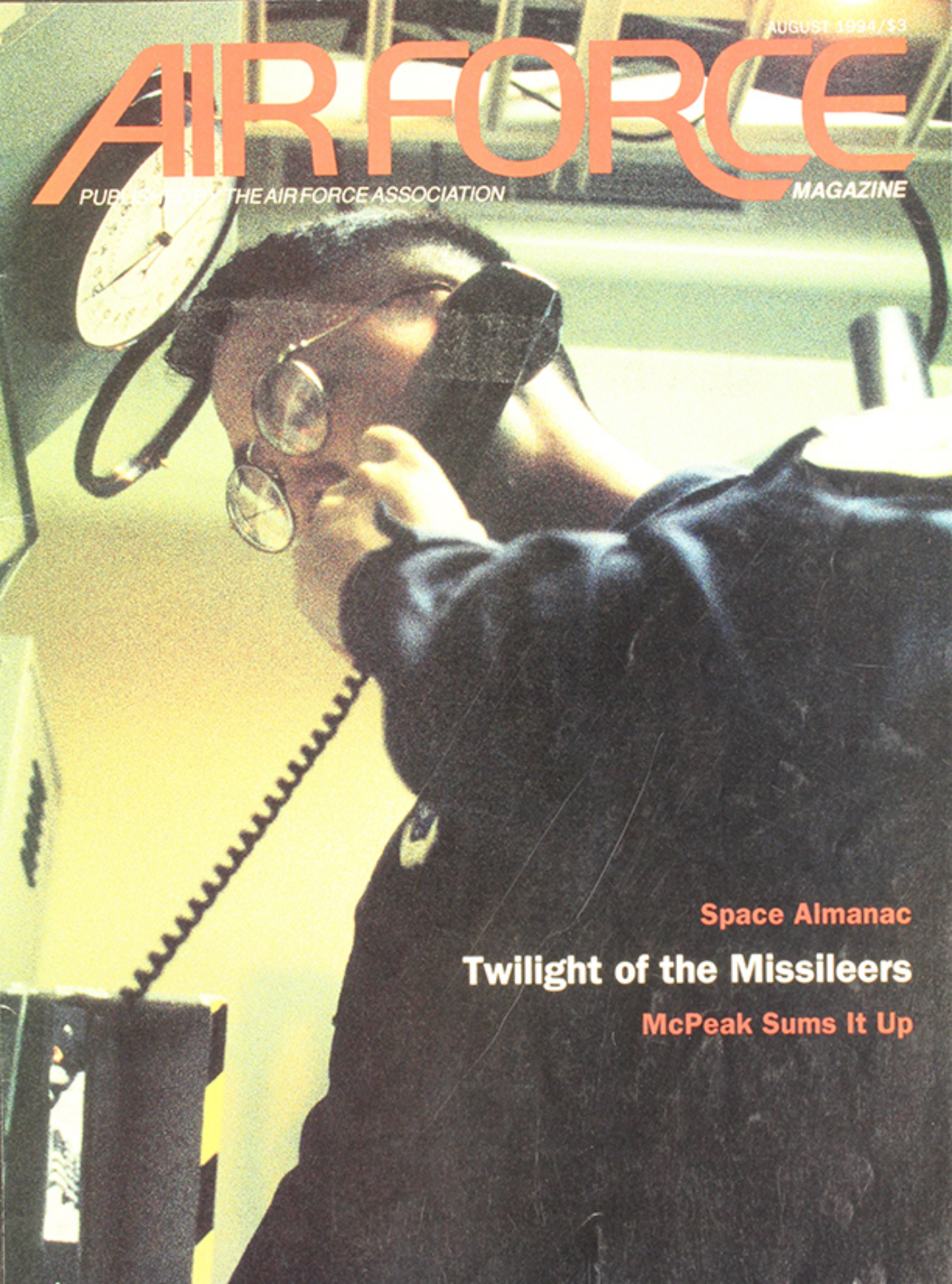


AUGUST 1994/\$3

AIR FORCE

PUBLISHED BY THE AIR FORCE ASSOCIATION

MAGAZINE



Space Almanac

Twilight of the Missileers

McPeak Sums It Up



...Lockheed Strikes Again.

**In Air Combat Command's
Bombing and Navigation for
Long Range Aircraft**

PROUD SHIELD 1994 RESULTS

Place	Fairchild Trophy (Highest Competition Effectiveness)	Russell E. Dougherty Fighter Trophy	Thomas F. Koritz— Donnie P. Holland ECM Trophy
1	F-111	F-111	F-111
2	B-52	F-15E	F-15E
3	B-1B	<p><i>"Now the Ultimate Test of Our Ability"</i> General John M. Lob, USAF</p>	
4	B-52		
5	F-15E		

*Congratulations to the men and
women of the 27th Tactical Fighter Wing,
Cannon Air Force Base
"Best of the Best"*



Lockheed
Fort Worth Company

AIR FORCE MAGAZINE

August 1994, Vol. 77, No. 8

PUBLISHED BY THE AIR FORCE ASSOCIATION

MAGAZINE

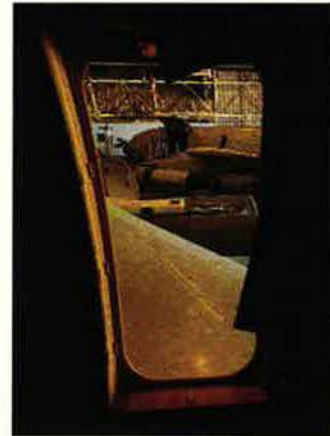
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About the Cover: Crew Commander 1st Lt. Lance Kawane of the 12th Missile Squadron, 341st Missile Wing, trains at Ma mstrom AFB, Mont. See "Twilight of the Missileers," p. 22. Staff photo by Guy Aceto.

