it from B-17s in night raids on Rabaul. Here, bombers are on a mission to Rabaul.

Schriever's engineering and management skills were by that time well-known in AAF. He was made chief, Scientific Liaison Section, Deputy Chief of Staff, Materiel. For Schriever, it was the perfect job, for it gave him the opportunity to mix with the brilliant scientists Arnold brought on to the Scientific Advisory Board (as it became known when it convened in June 1946). It was in this post that Schriever introduced development planning objectives—a series of planning documents that linked ongoing R&D efforts with long-range military requirements.

Over the next 10 years, Schriever became well-regarded for his technical expertise and willingness to buck senior leadership when he thought it necessary. In one of his less successful efforts, Schriever opposed the bid by Gen. Curtis E. LeMay, then commander in chief of Strategic Air Command, to procure the B-52 bomber. Schriever maintained that USAF could carry out the mission at less cost by using a re-engined B-47. LeMay was not amused and eventually won out. Despite this dustup, LeMay recognized Schriever's value, as did other top leaders such as Gen. Nathan F. Twining and Gen. Thomas D. White.

Schriever talks with Simon Ramo (shown here at far right), co-founder of Ramo–Wooldridge, a key contractor in the ICBM programs, and J.D. Wright, of the newly formed Thompson–Ramo–Wooldridge—TRW.

Heavyweights All

The degree of Schriever's effectiveness as a leader can be ascertained by looking at the high caliber of the men who became his closest associates in what would become his most important technological effort—the creation of a reliable Intercontinental Ballistic Missile. Numbered among them were such luminaries as

At a 1958 House committee hearing, Schriever speaks with (l–r) Reps. John McCormack, James Fulton, and Kenneth Keating. The October 1957 launch of Sputnik spurred a funding boost for ICBM programs.

Trevor Gardner, Simon Ramo, and John von Neumann, all heavyweight scientists and technologists. These were all men of the highest intellect, leaders in their field, and capable administrators. They recognized Schriever as one of their own, a distinction not bestowed lightly to anyone and even more rarely to a military officer. They regarded Schriever as "born for the job."

The importance of the ICBM had been clear ever since the existence of the first German V-2 rocket was made known to the world. However, actually fielding an ICBM was difficult for political and technical reasons. The services engaged in a fierce rivalry for control over missile programs in general and any potential ICBM programs in particular. Divisions also opened in the ranks of the Air Force itself. Most of its leaders were bomber veterans who did not find it easy to assign priority to a new type of weapon system.

The first problem was resolved for the most part when Washington granted USAF the charter to develop both the ICBM and intermediate-range ballistic missile. The second problem was not completely resolved for many years.

The technical difficulties proved to be far more serious. Nobody had ever built an intercontinental-range missile. Problems were major and totally new, comprising missile guidance, en route navigation, warhead re-entry, and provision of rocket engines large enough to lift projected gross weights of 440,000 pounds.

Committees have a bad reputation, but it was a series of committees that guided the Air Force in its selection of people and methods to produce the ICBM. The Teapot, Killian, and Gillette committees were almost entirely composed of the brightest leaders in academia, industry, and the military. Schriever, who was either a member or advisor to each panel, usually managed to push them in a direction that produced the results he needed.

Although an early advocate of missiles, Schriever, now a brigadier general, was well aware of the technical difficulties involved. He was attending a briefing of the Scientific Advisory Board at Patrick AFB, Fla., in 1953 when von Neumann and Edward Teller gave independent presentations indicating the practical possibility of building a nuclear bomb weighing no more than 1,500 pounds.

Schriever recalls, "I almost came out of my seat in excitement, realizing what this meant for the ICBM."

The breakthrough solved one of Schriever's most pressing problems—the weight of the nuclear warhead. The proposed ICBM—the Atlas—could now weigh in at as "little" as 220,000 pounds. The weight difference was enormous. It reduced the rocket-engine challenge to manageable proportions. Almost equally important, Teller and von Neumann estimated that the 1,500-pound bomb would yield explosive power of one megaton of TNT, greatly easing the ICBM's accuracy requirements.

The very limited yields of previously designed warheads generated the requirement for extreme accuracy; the ICBM guidance system would have to produce a Circular Error Probable of about 1,500 feet. With the one-megaton yield, however, accuracy requirements could be relaxed to a CEP of two to three nautical miles. In consultation with others, Schriever increased the estimate of the warhead weight to 3,000 pounds, just to be conservative.

Into Overdrive

Things began to move rapidly. In May 1954, then Vice Chief of Staff Gen. Thomas White assigned the Air Force's highest priority to the Atlas. In July, Schriever, Gardner, and von Neumann briefed the Atlas program to President Eisenhower, convincing him to give top national priority to the development of the ICBM. On Aug. 2, Schriever officially took command of the newly created Western Development Division, which had its quarters in a former schoolhouse on Manchester Avenue in Inglewood, Calif. Schriever had the privilege and the luxury of picking his top staff and most of the original party. They were a talented crew.

The project was backed by Secretary of the Air Force Harold E. Talbott, whose deputy for budget and program management, Hyde Gillette, created (with Schriever's guidance) a streamlined set of procedures that made WDD solely responsible for planning, programming, and developing the ICBM. The stage was set.

In size and funding, WDD's ICBM effort dwarfed that of Manhattan Project. It also faced a different kind of challenge. The Soviet Union had already demonstrated its scientific prowess by producing nuclear and thermonuclear bombs. It was producing new, highly capable bombers even as it mounted an aggressive rocket technology program (which, in fact, led to the shock of Sputnik and then a workable ICBM). Schriever and his team could not afford to fail.

The successful October 1957 launch and orbit of Sputnik dealt a blow to US pride and morale. Ironically,

however, it was a piece of incredibly good fortune for Schriever and his team. For years, the Eisenhower Administration had been cutting back severely on R&D and defense spending. At a stroke, Sputnik ended the cutbacks and ushered in a period of rich funding for the American ICBM program.

Schriever's nominal task was to create an ICBM. His actual task was to create an organization that managed all the elements of the high-technology endeavor while, at the same time, coming up with practical means for using the ICBM. This included planning and building the complex facilities for production and testing. The missile systems, themselves infinitely complex and almost bereft of computer power at the time, had to be integrated with the nuclear warhead. To prove that a nuclear warhead could re-enter the atmosphere without self-destructing, Lockheed opened a secondary program, the X-17, to test experimental nosecones. The Air Force needed new launch sites, meaning land had to be acquired and designated for use, and facilities planned and built, and the operating personnel trained. All this had to be done before the Soviets did it.

Schriever contends that the program succeeded in large measure because the Eisenhower Administration backed it fully and because he chose a risky path of development. With his top aides, Schriever created a system based on technical feasibility and concurrency—conducting simultaneously certain development tasks that normally would be conducted sequentially. It was a revolutionary change in management and administration of a military program.

Schriever inspects a payload similar to one ejected by a Discoverer satellite in 1960 and recovered in the Pacific Ocean. E.A. Miller, General Electric program manager, is at his right and Brig. Gen. Richard Curtin, at his left.