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AIR FORCE Magazine (ISSN 0730-6784) August 1994 (Vol. 77, No. 8) is published monthly by the Air Force Association, 1501 Lee Highway, Arlington, VA 22209-1198. Phone (703) 247-5800. Second-class postage paid at Arlington, Va., and additional mailing offices. **Membership Rate:** \$25 per year; \$60 for three-year membership. **Life Membership:** \$400 single payment, \$420 extended payments. **Subscription Rate:** \$25 per year; \$25 per year additional for postage to foreign addresses (except Canada and Mexico, which are \$8 per year additional). Regular issues \$3 each. Special issues (USAF Almanac issue and Anniversary issue) \$5 each. **Change of address** requires four weeks' notice. Please include mailing label. **POSTMASTER:** Send changes of address to Air Force Association, 1501 Lee Highway, Arlington, VA 22209-1198. Publisher assumes no responsibility for unsolicited material. Trademark registered by Air Force Association. Copyright 1994 by Air Force Association. All rights reserved. Pan-American Copyright Convention.

By John T. Correll, Editor in Chief

Rehearsal for Crises to Come

Washington, D. C., July 11
THE Korean crisis is over—or so says former President Jimmy Carter, who took the settling of it into his own hands and returned from Pyongyang claiming to have turned away the wrath of North Korean dictator Kim Il-Sung with a kind word. It is not totally impossible that Kim was willing to back away from his program to develop nuclear weapons in exchange for economic aid and other concessions. That, however, would have been contrary to everything we knew about Kim and his flaky regime. More likely, the good-hearted Mr. Carter got snookered, and the United States along with him, while North Korea gained time and cover to finish the job. How Kim's death on July 8 will complicate matters remains to be seen.

North Korea probably has one or two bombs now and can produce a half dozen more with plutonium from the fuel rods cooling at Yongbyon. The day its nuclear weapons become operational, we enter a new era in the global balance of power. North Korea cannot defeat the great nations in all-out conflict, but unless they are ready to risk nuclear war, they would be compelled to deal very carefully with the North Koreans. Before his death, Kim got away with much more than Iraq did in 1990, when the allied coalition met its conventionally armed force in a bold, no-nonsense fashion.

The Korean crisis of 1994 is a rehearsal for crises to come. Other Third World nations may not be far behind in acquiring weapons of mass destruction. Iran could be next. Sooner or later, such states as Algeria, Iraq, Libya, and Syria will either learn to make nuclear weapons or purchase them on the shadowy arms market.

In the vocabulary of arms control, *nonproliferation* is being overtaken by *counterproliferation*. There is considerable opinion that we cannot prevent the spread of nuclear weapons and may as well accept nuclear co-existence, intervening only in cases of unstable states. Assuming that's

true, the problem remains. How do we define the "stable" states? How do we ensure they remain stable? More to the point, what do we do when an unstable state approaches nuclear capability?

We can try warnings and dissuasion. To be effective, a warning must be something besides talk. A year ago, President Clinton warned the North Koreans that pursuit of nuclear

We will face essentially the same issues again and again as other radical states acquire the bomb.

weapons could mean "the end of their country." Now, deferring to Mr. Carter, the Administration has even dropped its effort to impose limited sanctions. The results aren't in yet from Mr. Carter's foray in dissuasion.

Another option is preemptive military action. Israel established the tradition in June 1981 when it struck and destroyed the Osirak reactor near Baghdad. Iraq, at war with Iran, did not retaliate. Former National Security Advisor Brent Scowcroft believes that unless North Korea submits to international controls, we should bomb its plutonium reprocessing facility before the new fuel rods are transferred there. That, however, would trigger an intense conventional conflict for which no public support or allied consensus has been developed. Preemptive action in Korea is improbable, especially since Mr. Carter went calling.

Once North Korea's bomb is mounted on a No Dong missile, it will hold at risk all of South Korea and most of Japan. North Korea is dwarfed by

the economic stature of its neighbors, but when North Korea talks, they will listen. If the United States appears weak or irresolute, the Asians will conclude that they have two choices: accept North Korea's nuclear advantage and accommodate to it, or acquire their own nuclear weapons.

A nuclear-armed North Korea would send political, economic, and strategic shock waves well beyond northeast Asia. McGeorge Bundy, national security counselor in the Kennedy and Johnson administrations says the challenge is a parallel to the Cuban Missile Crisis of 1962. That's true, but this time, it could be our side that backs down.

We will face essentially the same crisis again and again as other fringe states—first one, then two, then a dozen—acquire the bomb. If we cannot prevent that, the next question is whether, to keep peace with nuclear-armed radical states, we will modify our national interests and policies. Eventually, a conflict of interest with some future Khomeini or Qaddafi seems inevitable.

When that happens, the preferred option will be to deter the adversary by putting his own vital interests at risk. It has been suggested that the radical states are undeterrable. Let us hope that is not so. Otherwise, our options contract toward a choice between appeasement and war with a nuclear-capable enemy.

The defense Counterproliferation Initiative, announced last winter, seeks improved "ability to destroy, seize, or disable" nuclear arsenals and delivery systems. That is helpful, but it is not enough. If the United States does not demonstrate strength, decision, and leadership, we can hardly expect our less powerful allies to stand firm.

We must weigh carefully the consequences of the proliferation of nuclear weapons in the Third World and reach a fundamental decision about what is tolerable to us. That—and not blustery speeches or desperate optimism—will tell us what our course must be. ■

A large, detailed globe of the Earth is centered in the upper half of the advertisement. The globe shows continents and oceans with a grid of latitude and longitude lines. The background is a dark, starry space with several bright stars. The text 'ANYWHERE THE BALLOON GOES UP, SYBASE IS THERE.' is overlaid on the lower-left portion of the globe.

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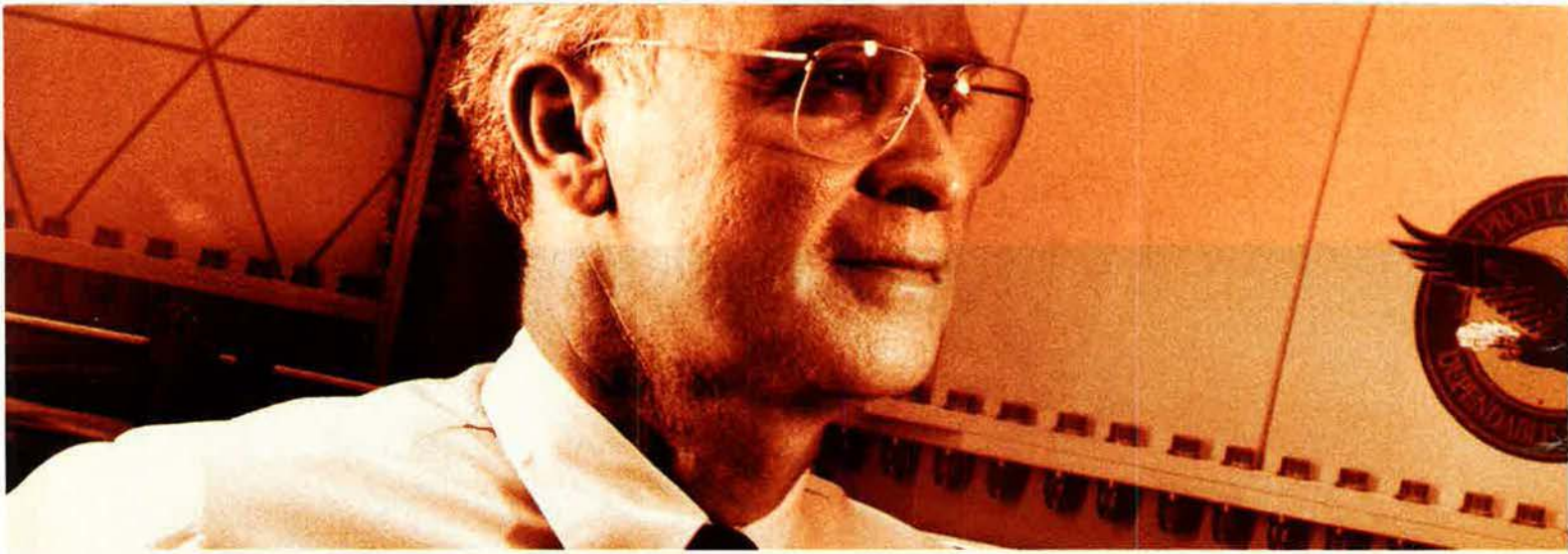
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Walt Bylcio, Vice President, F119 Programs, Pratt & Whitney

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Letters

May Issue Miscues

I would like to point out a misconception that I have seen in other magazines that you perpetuate in the May issue; newer is not necessarily better.

I was disappointed to find that the "Gallery of USAF Weapons" [May 1994, p. 117] leaves the mistaken impression that the MC-130E Combat Talon I is less capable than the MC-130H Combat Talon II. Though you state that the MC-130E is being modified, your comparison implies that Combat Talon II is the only one with improvements. The history of the MC-130E is one of modernization, including the Mod 90 program, which makes it a very adaptable and capable air delivery platform.

The MC-130E has been night and weather capable since 1970. Combat Talon I has also been equipped with an in-flight refueling receptacle since 1976, has fire suppressant foam-filled fuel tanks, has had the high-speed ramp and high-speed, low-level aerial delivery system since the early 1970s, and has a Texas Instruments precision ground-mapping and terrain-following/terrain-avoidance radar. It has the same dual inertial navigation system, dual radar altimeters, and engines as the Combat Talon II. However, the MC-130E has Global Positioning System (GPS) receivers installed as part of the integrated navigation system using inertial navigation units, Doppler radar, GPS, and position-fixing to provide high accuracy and multiple backups.

The MC-130H lacks this navigation accuracy, which may well be the most important feature for special operations missions. The Combat Talon I has more airdrop modes and a flight-planning computer for each aircraft. Its defensive avionics suite is the same as that of the Combat Talon II with an additional radar warning receiver and a low-band jammer.

Your item does not mention the controversial issues of whether a glass cockpit is more important than extra crew members or whether higher cost is an important consideration. Both aircraft have good and bad fea-

tures, but the Combat Talon Is are capable of performing the primary special operation missions for a long time to come alongside the newer Combat Talon IIs.

Maj. Gerald P. J. DeMocko,
USAF (Ret.)
Fontana, Calif.

On p. 126 of the May issue of AIR FORCE Magazine ["Gallery of USAF Weapons"], it states that delivery of the C-130H aircraft began in April 1975. This is incorrect. Delivery of the first C-130H, #73-1580, was July 18, 1974. I had the honor of being the first crew chief on that aircraft.

CMSgt. David E. Beesley,
USAF
Tinker AFB, Okla.

I question your assertion that the average age of the F-117A fleet is 2.4 years ["The Active-Duty Fleet," May 1994, p. 44]. Production began in the early 1980s and ended in June 1990. Only the last few aircraft produced can possibly be 0-3 years old.

A1C Ron Walters,
USAF
Minot AFB, N. D.

Reading "USAF Leaders Through the Years" [May 1994, p. 48], I noticed that a command I was in was omitted.

I served proudly from November 1955 through August 1959. After basic training and technical school, I was sent abroad to Northeast Air Command headquarters. I was assigned for two years to the 1856th

AACS Wing at Pepperrell AFB, Newfoundland.