Schriever also demanded, and got, from the Administration:

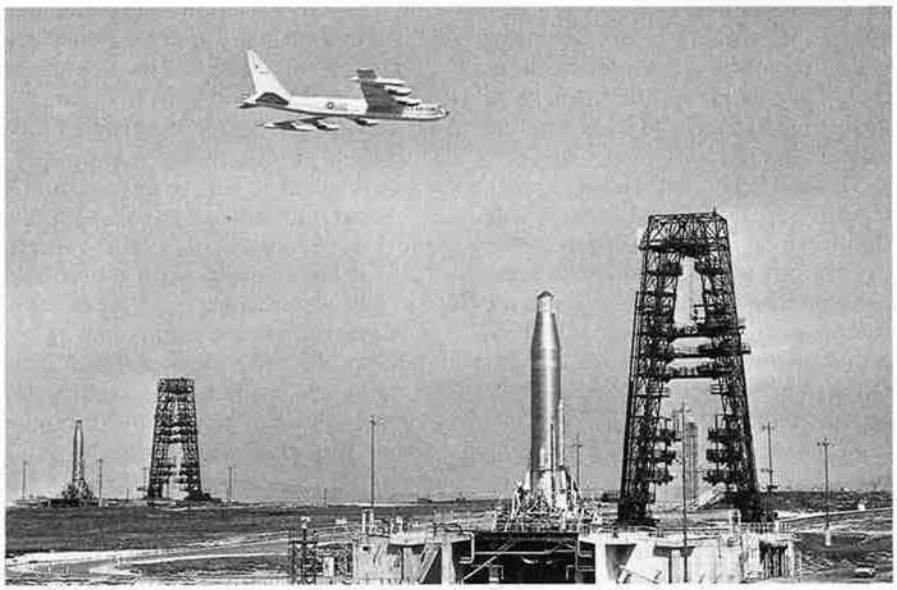
- Clear and vertical decision-making channels on overall program and policy matters.
- Assignment of priority high enough to ensure adequate funds.
- Complete responsibility and authority for program direction at the operating management level.
- Competent, highly motivated personnel at all levels.

In short order, Schriever was calling on the talents of 18,000 scientists, 17 prime contractors, 200 subcontractors, and 3,500 suppliers, employing about 70,000 people. By June 1, 1957, the WDD had become the Ballistic Missile Division. More than 8,000 individual reporting channels fed back to the master control room at Schriever's BMD.

Today, Schriever says he did not attempt to understand all of the technology involved, because it was too much for any one person to assimilate. However, he did understand the needs of the managers he put in charge, and he understood whether they were obtaining the results he wanted.

Colleagues from the time recall Schriever as being a workhorse, putting in 16-hour days and shuttling around the country to put out—or start—fires. He was known to be tough but fair. He was easy to get along with if you were producing. If not, you could expect to be gone in short order.

When success came, it was on an extraordinary scale. The first Atlas was launched by a Strategic Air Command crew from Vandenberg AFB, Calif., on Sept. 9, 1959. Deployment went ahead at a feverish pace, despite the requirement to put a large part of the Atlas force in huge under-



A Strategic Air Command B-52 flies over an Atlas missile and gantry at Vandenberg AFB, Calif. A SAC crew launched the first Atlas in September 1959. By 1963 SAC had 13 Atlas squadrons.

A Thor lifts off from Vandenberg in April 1959. The Thor IRBM went from contract award to IOC in less than four years and was just one of four complete missile systems Schriever's organization created in eight years. These ballistic missile programs led to the establishment of a USAF presence in space.

ground silos as protection against Soviet ICBM attack. By 1963, SAC had 13 Atlas missile squadrons, with 127 missiles deployed, sufficient to meet the contemporary Soviet threat.

Tale of Four Missiles

This was but one of Schriever's accomplishments. While the Atlas was being conceived, engineered, produced, and developed, he had simultaneously supervised creation of the Thor intermediate-range ballistic missile, which went from contract award in December 1955 to Initial Operational Capability in June 1959—in other words, in less than four years. The far more sophisticated Titan ICBM reached its IOC in April 1962. Most amazing of all, an entirely new concept in ICBMs, the solid-fuel Minuteman, achieved its IOC in December 1962, rendering obsolete all but the Titan II missiles.

In just eight years, Schriever and his brilliant organization had created a missile industry able to provide the US Air Force with four complete missile systems of almost unimaginable complexity and capability. By comparison, it took 10 years to take the contemporary F-102 fighter from concept to completion.

American dominance in space came about in part as a by-product of Schriever's development of missile technologies. In February 1957, he had announced that about 90 percent of the developments in the ballistic missile program could be used to establish a USAF presence in space. However, even Schriever himself would not have predicted that, four decades later, the Atlas design would still be used as a satellite launcher.

Though Schriever's hardware was useful and long-lived, his revolutionary management changes were even more important for the space program. Today's navigational, meteorological, intelligence, and communication satellites owe their existence to the work of Schriever and his team.

As his successes mounted, Schriever exerted greater and greater influence on USAF's structure and organization. He became commander of Air Research and Development Command in 1959. Two years later, he was promoted and given command of a new organization he had long advocated—Air Force Systems Command. As a four-star general at AFSC, he was able to apply his management rigor to the acquisition of all USAF weapon systems. He insisted on technologically superior performance standards for new weapon systems. At the same time, he demanded that they be produced under tough cost controls to meet the preestablished production schedules.

By 1963, Schriever was overseeing about 40 percent of the Air Force's budget, with AFSC employing 27,000 military and 37,000 civilian personnel.

In that same year, he directed Project Forecast, a visionary look into the future of technology that helped chart the nation's journey to superpower status. It identified key areas that would lead to great improvements in air and space weapons, including computers, advanced composite materials, radical new propulsion systems, and a prodigious expansion in the use of satellites.

Schriever retired as a four-star general in 1966 after 33 years of Air Force service. In retirement, he immediately started a busy second career, serving as chairman of the President's Foreign Intelligence Advisory Board, the Defense Science Board, the Ballistic Missile Defense Organization Advisory Committee, and many more defense-related organizations. His advice is still sought by research organizations and government agencies.

When it comes to technology, Schriever still has strong opinions on what remains to be done. "We are now in a period of history where global engagement with the enemy is right at our fingertips," he asserts. "We can defeat the enemy in his own backyard at the speed of light." It is a bold and penetrating prediction, just the sort of thing you'd expect from the man who built the missiles. ■

Walter J. Boyne, former director of the National Air and Space Museum in Washington, is a retired Air Force colonel and author. He has written more than 400 articles about aviation topics and 29 books, the most recent of which is Beyond the Horizons: The Lockheed Story. *His most recent article for* Air Force Magazine, *"Rickenbacker," appeared in the September 2000 issue.*

Books

Compiled by Chanel Sartor, Editorial Associate

Air War at Night: The Battle for the Night Sky Since 1915. Robert Jackson. Howell Press, 1713-2D Allied Ln., Charlottesville, VA 22903 (804-977-4006). 155 pages. $34.95.