The base was closed and the command deactivated in 1958. Northeast Air Command consisted of the following bases: Pepperrell AFB; Torbay Airport and Ernest Harmon AFB, Newfoundland; Keflavik, Iceland; Goose Bay, Labrador; and Thule AB, Sondstrom AB, and Narsarsuaq, all in Greenland. Some of these bases are still in use today. . . .

I hope this letter gives you enough information on this command—long gone but not forgotten.

John D. Rangel
Lockport, Ill.

What happened to *tactical* airlift? I know that AMC turned over the C-130s to ACC last fall, but did anyone at ACC notice or care?

In the Almanac, there is no clear, unambiguous specifying of tactical/theater airlift as an area of interest in ACC's stated missions, corollary missions, or other responsibilities ["The Major Commands," p. 57]. Has what used to be a primary mission for AMC become lost in the noise of ACC gunshooters and bomb-droppers?

The issue says ACC has forty-five electronic combat/electronic warfare aircraft and twenty-five aerial refuelers—seventy airplanes in all. About that many C-130s are at Little Rock AFB, Ark., let alone Pope AFB, N. C., and Dyess AFB, Tex. Is the entire CONUS tactical airlift fleet not worthy of specific mention, instead being relegated to the "Other Aircraft" category?

How long before reason reasserts itself and everyone in the airlift business again works for a command interested in the mission and the people and planes that perform it?

Lt. Col. Michael Hansen,
USAF (Ret.)
North Little Rock, Ark.

■ We strive for accuracy and comprehensiveness in the Almanac issues, and we appreciate comments from readers that help us achieve that goal. In addition to the errors and omissions mentioned, the location of

Do you have a comment about a current issue? Write to "Letters," AIR FORCE Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. Letters should be concise, timely, and preferably typed. We cannot acknowledge receipt of letters. We reserve the right to condense letters as necessary. Unsigned letters are not acceptable. Photographs cannot be used or returned.—THE EDITORS

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 **BPA** Circulation audited by
Business Publication Audit

Letters

15th Air Force headquarters, Travis AFB, Calif., was misreported.

Airman Walters's letter allows us to restate that the Air Force computes the official age of an aircraft starting from the date it emerges from the classified world; hence, some aircraft are officially younger than their chronological age.—THE EDITORS

Promotion Improprieties

I write with regard to "IG Probes Allegations" in the April 1994 "Aerospace World" [p. 20].

Let's cut through the bull. The Air Force is having problems with its promotion system. The count now stands at more than twenty-two wings reporting selection and promotion improprieties. It is a safe bet that the public sees only the "tip of the iceberg." Fear of retribution from a system that can't seem to play by its own rules is preventing all but the courageous from coming forward. The current system is riddled with faults and will remain so until those who feel they are politically at risk have the unselfishness to fix it. It is a system that focuses on "square-filling" instead of impact. In other words, it rewards quantity instead of quality.

Supervisors and commanders, when was the last time you showed more concern for the accuracy of an Officer Performance Report (OPR) than for the format or punctuation? Subordinates, when was the last time your supervisor even knew what you did or contributed significantly to the writing of your OPR? Ever find out two weeks prior to an OPR due date that through some administrative maneuver you were the individual's rater and were supposed to be writing the report? You don't have to know the person you are rating; just sign the rater box for the information the individual has given you, however inflated. He won't tell, and you'll look good on paper. Raters, when was the last time an OPR was returned because it was inflated? . . .

Square-filling is a great deal simpler than taking the time to know your folks and how they perform their duties. Fancy duty titles require less effort to spot and are more easily scored. Scoring criteria like master's degrees and endorsements can provide relatively indisputable support for selection and cover up the reality of growing supervisor/subordinate alienation.

So what is the problem? Let's face it. Aren't these criteria and equally weak criteria, such as new uniform photograph/old uniform photograph,

time on station, job diversity, and "executive" experience, being considered at the Air Force Military Personnel Center board? Some wing commanders can't seem to use the right criteria, and higher echelons are using different criteria. Are officers being briefed on what the criteria are? Are commanders who participate in the selection process informed?

I will bet my career that the answer is no. The lawsuits that are springing up are inevitable signs of a failing promotion system and a sponsor unwilling to fix it. With all due respect for his position and dedicated service, I recommend that Lt. Gen. Billy Boles swallow his pride and acknowledge the obvious: The current promotion system is mismanaged! No one is "buying the company line." Describing mismanagement as "lapses in checklist discipline" or "helping the system" insults taxpayers' intelligence. Pick up an Air Force periodical and look just below the article on officers being forced to sue for fair treatment, and you will see an article on Air Force people and innocent civilians dying from "lapses in checklist discipline." And those who are "helping the system" are doing something illegal.

Let's pioneer a new way of doing business. Train supervisors to be active observers and accurately assess subordinate impact on performance reports. Remove nonperformance criteria from consideration at all levels of the promotion process. Scoring filled squares is a poor substitute for commander involvement. Enforce the standards we already have: weight limits, alcohol and drug abuse, poor performance evaluations in your trained-for field, and conduct. Place officers in positions they are the most qualified for and disregard politically correct considerations. Leave the old-boy network on the fishing trips.

Do you want to know where to get the expertise for this extremely important task? How about the officers who are being unjustly victimized by the current system? That pool of qualified subjects is growing every day.

Capt. Dale A. Hauser,
USAF
Omaha, Neb.

Proclamations by Maj. Gen. Michael D. McGinty and General Boles reaffirming the health and soundness of the Officer Evaluation System (OES) in light of recent investigations of local minibords using inappropriate information and board tampering by general officers ["General Glosson

Admonished, February 1994 "Aerospace World," p. 15] indicate that Air Force leadership continues to practice self-delusion and emphasize image over substance.

The OES is far from the performance-based system it purports to be. It is an old-boy network that reeks of political cronyism and emphasizes sponsorship over performance. Use of local boards and inappropriate information has been common since 1989 and is not the isolated incident it is made out to be.

The biggest weakness of the OES is the promotion recommendation and the rack-and-stack process for "Promote" or "Definitely Promote" ratings. This is the same political game we had in the previous officer effectiveness report system—only worse.

The second major weakness is that the appeals process is solely aimed at correcting administrative errors but is designed to prevent any challenge to the sponsorship and cronyism on which the OES is constructed.

I suggest an overhaul of the OES with two main goals. First, create a *real* performance-based system with specific performance criteria for each job, and then evaluate against those criteria. Eliminate promotion recommendations or endorsements since they only encourage cronyism. Form a team to examine how the best customer-driven companies evaluate, reward, and promote their employees. Then apply these principles to the OES. Second, create an impartial appeals process in which an officer can have his case and record of performance reviewed by an independent board of senior officers without sponsorship bias.

I hope those in the Air Force senior leadership will accept the challenge I have presented. It must be done if they want to restore the integrity of the system and retain the critical technical skills needed in the lean years ahead.

Maj. John J. Paschkewitz,
USAF (Ret.)
Bedford, Mass.

Scarves and Standards

Lt. Col. Sidney J. Prejean's emotional exposé on who he thinks the MAC airlifter is gives an enlightening view of exactly what is wrong with AMC [*"Whose Heritage?" June 1994 "Letters," p. 8*]. The "leftover" attitudes, narrow-mindedness, and basic arrogance he displays serve no purpose in today's Air Force. Scarves aren't the issue. Standards are. His statements seem to encourage non-compliance with established AMC standards of appearance. If I read his

intentions correctly, he, as a senior officer, is way out of line.

I would suggest Colonel Prejean take the plastic spoon out of his pocket (so we can see that American flag we are all so proud of), put his hat (the one flapping in his flightsuit pocket) on his head, and get to work with the rest of the professionals in AMC.

Lt. Col. Stephen C. German,
USAF
Montgomery, Ala.

Colonel Prejean's letter in the June issue of *AIR FORCE Magazine* troubles me greatly. He not only whines, but he has his facts wrong.

His 3,500 hours of flying time fail to impress me or many others who have more time. I am glad he has experienced refueling missions. It will probably come as a great surprise to find that many of us were doing such things in the 1950s and some even before that in B-29s.

As for his diatribe about scarves and not liking them, he is entitled to his opinion, but again he has it wrong. Fighter pilots were not the only ones

who wore scarves. Bomber crews wore them simply to keep warm. If Colonel Prejean tried flying an unheated, unpressurized B-17 at 30,000 feet when the outside air temperature was -60°, he would find that scarves are worn to keep warm and not for glamour.

Frankly, I don't want to share my heritage with Colonel Prejean. I consider him just a civilian in a blue suit who happens to be flying Air Force aircraft.

Lt. Col. William J. McCormick,
USAF (Ret.)
Albuquerque, N. M.

The Gunfighters' Partners

The pictorial essay of the 366th Wing's deployment in Bright Star '94 was great [*"Gunfighters in the Desert," March 1994, p. 42*]. The 366th's mission as the air intervention wing evokes images of the cavalry charging out the fort's front gate or fire trucks erupting from the doors of the fire station, scrambling to perform the mission anytime, anyplace.

Has anyone paused to consider who

Air Force Association Comparative Statement of Revenues and Expenses

	Year ended	
	Dec. 31, 1993	Dec. 31, 1992
General Fund		
Revenue		
Aerospace development briefings	\$ 1,014,672	\$ 1,200,498
Building operations	645,437	621,507
Convention	318,721	330,157
Data processing services	6,772	19,062
Industrial Associates	143,200	156,850
Insurance programs	4,460,521	3,864,302
Investment	250,363	305,032
Magazine	1,434,940	1,657,202
Membership	3,421,980	3,207,537
Patrons	233,151	230,568
Other	765,446	526,633
Total revenue	\$12,695,203	\$12,119,348
Expenses¹		
Aerospace development briefings	\$ 420,683	\$ 476,086
Building operations	755,146	790,895
Convention	793,887	779,834
Data processing services	38,338	134,468
Industrial Associates	126,073	117,537
Insurance programs	4,277,739	4,090,739
Magazine	1,461,637	1,680,880
Membership	3,618,865	3,562,270
Patrons	243,862	234,771
Total expenses	\$11,736,230	\$11,867,480
Excess (deficit) of revenue over expenses	\$ 958,973	\$ 251,868
Life Membership Fund		
Revenue from investments	\$ 704,396	\$ 691,689
Less: transfer to General Fund for annual dues and other costs	790,702	769,897
Net income (loss), Life Membership Fund	\$ (86,306)	\$ (78,208)

Treasurer's note: The figures presented herein have been extracted from audited financial statements submitted previously to the Board of Directors of the Air Force Association.

¹ Expenses include chapter commissions, state commissions, and other direct support for field units totaling \$502,652 in 1993 and \$548,101 in 1992.

minds the fort after John Wayne has ridden away or who closes the doors at the fire station? Because of lessons learned during Operations Desert Shield and Desert Storm, the 366th Wing uses the Air Force Reserve and Air National Guard to tend the store at Mountain Home AFB, Idaho, while the "first string" is in the fight.

During Bright Star '94, Mountain Home became the temporary home for a number of Reservists brought in to help sustain various base support functions. Maintaining the home station is one part of the air intervention wing's mission that doesn't make magazine pages. Reservists helped keep the base operating for those folks who remained at home. . . .

Mark A. Sanchez
Niceville, Fla.

The Importance of Bombers

I agree with Col. Peter Boyes that, like the battleship, the manned bomber flying directly over its target releasing unguided gravity weapons went out with World War II [*"The Obsolete Bomber," April 1994 "Letters," p. 8*]. However, I disagree with his "How about none?" answer to your timely and provocative "How Many Bombers Are Enough?" [*February 1994, p. 10*].