F-105 Thunderchief: Workhorse of the Vietnam War. Dennis R. Jenkins. McGraw-Hill, 1221 Avenue of the Americas, New York, NY 10020 (800-352-3566). 226 pages. $36.95.

Ripcord: Screaming Eagles Under Siege, Vietnam 1970. Keith W. Nolan. Presidio Press, 505 B San Marin Dr., Ste. 160, Novato, CA 94945-1340 (415-898-1081). 447 pages. $29.95.

Anything, Anywhere, Any Time: Combat Cargo in the Korean War. William M. Leary. GPO, Supt. of Documents, Mail Stop: SSOP, Washington, DC 20402-9328 (202-512-1800). 36 pages. $2.50.

F/A-18 Hornet: A Navy Success Story. Dennis R. Jenkins. McGraw-Hill, 1221 Avenue of the Americas, New York, NY 10020 (800-352-3566). 225 pages. $36.95.

The U-2 Spyplane: Toward the Unknown, A New History of the Early Years. Chris Pocock. Schiffer Publishing Ltd., 4880 Lower Valley Rd., Atglen, PA 19310 (610-593-1777). 288 pages. $29.95.

B-47 Stratojet: Boeing's Brilliant Bomber. Jan Tegler. McGraw-Hill, 1221 Avenue of the Americas, New York, NY 10020 (800-352-3566). 168 pages. $36.95.

The Flying Prostitute. Lawrence J. Hunter. Print on demand: Writer's Club Press (iuniverse.com), 620 N. 48th St., Ste. 201, Lincoln, NE 68504-3467 (800-376-1736). 34 pages. $14.95.

The United States Air Force in Korea. Robert F. Futrell. GPO, Supt. of Documents, Mail Stop: SSOP, Washington, DC 20402-9328 (202-512-1800). 823 pages. $53.00.

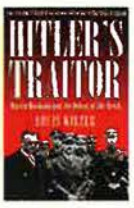
Computers Take Flight: A History of NASA's Pioneering Digital Fly-by-Wire Project. James E. Tomayko. GPO, Supt. of Documents, Mail Stop: SSOP, Washington, DC 20402-9328 (202-512-1800). 180 pages. $26.00.

Hell In the Heavens: Ill-Fated 8th Air Force Bomb Group Missions. William N. Hess. Specialty Press Publishers and Wholesalers, 11605 Kost Dam Rd., North Branch, MN 55056 (800-895-4585). 140 pages. $16.95.

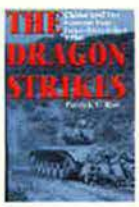
USAF F-15 Eagles: Units, Colors & Markings. Don Logan. Schiffer Publishing Ltd., 4880 Lower Valley Rd., Atglen, PA 19310 (610-593-1777). 352 pages. $59.95.

The Delafield Commission and the American Military Profession. Matthew Moten. Texas A&M University Press, John H. Lindsey Building, Lewis St., College Station, TX 77843-4354 (800-826-8911). 267 pages. $47.95.

Hitler's Traitor: Martin Bormann and the Defeat of the Reich. Louis Kilzer. Presidio Press, 505 B San Marin Dr., Ste. 160, Novato, CA 94945-1340 (415-898-1081). 307 pages. $29.95.



Wings That Stay On: The Role of Fighter Aircraft In War. Col. Edward V. "Cougar" Coggins Jr., USAF (Ret.). Turner Publishing Co., PO Box 3101, Paducah, KY 42002-3101 (800-788-3350). 253 pages. $24.95.



The Dragon Strikes: China and the Korean War: June–December 1950. Patrick C. Roe. Presidio Press, 505 B San Marin Dr., Ste. 160, Novato, CA 94945-1340 (415-898-1081). 466 pages. $34.95.

The Published Writings of Wilbur and Orville Wright. Peter L. Jakab and Rick Young, eds. Smithsonian Institution Press, PO Box 960, Herndon, VA 20172-0960 (800-782-4612). 316 pages. $49.95.

Winning Ugly: NATO's War to Save Kosovo. Ivo H. Daalder and Michael E. O'Hanlon. The Brookings Institution Press, 1775 Massachusetts Ave., NW, Washington, DC 20036-2188 (202-797-6169). 343 pages. $26.95.

AFA/AEF National Report

By Frances McKenney, Assistant Managing Editor

AEF Gives to the Air Force Family

The Aerospace Education Foundation notes that contributions from Air Force Association members and supporters allow it to donate $211,000 each year to programs supporting the education of USAF active duty personnel and their family members, AFJROTC units, and Civil Air Patrol instructors.

AEF's Eagle Grants program accounts for the largest donation, $160,000. These one-time grants of $400 go to selected top enlisted members who are pursuing a bachelor's degree after graduation from the Community College of the Air Force. The grants are awarded at spring and fall CCAF graduations.

AEF's Air Force Spouse Scholarships account for the second largest donation, $30,000. USAF spouses compete on the basis of grade point average, recommendations, and an essay for one of the 30 $1,000 scholarships that are to help them complete undergraduate or graduate studies.

Twenty-eight CAP Instructor Grants, managed by CAP headquarters, add up to $10,000 annually donatec to this program by AEF.

The Jimmy Stewart Video Contest for AFJROTC units and the $1,000 Jodi Callahan Memorial Graduate Scholarship complete the $211,000 tally. The video contest awards a total of $3,000 to the top three units that produce a 60- or 90-second video on a given theme. The Callahan scholarship provides financial assistance to an active duty or full-time Guard or Reserve member in AFA who is pursuing a master's degree in a nontechnical field.

In addition to the more than $200,000 going directly to the Air Force family, AEF provides numerous other grants and awards to other aerospace education endeavors. A complete list is on the Web at www.aef.org.

At a Pope Chapter meeting in July are (from left) William Michael, North Carolina state secretary; Bonnie Springer; Robert Springer, former president of the Air Force Memorial Foundation; Trisha McKee; Thomas McKee, now AFA Chairman of the Board; and Pope Chapter President Lt. Col. Kevin Sluss and his wife, Emma.

Korean War Heroes

Nine Medal of Honor recipients and other veterans from the Korean War attended a two-day 50th anniversary commemoration event sponsorec by the **Dale O. Smith (Nev.) Chapter** and a local Navy League of the United States chapter in Reno, Nev., in June.

The nine were: Rodolfo P. Hernandez, Einar H. Ingman Jr., Hiroshi H. Miyamura, all Army corporals at the time of their MOH actions, and retired Army Col. Joseph C. Rodriguez, who was then a private first class; Marine Corps veterans retired Col. Reginald R. Myers (then a major), retired Maj. George H. O'Brien Jr., and retired Capt. Raymond G. Murphy, who were both second lieutenants then, and former Pfc. Robert E. Simanek; and retired Navy Capt. Thomas J. Hudner Jr., then a lieutenant junior grade. (All four Air Force MOH recipients from the Korean War were killed in action.)

On hand to honor these war heroes anc other veterans were representatives from consulates in Los Angeles anc San Francisco for the countries of Australia, Belgium, Bolivia, Britain, Canada, Colombia, Netherlands, New Zealand, South Africa, and South Korea.