As our military forces draw back to the US and draw down within, the ability to project a sizable intercontinental punch rests primarily on a shrinking arsenal of strategic bombers. Without these bought-and-paid-

for assets (B-1s and B-52s), our armed response to crises would be limited to fighter-bomber/attack air strikes—a deterrent not be taken lightly, yet one that requires significantly more ops and support assets plus precious time to deploy if not already in theater.

After more than 1,000 hours piloting B-1Bs, I am proud to be involved in acquiring and fielding accurate, precision guided, and standoff weapons for the bomber inventory—all while funding continues to be sacrificed, allowing only a fraction of the fleet to remain fully mission capable.

The cost of new systems is astronomical, but balanced against the cost of global terrorism, it's a price this taxpayer is still willing to pay.

Capt. David A. Hagginbothom,
USAF
Albuquerque, N. M.

How to Haul Weapons

With regard to solutions offered in "Fundamental Features for Future Fighters" [*March 1994, p. 36*], drag is certainly not an inconsiderable problem for exterior carriage of weapons. Current external weapons carriage is limited by the explosive material carried. Due to heat buildup, the explosive material melts and becomes unstable when carried for any length of time at or near supersonic speeds. When the explosive material melts, the next air pocket could terminate the mission rather abruptly.

The effort to solve high-speed drag problems for external carriage is

rather pointless if the explosive material problem has not been solved.

R. M. Long
Orlando, Fla.

The Missing "Warthog"

In "Behind the High Readiness Rates" [*March 1994, p. 20*], a major USAF aircraft seems to be missing from the Fleet Mission Capable Rate chart. What could it be? Of course, it's the A/OA-10 Thunderbolt II—the ground-pounder's savior, the "Warthog." It would be a pleasant surprise to read about the world's premier ground-attack aircraft in your magazine, instead of all those articles about supersonic high-performance jet aircraft.

Contrary to popular belief, some people in the Air Force actually enjoy flying and maintaining this marvelous aircraft and would like to see and read more about their weapons platform that wreaked havoc during the Persian Gulf War. The A/OA-10 Warthog is a real jet fighter. If you don't believe me, call Gen. John Michael Loh at Air Combat Command. He'll be glad to fill you in on the facts.

Maj. David L. Mathis,
USAF
Shaw AFB, S. C.

■ Major Mathis and other "Warthog" fans might enjoy "To War in a Warthog" [August 1993, p. 28] and the March 1992 cover story "The Warthog Round at Gunsmoke" [p. 32].—
THE EDITORS

Air Force Association Balance Sheet

	December 31, 1993			December 31, 1992		
	General Fund	Life Membership Fund	Total	General Fund	Life Membership Fund	Total
Assets						
Current assets						
Cash plus marketable securities at lower of cost or market	\$ 2,841,672	\$9,199,272	\$12,040,944	\$ 3,996,619	\$8,942,020	\$12,938,639
Receivables, prepaid expenses, etc.	736,157	358,149	1,094,306	1,233,829	335,092	1,568,921
Fixed assets (land, building, etc.)	11,899,107		11,899,107	12,199,926		12,199,926
Funds on deposit and other assets	7,190,320		7,190,320	5,530,178		5,530,178
Total assets	\$22,667,256	\$9,557,421	\$32,224,677	\$22,960,552	\$9,277,112	\$32,237,664
Liabilities and fund balances						
Current liabilities (including payables, accrued expenses, etc.)						
	\$ 2,678,072		\$ 2,678,072	\$ 3,484,890		\$ 3,484,890
Deferred revenue (including advance membership dues and magazine subscriptions)						
	1,018,023		1,018,023	1,088,476		1,088,476
Long-term debt						
	5,205,000		5,205,000	5,580,000		5,580,000
Fund balance						
Unrestricted						
	12,074,251		12,074,251	11,145,924		11,145,924
Designated						
	1,691,910		1,691,910	1,661,262		1,661,262
Restricted						
		\$9,557,421	9,557,421		\$9,277,112	9,277,112
Total liabilities and fund balances	\$22,667,256	\$9,557,421	\$32,224,677	\$22,960,552	\$9,277,112	\$32,237,664

By Brian Green, Congressional Editor

The Bomber Debate Continues

The Senate Armed Services Committee finds current DoD funding proposals "unacceptable."

DEEP concern about the size and capability of the Air Force bomber fleet has been a major and recurring theme of this year's congressional defense debate. Lawmakers on both sides of the aisle have wrestled with critical questions about the present and future mix of bombers and bomber weapons.

The Senate Armed Services Committee, in its Fiscal 1995 report released in June, finally weighed in with an unequivocal judgment about the bomber issue, one that appears certain to have lasting influence on the debate. "The committee," it stated, "finds the Department of Defense's bomber force posture and funding proposals unacceptable."

The panel's assessment is Congress's latest and most definitive expression of worry about bombers. Last spring, both the House and the Senate budget committees noted numerical deficiencies in long-range bombers that leave the Air Force short of meeting "essential defense requirements."

The House defense authorization bill provided \$100 million for the Bomber Force Upgrade Program, which could be used to move bombers out of attrition reserve back into flying status or to accelerate B-1 or B-52 upgrades. The House Armed Services Committee was "concerned that the number of long-range bombers programmed in the Department's force plan [is] inadequate to support requirements."

The Senate panel mapped out a detailed solution. In essence, it is an effort to keep all the bomber force-structure and modernization options open until additional analysis can be performed and to compel the Defense Department to improve bomber capabilities at a faster pace than currently planned.

In its Fiscal 1995 budget, the Air Force—under DoD guidance—sought

funding for only 107 bombers: forty B-52s, sixty B-1Bs, and seven B-2s. The Senate panel harshly criticized DoD for cutting the force before completing its Nuclear Posture Review, conducting a crucial B-1 bomber readiness test, or hearing from a congressionally mandated roles and missions commission.