AFA dignitaries included then Chairman of the Board Doyle E. Larson and Scotty Wetzel, region president (Southwest Region).

The commemorations began at the 60-acre Bartley Ranch Regional Park in south Reno. Twenty Korean War–era aircraft took part in a flyby and static display that morning. In the afternoon, the 1st Marine Division band, based at Camp Pendleton, Calif., entertained the several hundred visitors, and the Chum-Da-Som dance company from Seoul performed traditional, ceremonial dances.

In a ceremony the next afternoon, veterans were formally presented with the Republic of Korea War Service Medal, authorized recently for US veterans of that war. Some 1,000 people attended the presentation.

Later, a formal dinner featured a tribute by bagpipers to the war's POWs and MIAs. On display was a replica of the Korean War memorial to be constructed in Reno. Guest speaker was Mike O'Callaghan, Korean War veteran and former state governor. Kathleen Clemence, state president, reported that more than 750 guests attended this dinner.

Dale Smith Chapter President Don Schwartz came up with the idea for the commemoration and organized it.

Writing in a Henderson, Nev., newspaper about the commemoration, O'Callaghan said, "Spending a couple of days with several of the Medal of Honor recipients and their wives was most enjoyable. Don Schwartz and Kathleen Clemence of the Air Force Association made certain that the entire two days ran smoothly."

Civic Leader

AFA Chairman of the Board Thomas J. McKee, who was then AFA National President, visited North Carolina twice in July, first to meet **Pope Chapter** members and then to join a large group of civic leaders for a readiness orientation.

He spoke to the Pope Chapter in mid July, at a meeting attended by Brig. Gen. Richard J. Casey, 43rd Airlift Wing commander, Pope AFB. Also in the audience were chapter member Robert D. Springer, former president of the Air Force Memorial Foundation, Lt. Col. Kevin Sluss, chapter president; Bobby G. Suggs, past state president; and William W. Michael, state and chapter secretary.

McKee urged the audience to educate the public about the need for a strong aerospace force, Sluss reported. The AFA leader also gave an update on the Air Force Memorial and showed a video on it.

Later that month, McKee visited Pope AFB to participate in a civic leaders joint readiness training exercise. Conducted by the Army's XVIII Airborne Corps, Ft. Bragg, the exercise involved USAF C-17s, C-130s, and C-141s. McKee flew on a 43rd AW C-130 to observe an instrument meteorological conditions (i.e., in the clouds) personnel airdrop. He also watched personnel and equipment airdrops from the drop zone and a live-fire exercise.

For a Fighter Ace

As an Eighth Air Force P-47 pilot in World War II Europe, Fred J. Christensen downed 21.5 enemy aircraft in an eight-month period—including six in one mission on July 7, 1944.

Photo by Butch Lynn

Nine Korean War Medal of Honor recipients attended a celebration organized by the Dale O. Smith Chapter. They were (l–r): Einar Ingman, Thomas Hudner Jr., Robert Simanek, George O'Brien Jr., Reginald Myers, Hiroshi Miyamura, Rodolfo Hernandez, Raymond Murphy, and Joseph Rodriguez.

John B. Montgomery, 1911–2000

Retired USAF Maj. Gen. John B. Montgomery, former AFA National President (1962–63) and the Aerospace Education Foundation's first president (1963–64), died Aug. 7 in Berkeley, Calif. He was 88.

Born in Spartanburg, S.C., he graduated from Wofford College in his hometown in 1933 with a degree in physics and entered the aviation cadet training program the next year.

With 21st Bomber Command during World War II, he planned and supervised B-29 combat missions against Japan.

Following the war, he became executive officer to Stuart Symington, the first Secretary of the Air Force, and also served as Strategic Air Command director of operations before commanding 8th Air Force at Carswell AFB, Tex., from 1953 to 1955.

After his active duty career, Montgomery became vice president for maintenance and engineering at American Airlines in 1955. He went on to executive positions with General Electric and other corporations and was chairman and president of Weston Instruments in Murray Hill, N.J.

Montgomery was an AFA national director emeritus and had first been elected to the board in 1958.

US Sen. Joseph Biden Jr. (D) (center) and Delaware's entire Congressional delegation attended the fifth annual information session and breakfast at Dover AFB, Del., co-hosted by the Delaware Galaxy Chapter. Other distinguished attendees included (l–r) Brig. Gen. Peter Sullivan, 512th Airlift Wing commander, Dover Mayor James Hutchinson, Col. S. Taco Gilbert III, 436th Airlift Wing commander, and Chapter President Ron Love.

But when he was invited to be grand marshal of the Memorial Day Parade in his hometown of Watertown, Mass., this year, he lacked one thing: a uniform. That's because a fire had recently destroyed his home in Concord, Mass.

Looking for a way to pay for a new uniform, Watertown's veterans service agent turned to the public affairs office at Hanscom AFB, Mass., where the **Paul Revere Chapter** vice president for communications, Kevin F. Gilmartin, works. Gilmartin phoned Chapter President Jeffrey W. Hallahan, who immediately volunteered chapter funds. Within two hours, Gilmartin delivered a check to pay for a complete dress uniform, right down to socks, belt, and tie.

"It's not often that we get an opportunity to pay tribute to a genuine Air Force hero like Fred Christensen," said Hallahan, a retired Navy captain. "This chapter has always been dedicated to supporting our veterans, and it was a great honor for us to be able to help Colonel Christensen out with a new uniform."

After World War II, Christensen served in both the Air National Guard and in the Reserve, retiring as a colonel. As a result of injuries received in the house fire, he now lives in an assisted living facility.

On Oct. 18 and 19, the Paul Revere Chapter hosts a symposium at Hanscom AFB's Officers Club on "Integrating Air Force C^2 Capabilities by 2005." According to Lee Hughes, symposium co-chairman, the event builds on the chapter's command and control symposium last year and leads to a summit on the topic, planned for late 2001.

Government–industry panels will explore operational architecture, integrating concepts, business concepts, commercial and military technologies, and coalition and joint service linkage.

Contacts for the symposium are Marian McGovern or Elli Garten, 781-862-6800, fax: 781-862-5334, or e-mail: mamcgovern@west.raytheon.com.

The Paul Revere Chapter President's Cup golf outing will be held the day before the symposium.

Gathering of Eagles

Twenty aviation legends joined more than 100 guests at the 19th annual Gathering of Eagles luncheon, sponsored by the **Montgomery (Ala.) Chapter** in June at the Capital City Club in downtown Montgomery.

Among the "eagles" were Medal of Honor recipients Joe Jackson and Joe Foss (a former AFA national president); US Rep. Randy "Duke" Cunningham, a Navy fighter ace in the Vietnam War; O.R. "Ollie" Crawford, former AFA National President (1990–92) and Chairman of the Board; Flying Tiger Ed Rector; and Homer H. Hickam Jr., a retired NASA engineer and author of the book made into the 1999 movie "October Sky."