The committee noted that DoD took action despite the conclusions of many respected independent studies that more bombers would be required to carry out the missions assigned them under current US strategy. Those missions involved striking invading armored forces early in two nearly simultaneous major regional conflicts. The Pentagon's Bottom-Up Review of defense needs identified a need for 100 bombers per conflict and a bomber force of up to 184 aircraft. Four other recent studies concluded that the DoD-planned force would be inadequate.

"DoD has been unable to offer a coherent and consistent explanation" of the differences between the programmed force and the higher estimates of the requirement, the committee charged.

To preserve force-structure options, the committee voted to provide funds to support conventional upgrades to all ninety-five B-1s and to ninety-five remaining B-52Hs. That move would keep the bomber force fully modernized and prevent planned retirement of forty-seven B-52Hs. The panel also approved a budget request to fix faulty B-1B electronic countermeasures systems, although it criticized the Air Force for underfunding the program and delaying its completion until 2003.

Even though the committee took steps to preserve force structure options, it did nothing that would immediately increase the planned bomber force structure of 107 aircraft. It saw "no need" to do so "until such time as JDAM [Joint Direct Attack Munition] and TSSAM [Triservice Standoff Attack Missile] deliveries have increased the available precision munitions stockpiles." Even if the Air Force took vigorous steps to expand PGM capa-

bilities, the near-term quantities would not support a great expansion of the force, said the committee.

The Senate panel blasted DoD's apparent unwillingness to consider options that would increase the PGM inventory earlier than now planned. Air Force underfunding of precision munitions, the committee said, would delay deployment of JDAM weapons by one year and of TSSAM by six years. The committee believes that interim PGM options would provide more precision capability as early as 1996. Without such an effort, argued the committee, the Air Force would have to wait until the end of the decade.

One committee solution to this problem: Convert some of USAF's nuclear-armed AGM-86B air-launched cruise missiles to any of several improved conventionally armed ALCM systems, including some that could deliver wide-area antiarmor munitions. The panel also would provide funds for a limited purchase of GPS-aided munitions systems that are to be tested on both B-1 and B-2 bombers and for incorporation of brilliant antitank submunitions in a Tactical Munition Dispenser for high-altitude bomber delivery against armored formations.

A key facet of the Senate Armed Services Committee program is preservation of the B-2 industrial base for another year. In view of "unsettled bomber requirements" and the need for more than twenty stealthy bombers to support a nonstealthy force of eighty to 100 bombers, the panel argued that such an effort would be "prudent."

The committee also noted the parallels between the bomber industrial base and those supporting tanks, submarines, and nuclear propulsion systems. It succeeded in getting the Senate, by a 55-45 vote, to approve expenditure of \$150 million "to preserve tooling in ready status, preserve a production capability for spare parts within the lower-tier vendor structure, and develop detailed production plans for a conventional-capability-only B-2 bomber." ■

Washington Watch

By James W. Canan, Senior Editor

New Life for the B-2?

Top billing for bombers in the roles and missions review could lead to a larger bomber force. The Senate moved to save the B-2 industrial base.



IN THE end, the Commission on Roles and Missions of the Armed Forces may be the key to keeping the B-2 bomber from going out of production. B-2 champions are betting that

the commission will assign landbased bombers the leading role in applying US airpower around the world and that this will clear the way for a larger bomber force and a bigger buy of B-2s to fill it out.

Their reasoning rings true. The Air Force, in beefing up its bomber force, would seem to have nowhere to turn but to the B-2. The boomerang-shaped stealth bomber is the only one around with the potential for future production and with the ability to penetrate heavily defended enemy air space.

The B-52 and the B-1B are long gone from assembly lines. They will remain valuable for a long time to come, but their technology is out of date and their production is unquestionably a thing of the past. The Air Force has no apparent plans to bring on another new bomber besides the B-2.

Timing may be a problem for B-2 promoters. The roles and missions commission, chartered by Congress in 1993 and appointed by the Secretary of Defense, is a long way from drawing conclusions. It got down to business only a few months ago and is not scheduled to report its conclusions to the Secretary of Defense and Congress until next spring or summer.

By then, the B-2 industrial base will have come apart unless Congress moves in the meantime to hold it together. There are signs that this will happen.

A First Step

The Senate Armed Services Committee took the first step last June. SASC included in its military authorization bill \$150 million to maintain the B-2 production base through Fiscal Year 1995. Sen. Sam Nunn (D-Ga.), the panel chairman, acknowledged that he and like-minded lawmakers faced an uphill fight—"the odds are against us"—in persuading Congress to approve the production-base funding.

They won the first round, though, and much more handily than expected. On July 1, the Senate convincingly rejected, by a vote of 55-45, a proposal by Sen. Carl Levin (D-Mich.) to delete the B-2 industrial base funding. The full participation in the Senate vote on the eve of the July 4 congressional recess reflected the importance and the highly controversial nature of the issue at hand.

Dismantling the B-2 industrial base would leave the US without a bomber production capability for the first time in more than seventy years. Rebuilding the base and assembling a new production team from scratch would cost several billion dollars, B-2 contractor Northrop claims. The Senate vote was seen as a blow for common sense—to buy time for the B-2 industrial base while revisiting bomber roles and requirements. If allowed to wither, the B-2 industrial base could always be restored later on—but at an increasingly high cost as the years go by.

Sen. Dianne Feinstein (D-Calif.), a leading exponent of the B-2, made a strong case on behalf of the bomber's extraordinary structural attributes.

"No other aircraft in the world, civilian or military, is built like the B-2," she asserted. "The skills and production techniques used for [its] large composite structures are unique to the B-2 industrial team, and the B-2 line is the country's last remaining active bomber production line."