Among the international Eagles who attended the event were Gunther Rall, who was a German air force pilot in World War II and one of the highest scoring aces of all time, and former group captain of the Bangladesh air force, Saiful Azam, who traveled to the event from Dhaka, Bangladesh.

The Southern Indiana Chapter asked its members to bring an Air Force memento to the quarterly meeting. Several chapter members wore theirs. Left to right are Chapter President Marcus Oliphant in a Vietnam War–era "party suit," Bill Ramsey in "pinks and greens" from World War II, Earl Toole in his "Lost Squadron" jacket, and Gordon Reuter in Class As.

The luncheon is held annually as part of Air Command and Staff College's Gathering of Eagles symposium. The symposium began in 1982 to stimulate the study of aviation history by inviting aviators for living-history interviews and to spend time with ACSC students and members of the Maxwell AFB community.

"Our luncheon is an opportunity for Montgomery AFA chapter members, our Community Partners, Air University senior leaders, and other Montgomery area business leaders to mix and mingle and get to know the Eagles," reports Roy A. Boudreaux.

Chapter President Frederick A. Zehrer III was master of ceremonies and provided an introduction of each Eagle's accomplishments.

State of the Base

The **Delaware Galaxy Chapter** joined the Central Delaware Chamber of Commerce in hosting a breakfast in June to bring the state's Congressional delegation and civic leaders up to date on operations at Dover AFB, Del.

Sens. William V. Roth Jr. (R) and Joseph R. Biden Jr. (D) and Rep. Michael Castle (R)—Delaware's entire Congressional delegation—attended this fifth annual gathering, which received coverage in local newspapers.

All three Congressional members expressed support for modernizing the C-5 Galaxy, and Biden added that they would support assigning C-17s to Dover—a C-5 base—to diversify its capabilities.

In their "State of Dover AFB" briefing, Col. S. Taco Gilbert III, 436th Airlift Wing commander, and AFRC Gen. Peter K. Sullivan, 512th Airlift Wing (Associate) commander, told the 100 guests about construction projects on the base, wing operations, and other key issues. According to the base newspaper, Gilbert said, "Investments in excellent facilities translate into investments in first-class people and excellence in operational mission capability."

The chapter also held a meeting in July, with Kenneth Goss, AFA's government relations director, as guest speaker. He brought the members up to date on legislative achievements in Congress.

Information in Warfare

Gen. Ralph E. Eberhart, commander in chief of NORAD and US Space Command and commander, Air Force Space Command, was among the nearly 200 participants in the 10th annual symposium sponsored by the **Colorado Springs/Lance Sijan Chapter** in Colorado Springs in May.

The chapter reported that this marked the first time it has co-sponsored the symposium, titled "Information in Warfare," with Air Force Space Command. (In previous years, their symposium focused on acquisition themes.)

Other featured speakers included Lt. Gen. Michael C. Short, who led NATO air operations during Operation Allied Force; Maj. Gen. Thomas B. Goslin Jr., director of operations at SPACECOM; Maj. Gen. Bruce A. Wright, commander of Air Intelligence Agency at Kelly AFB, Tex.; and then–AFA Chairman of the Board Doyle E. Larson.

As luncheon speaker, Lt. Gen. Lance W. Lord, commander, Air University at Maxwell AFB, Ala., discussed military operations in the information age.

Donations from seven corporate sponsors paid for attendance at the symposium by military members and will also be used to support the chapter's aerospace education activities.

AFA Chairman of the Board (then–President) McKee and Daniel C. Hendrickson, now National Secretary, also attended the symposium.

Summer Camp

A chapter matching grant secured from AEF by the **Lexington (Ky.) Chapter** helped send two students to an aviation summer camp hosted by the Aviation Museum of Kentucky.

More than 140 students between the ages of 10 and 15 attended the three half-day sessions held at the museum, located at Blue Grass Airport in Lexington. They learned about meteorology, basic principles of flight, and aircraft design, used computer flight-simulator games, went on field trips, and even got a chance to fly in a light aircraft.

This was the day camp's fourth

AFA Conventions

Sept. 29–Oct. 1	New Hampshire State Convention, Portsmouth, N.H.
Oct. 13	Utah State Convention, Ogden, Utah

year of operation, and Chapter President Steve Parker said some of the students have been attending for three years and have asked to return next year. Their instructors included science teachers who are also private pilots, the Great Lakes Region Teacher of the Year David Helm, and Parker.

"Since I told everyone AFA–AEF has provided $330 for our camp, the visibility of AFA has increased significantly," wrote Parker. The AEF grant was supplemented by $100 from Kentucky State President Daniel G. Wells.

Also With an AEF Grant

Marguerite H. Cummock, **Brig. Gen. James R. McCarthy (Fla.) Chapter** president, recently wrote to thank AEF for a $1,000 matching grant the chapter received last year for its Wright Flight program.

The AEF grant enabled the chapter to buy a desktop flight simulator for New Smyrna Beach Middle School in New Smyrna Beach, Fla. Groups of seventh- and eighth-graders used the simulator to learn about the fundamentals of flying and applied reading, math, geography, and other skills in the process.

Wright Flight was initially organized more than 10 years ago by Bruce Robin Stoddard, a **Tucson (Ariz.) Chapter** member and former AFA Under-40 National Director. It motivates students to set goals and study hard to achieve them. At New Smyrna Beach Middle School, the pupils study aviation history during a 15-hour, 10-week course. They must attain two academic goals and pass a written test. They then earn a fly day at Embry–Riddle Aeronautical University in Daytona Beach, Fla. Fly day includes a campus tour, a cookout with the university's cadets, and flight time.

David R. Cummock, region president (Florida Region), has run the program at the middle school for the past two years and, in recognition, was named its 1999–2000 Volunteer of the Year. He and McCarthy Chapter members have run the program at other area schools, too. Cummock teaches, rounds up speakers and trainers for the classes, participates in career activities, arranges the field trip to Embry–Riddle, and raises $100 per pupil to cover the cost of the materials and the flight. He has even flown the students himself, venturing south to Cape Canaveral and also giving them a bird's eye view of their school.

The Wright Flight program has generated coverage in several area newspapers.

Honoring a Marine

Marine Gen. Anthony C. Zinni was honored with a luncheon the day before he turned over command of US Central Command at MacDill AFB, Fla., to Army Gen. Tommy R. Franks. The farewell luncheon at the base Officers Club was organized by Robert F. Cutler, a member of the **Gen. Nathan F. Twining Chapter** and area vice president for central west Florida.

Guests came from all five services, Tampa Bay government, civic, and veterans organizations, and four AFA Florida chapters.

Groups ranging from the Tampa Bay Devil Rays professional baseball team to the mayor's office made presentations to Zinni, who was retiring after more than 30 years of service. Region President Cummock made what he called "the grand finale" presentation of an AFA plaque. Cummock said it was only the second time a four-star general from another service had received the honor.

Other AFA leaders at the luncheon were Marguerite Cummock, Kenneth R. Beers, who is president of the **Florida Highlands Chapter** and area vice president for southwest Florida, and George W. Norwood, **Jerry Waterman Chapter** president.

Airpower in the Pacific

The **Keystone Chapter** at Kadena AB, Japan, recently honored James F. Weaver as Teacher of the Year. A science instructor at Kadena Middle School, Weaver leads a twice weekly Rocket Club meeting, and his classroom instruction highlights the physics of rocket flight, as well as trigonometry concepts, according to Chapter Treasurer Capt. Jeffrey W. Decker.

The chapter also sponsored its first essay contest on the theme "US Airpower in the Pacific."

High school students Julie Lee, Carolyn Curtis, and Richard Poulin wrote the winning entries. Along with Weaver, they were honored at the chapter's awards breakfast at the Kadena Officers Open Mess in May. The chapter raised the $500, $250, and $150 awards for the three students through fund-raising—helped by a pizza restaurant sponsor—at an annual America Fest held with the local community.

Gary L. McClain, AFA special assistant Pacific, attended the awards

breakfast and later wrote, "The students' essays were truly an exceptional expression of their understanding of the importance of aerospace power to stability and national defense."

The Keystone Chapter is headed by Lt. Col. Roderick C. Zastrow, commander of the 44th Fighter Squadron.

Convention in Oklahoma

A C-17 and KC-135 orientation flight that included an aerial refueling opened two days of events at the Oklahoma State Convention, hosted by the **Altus Chapter** in Altus, Okla.

The aircraft were from the 97th Air Mobility Wing at Altus AFB. The base is home to Air Education and Training Command's strategic airlift and aerial refueling flying training schools for C-5, C-17, C-141, and KC-135 aircrews.

Back on the ground, the convention-goers finished off the day with a mixer at the Officers Club, then kicked off the next day's events with a golf tournament.

Business meetings at a local hotel conference center in the afternoon included election of state officers: Donald L. Johnson, Altus Chapter, president; George C. Pankonin, **Enid Chapter,** executive vice president; Sandy Nichols, Altus Chapter, treasurer; and Tom Clark, **Tulsa Chapter,** secretary.

At the convention's culmination gala banquet, David L. Blankenship, national director emeritus, served as master of ceremonies. More than 100 guests honored the many award recipients, who included Harry B. Burt III, of the Tulsa Chapter, named Person of the Year. Six active duty Air Force service members from Vance AFB and Altus AFB received military awards.

State Secretary Clark took home the Chapter Officer of the Year award, was among several state-level exceptional service award recipients, and was presented with the AEF Regional Teacher of the Year award by Thomas J. Kemp, region president (Texoma Region).

Convention in Pennsylvania

The **Greater Pittsburgh (Pa.) Chapter** hosted the Pennsylvania State Convention in July, with William D. Croom Jr., then AFA National Secretary, and Raymond "Bud" Hamman, region president (Northeast Region), as special guests.

The University of Pittsburgh's AFROTC Det. 730 provided a color guard for the evening's Aerospace Banquet, where John G. Brosky, national director emeritus and a former AFA National President and Chairman of the Board, served as master of ceremonies.

Liberty Bell Chapter was named Chapter of the Year at the banquet, while Alma Cannon, of the host chapter, received the Person of the Year honor. The award recognized her years of service as state secretary. Other awards included Air Force Reservist of the Year, which went to SSgt. Robert K. Lytle of the 911th Airlift Wing, Pittsburgh IAP/ARS.

In state officer elections, Eugene B. Goldenberg of the Liberty Bell Chapter became chairman of the board. The new state president is Robert C. Rutledge of the **Lt. Col. B.D. "Buzz" Wagner Chapter,** with William J. Worthington of the **Joe Walker–Mon Valley Chapter,** vice president; Karen G. Hartman, also of the Joe Walker Chapter, treasurer; and Cannon as secretary.

Wings Over Pittsburgh

Total Force (Pa.) Chapter President Lee Niehaus, Vice President James R. Greno, and Membership Vice President Anthony Monica were among those who staffed an AFA table at a highly successful Wings Over Pittsburgh International Air Show in Pittsburgh in June.

Hosted by the 911th Airlift Wing, the air show attracted approximately 80,000 visitors, according to the wing public affairs office. The two-day event featured more than two dozen aircraft on static display. They ranged from an F-117, B-52, C-17, and KC-10 to several trainers, helicopters, civilian, and vintage aircraft. There were also performances by an Air Force band from Wright–Patterson AFB, Ohio, an Air Force Reserve Command bagpipe band, and the USAF Special Tactics and Rescue Specialists parachute demonstration team.

The wing held the air show to build strong ties to the community by allowing the general public to observe military operations.

More AFA/AEF News

■ Indiana State President William Howard Jr. installed the new officers for the **Columbus–Bakalar (Ind.) Chapter** at the Atterbury–Bakalar Air Museum in Columbus, Ind., in June. The chapter's officers are John W. Hoff, president; John C. Walter, vice president; Wayne Miller, secretary–treasurer; and William J. Schorr, second secretary–treasurer. On hand for the installation were Harold F. Henneke, state vice president, from the **Central Indiana Chapter,** and James E. Fultz, past state president, from the **Southern Indiana Chapter.**

Frank M. Lugo (1920–2000)

Frank M. Lugo, an AFA national director emeritus, died Aug. 4 in Mobile, Ala. He was 79.

Born in Yoakum, Tex., Lugo entered the Army Air Corps in 1939 and served for more than 28 years, primarily as an aerial gunnery observer and data systems officer. He retired as a lieutenant colonel in 1967.

He earned a bachelor's degree in 1969 and a master's degree a year later from the University of Maryland and a Ph.D. in educational administration from the University of Alabama in 1973.

In his civilian career, he became the associate director for an educational agency at Spring Hill College in Mobile.

Lugo had been an AFA region vice president (now called region president) for the South Central Region, Alabama state president, president of the Mobile Chapter, and served on several national committees and on AEF's board of trustees. ■

Unit Reunions

reunions@afa.org

37th FS (WWII). Oct. 6–8, 2000, at the Holiday Inn Country Villa in Midland, TX. **Contact:** Leslie Knapp, 9819 Gemini Dr., San Antonio, TX 78217 (210-655-0908) (lesknapp@juno.com).

38th Tactical Recon Sq, Ramstein AB, Germany (July 1962–January 1973). Nov. 2–5, 2000, at the Hotel Galvez A Wyndham Historic Hotel in Galveston, TX. **Contact:** Joseph K. Nevins, PMB-466, 2951 Marina Bay Dr., Ste. 130, League City, TX 77573-2785 (281-334-6778) (josephknute@att.net).

84th Air Rescue Sq Assn. Nov. 2–5, 2000, in Jekyll Island, GA. **Contact:** John L. Redd, 2 Lakeview Ct., Ozark, AL 36360-6128 (phone: 334-774-2109 or fax: 334-774-2750) (reddaye@snowhill.com).

86th Fighter–Bomber Gp, including Hq and 525th, 526th, and 527th Sqs (WWII). Oct. 11–14, 2000, in Meridian, MS. **Contact:** Sid Howard, 211 Brownstowne Dr., La Habra, CA 90631 (714-992-2504).

363rd Mustang Gp (WWII). Oct. 12–15, 2000, at the Piccadilly Inn Airport in Fresno, CA. **Contact:** Art Mimler, 3086 Hwy 140, Catheys Valley, CA 95306 (209-966-2713).

Unit Reunions

374th Aerial Port Sq, Clark AB, Philippines. Nov. 12–14, 2000, in Las Vegas. **Contacts:** John Johnson (321-255-7396) (jjmailman@aol.com) or Tom Shepke (410-754-2438) (tomshepke@juno.com).

390th Electronic Combat Sq. Nov. 3–5, 2000, in Las Vegas. **Contacts:** Mike Stavros (mstavros@together.net) or Dennis Hardziej (208-880-1199).

403rd Troop Carrier Gp/Sqs, Keesler AFB, MS (WWII). **Contact:** Lorren Perdue, PO Box 42, Montgomery, AL 36101 (800-489-2701).

416th/531st Tactical Fighter Sqs, Misawa AB, Japan (1958–64). Nov. 13–15, 2000, at The Menger Hotel in San Antonio. **Contact:** Bob Graham (800-373-3383) (fujin001@aol.com).

564th Missile Sq. Oct. 7, 2000, at Club Malmstrom at Malmstrom AFB, MT. **Contact:** Matthew Thomas, 1122 1st Ave. SW #11, Great Falls, MT 59404 (406-899-3686) (lobomatt@juno.com).

Colorado Vietnam Veterans Assn, including all war veterans. June 14–17, 2001, at the Marriott Hotel in Fort Collins, CO. **Contact:** (http://members.aol.com/colovvwebsite).

Eighth AF Historical Society. Oct. 17–22, 2000, at the Sheraton Salt Lake Centre Hotel in Salt Lake City. **Contact:** Connie Metts (800-982-1942).

Pilot Class 43-D, all commands. April 25–28, 2001, at the Radisson Hotel Charleston in Charleston, SC. **Contacts:** James Rockwell (jamesr@awod.com) or Frank Dutko (phone: 850-932-3467 or fax: 850-932-3901) (dutko43d@yahoo.com).

Pilot Class 49-B. Nov. 8–12, 2000, in Branson, MO. **Contact:** Andy Meyer, 8516 Racine Trl., Austin, TX 78717 (512-388-1778) (marge-andy-meyer@worldnet.att.net).

Sam Fox Assn (89th/1254th AWs), Andrews AFB, MD. Oct. 5–8, 2000, at Andrews AFB, MD. **Contact:** Lt. Col. Ev DeWolfe, PO Box 837, Clinton, MD 20735-0837 (301-981-6355) (samfox@olg.com) (www.vetsdefense.com).

USAF members stationed at **Birkenfeld AB, Germany** (1948–69). Aug. 23–27, 2001, in Minneapolis. **Contact:** Jackie D. King, 212 Islandia Ct. W., Nashville, TN 37217 (615-366-5626).

Wagner High School and Wurtsmith Memorial School, Clark AB, Philippines, alumni, faculty, friends, and administrators. Oct. 26–29, 2000, in San Diego. Optional trip to Clark AB, Philippines, Oct. 29–Nov. 7, 2000. **Contact:** John Prunier 665, PO Box 824, Winchester, CA 92596 (prunier@whoa.org).

Seeking members of the **48th and 50th Military Air Transport Sqs,** Hickam AFB, Hawaii (1954–60), for a possible reunion. **Contact:** R.H. Fauser, 325 Wood Duck Rd., Columbia, SC. 29223 (803-699-1539) (hfauser@aol.com).

Seeking members of the **83rd Fighter–Interceptor Sq,** Hamilton AFB, CA (1960–64), for a possible reunion in May 2001. **Contact:** Howard Kidwell, 9727 FM 1826 Unit 9, Austin, TX 78737-2561 (512-288-0518) (dobes@prodigy.net). ■

Mail unit reunion notices well in advance 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.

Bulletin Board

bulletin@afa.org

Seeking photos, recollections, and anecdotes from **ex-F-4 Guys-In-Back (GIBs)** who flew between 1964 and 1970. **Contact:** Reed Hamilton, 94 Gifford St., Falmouth, MA 02540 (508-548-1002).

Seeking personnel of the **177th FIG (NJ ANG)** stationed at McGuire AFB, NJ, in 1956. **Contact:** David Stroebel, 400 Langley Rd., Egg Harbor Twp, NJ 08234-9500 (732-224-0991).

Seeking two **12th TFW F-4 crews** that saw an OH-23 with an Australian FAC (Tamale 35) and 3rd Bde commander shot down at Cai Be near Rach Kien on Aug. 18, 1968. **Contact:** Gene Rossel (909-930-5700) (aircommando1@earthlink.net).

Seeking members of the **21st Special Operations Sq** based at Nakhon Phanom, Thailand, 1971–72. **Contact:** H.J. "Pete" Birkhofer, 1463 Front Nine Dr., Fort Collins, CO 80525 (970-226-3198) (pbirk@earthlink.net).

Seeking **Robert D. Hays,** 37th FS, WWII. His last known address was in Miami. **Contact:** Leslie E. Knapp, 9819 Gemini Dr., San Antonio, TX (210-655-0908) (lesknapp@juno.com).

Seeking **patches,** unit emblems, photos, rosters, and historical information from veterans of all services who were stationed in Newfoundland, Labrador, Greenland, or Iceland, 1940s–90s. Also interested in information about North Atlantic convoys that left Newfoundland for Britain during WWII. **Contact:** Marguerite Dawson–Bomberry (nanarete@earthlink.net).

Seeking information on Distinguished Flying Cross recipient **Angel Ibarra,** who served during WWII or during the Korean War. **Contact:** Al Ibarra (aibarr2000@aol.com or albert_ibarra@hotmail.com).

Seeking a copy of ***Aircraft Spotter's Handbook*** (WWII Allied and Axis aircraft), softcover, written by a USNR lieutenant junior grade, publisher unknown. **Contact:** John Newton Cashman, 1637 Beechwood Dr., Martinez, CA 94553-5351 (925-228-9346).

Seeking former **Air Force Reserve recruiters** for membership in the Air Force Reserve Recruiter Alumni Association. **Contact:** Gene Tomczak, 12685 E. Harvard Cir., Aurora, CO 80014-5808 (303-755-7244) (genetomczak@aol.com).

Seeking information on **Alton W. "Rocky" Raymond,** who served in WWII and Korea. He was stationed at Pope AFB, NC, and Port Hueneme, CA, in the early 1950s before being transferred to RAF Mildenhall, UK, in 1956. He was then stationed at Ellsworth AFB, SD. He died Aug. 29, 1963. He had a friend named "Tally." **Contact:** David Raymond, 110 Limestone Creek Rd., Beulaville, NC 28518 (raven@duplinnet.com).

Seeking scale drawings of **F-111s,** specifically landing gear and wing slat mechanisms. **Contact:** David de Botton (f111david@tpg.com.au).

Seeking information on **ex–USAF Col. James C. Spurling,** former commander of the Israeli air force training command, 1948–50. **Contact:** Zvi Avidror, 1 Brasil St., Tel Aviv, Israel 69460 (phone or fax: 972-3-6422480) (avidror@inter.net.il).

Seeking **Larry Davis,** who was a USAF member stationed in Iran in 1978 and was shot by a revolutionary guard and taken to the American hospital in Tehran. **Contact:** Parviz Rahbar (prahbar@cs.com).

Seeking photos and anecdotes from maintenance personnel assigned to the **Skyblazer** teams of the 36th, 48th, and 86th FBWs, 1949–61. Also seeking the **daughter of Tom Ingrassia.** She served with the 49th TFW, Holloman AFB, NM. **Contact:** David Menard, 5224 Longford Rd., Huber Heights, OH 45424 (937-236-8712).

Seeking former **HH-43 crew members** and people who were rescued by HH-43 crews. **Contact:** Bill Junkins, 12 Clay St., Lincoln, ME 04457 (pedrochopper@pedroairrescuechopper.net).

Seeking information on a **B-57 Canberra** that crashed in 1957 while making its final approach to Johnson AB, Japan. **Contact:** Lynn Cummings, 5901 Mount Eagle Dr., Apt. 801, Alexandria, VA 22303 (703-960-9262) (maxlynn@webtv.net).

Seeking pilots and navigators who served with the **29th ATS,** McGuire AFB, NJ, 1954–57. **Contact:** Robert L. Bullard (612-340-7931) (rlbullard@riderlaw.com or rlbullard@mediaone. net).

Seeking information on who holds the **world record for the most hours of combat flying time. Contact:** Duke Schneider, 9290 Coral Isle Way, Fort Myers, FL 33919.

For a plaque, seeking the first names of these B-17 crew members of *Gypsy,* 850th BS, 490th BG (H), Eighth AF: **L.W. Callard, H.C. Coon, B.E. Dewey, T.V. Gregorich, A.B. Lindquist, L.E. Mathisen, and J.M. Mooberry. Contact:** Linda Wood Parrish, PO Box 27, Swainsboro, GA 30401-0027 (mimip@pineland.net). ■

If you need information on an individual, unit, or aircraft, or want to collect, donate, or trade USAF–related items, write to "Bulletin Board," *Air Force* Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. Items submitted by AFA members have first priority; others will run on a space-available basis. If an item has not run within six months, the sender should resubmit an updated version. Letters must be signed. Items or services for sale, or otherwise intended to bring in money, and photographs will not be used or returned. We reserve the right to condense notices.

An *Air Force Association* National Symposium & Annual Air Force Ball

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Nov. 17, 2000

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The AFA Symposium

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In Attendance

F. Whitten Peters,
Secretary of the Air Force
Honorary chair of the ball

Gen. Richard B. Myers,
Vice Chairman, Joint Chiefs of Staff
Luncheon speaker

Gen. Lester L. Lyles,
Commander, Air Force Materiel Command

Lt. Gen. Eugene L. Tattini,
Commander, Space and Missile Systems Center
Military host

The Air Force Ball

The 29th annual Air Force Ball will also be held this year at the Beverly Hilton Hotel, Friday, Nov. 17. For additional information on the ball and to reserve tickets or a table, please call Henry Sanders at (310) 645-3982. E-mail: Sandersh@pacbell.net.

Symposium

Details on symposium cost will be forthcoming. The registration fee includes a continental breakfast, refreshments, and lunch. Additional lunch tickets are available. To register, call Nikki Whitlock at (800) 727-3337 ext. 5838, e-mail: nwhitlock@afa.org, or, for information 24 hours a day, call ext. 2030. To have information faxed to you, call the AFA Fax Reply service at (800) 232-3563 and order document #0340. Visit our Web site at: www.afa.org/calendar/2klasymp.html.

Beverly Hilton Hotel

Please identify yourself as an AFA member when you call the Hilton at (310) 274-7777 or (800) HILTONS to make reservations at the special rate of $158 per night, single, or $178 double, plus 14.05 percent tax. Reservations at this rate will be accepted through Oct. 25, 2000.

Sponsorship

The AFA Symposium and Air Force Ball are sponsored by the Air Force Association and its Los Angeles chapters: Gen. B.A. Schriever Los Angeles Chapter, the General Doolittle Los Angeles Area Chapter, and the Orange County/Gen. Curtis E. LeMay Chapter.

Pieces of History

Photography by Paul Kennedy

Mishap

Courtesy of the US Air Force Museum, Wright-Patterson AFB, Ohio

The wind was at his back as a cadet pilot taxied his North American BT-9B trainer—unfortunately, when he applied the brakes too hard, the wind lifted the aircraft's tail, causing its nose to hit the ground. As depicted in this display at the US Air Force Museum at Wright-Patterson AFB, Ohio, the pilot (sitting) received a stern lecture—at least—from his instructor, while the ground crew checked over the damage. According to the museum, an average of 40 percent of the cadet pilots in training during World War II washed out of flying school. By the end of the war, however, AAF Training Command had graduated 250,000 pilots from its schools.

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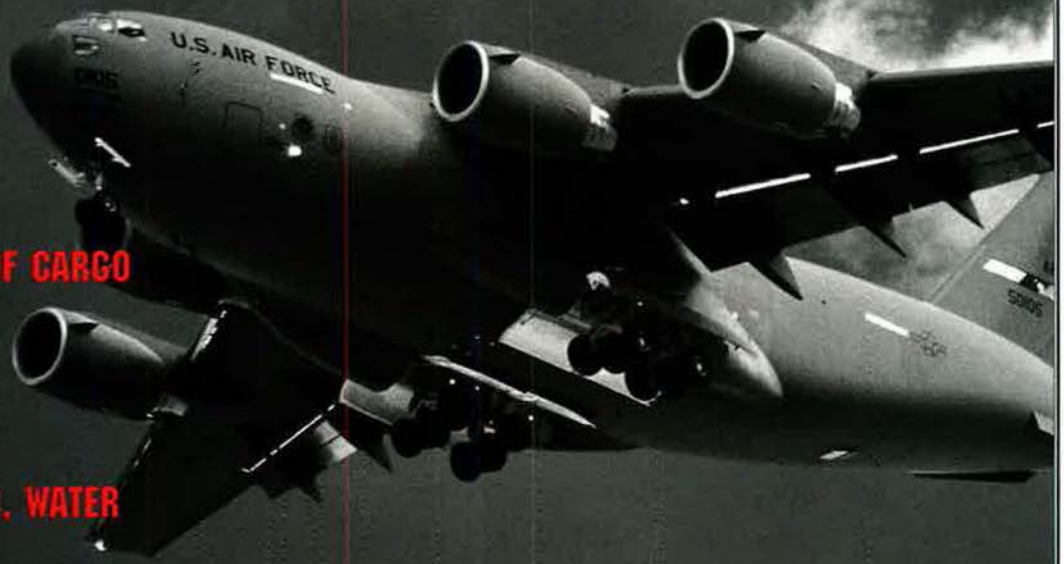

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