In its campaign for congressional approval of B-2 production-base funds, Northrop claimed that preserving the base would "protect the option to purchase additional B-2s at a

reasonable price and within a reasonable time." The company also noted that the move would give Congress time to make "an informed, rational decision about how large a force of B-2s should be purchased" after seeing the results of the roles and missions review that Congress had requested.

In its report, SASC gave big play to the connection between the roles and missions review and bomber-force issues. The committee criticized the Defense Department for having "settled on a [bomber] force structure and modernization plan" before learning the results of several analyses and test programs relevant to that plan.

Among other things, said SASC, "The independent Roles and Missions Commission is examining bomber-force structure tradeoffs with other military forces."

The committee said it "looks forward with keen anticipation to the recommendations of the Roles and Missions Commission and hopes its findings will shed additional light on future bomber requirements in time for action on the [Pentagon's] Fiscal Year 1996 [budget] request."

Landbased vs. Seabased

SASC also said it "urges the Roles and Missions Commission . . . to review thoroughly the capabilities of [landbased] bombers and carrier-based air forces in the early phases of a short-warning MRC [major regional conflict] when enemy actions may constrain our ability to provide land-based tactical airpower and ground-force reinforcements."

The report noted that carrier-based airpower can make "an important early contribution . . . to the defeat of an armored incursion" by means of "combat air patrols and suppression of organic enemy air defense assets." This would "make it possible for non-stealthy Air Force bombers to deliver large weapons payloads with improved survivability."

Because of its stealth, the B-2 is the only bomber—Air Force or Navy—that does not require such support.

USAF's Bomber Roadmap, issued in June 1992 and now being updated, took note of this.

"Stealth and precision," it said, "give the B-2 a revolutionary advantage in combat operations, making it the leading edge of our initial response to conflict."

The roles and missions connection came into play at a hearing last May of SASC's Subcommittee on Nuclear Deterrence, Arms Control, and Defense Intelligence. Gen. John Michael Loh, commander of Air Combat Command, was the witness. B-2 production-base funding was at issue.

Sen. Kay Bailey Hutchison (R-Tex.) asked General Loh whether the \$150 million under consideration would "give us some options to keep the B-2 line open if the roles and missions study comes back and says we need to reconfigure [the bomber force]."

"The \$150 million is about the amount that would maintain the production team together for about a year," General Loh replied. During that grace period, he said, "a number of things can take place that bear on the question of the size and the adequacy of the bomber force," including "the work of the Roles and Missions Commission," completion of the Defense Department's Nuclear Posture Review—a reexamination of requirements for nuclear weapons and delivery systems—and the development of "an acquisition strategy [for bombers]."

"I believe the industrial base for bombers is extremely important and worth preserving," the ACC commander told the SASC subcommittee. He noted that the US had invested \$25 billion in B-2 research and development and had been rewarded with "a substantial capability that no other nation has."

Heavy Hitters

General Loh has observed on many occasions that the Air Force has become an expeditionary force centered in the US and that its bombers are its heaviest hitters. "Ninety percent of [Air Force] combat power is in the United States," he said. "Our job is to project that power across the globe. Bombers are extraordinarily valuable weapon systems in this equation."

The US national military strategy requires US armed forces to be able to fight and win two MRCs almost simultaneously. General Loh sees the bomber force as the key to fulfilling that strategy and has warned of a bomber shortfall.

SASC saw things his way. In its report, the committee noted that the

Bomber Roadmap of 1992 and the Defense Department's Bottom-Up Review of 1993 "both called for a force structure of 184 bombers, yet the [Pentagon] budget request funds only 100 [bombers] during Fiscal Year 1995, and only eighty thereafter. The committee believes this is inadequate to meet current and future requirements."

SASC also reported, "Four recent independent studies all find that the planned DoD force structure of eighty to 100 nonstealthy bombers, with only twenty B-2s, is inadequate to deal with two MRCs. DoD has been unable to offer a coherent and consistent explanation for these discrepancies."

As they became aware of Pentagon plans to circumscribe the bomber force, pro-bomber contingents in both houses of Congress increasingly questioned the wisdom of capping B-2 production at twenty bombers and of removing numerous B-52 and B-1 bombers from active service.

"Under this [Pentagon] budget," complained Sen. J. James Exon (D-Neb.), chairman of SASC's Subcommittee on Nuclear Deterrence, Arms Control, and Defense Intelligence, "forty-seven B-52H bombers would be scrapped—sent to the boneyard. None of the twenty-three B-1B bombers in the [Air Force's] newly established attrition reserve would receive either the conventional weapons modification or the ECM upgrades [Congress] has devoted so much time and attention to."

Thus, he said, "the administration plans before us envision no more than forty active B-52Hs and sixty active B-1B bombers, plus whatever B-2s are available. In my view, this is a plan to decimate the bomber force, not improve it."

The defense authorization bills of both the Senate and House Armed Services Committees reflected such misgivings. The HASC bill authorized \$100 million for a "bomber-force upgrade program"—switching older bombers from reserve to active status and upgrading them at a faster pace. Both bills would require the Air Force to quit deactivating bombers and to hold steady at a force of 190 B-1s and B-52s—ninety-five of each—while revising its bomber-force requirements. SASC called the Pentagon's bomber-force projections "unacceptable."

A Smart Bomber Strategy

Those projections were ripe for revision. The Air Force had been re-examining its bomber requirements for some time. In the spring of 1993, General Loh predicted that ACC's

"combat forces roadmap," then near completion and now classified, would show "the need for a smart bomber acquisition strategy."

"I don't want to quit buying bombers forever and stick with what we have now," General Loh told *AIR FORCE Magazine* at the time. "We have to come up with a way to buy more bombers to replace our older B-52s, maybe with some additional B-2s."

Or with another, follow-on bomber besides the B-2?

"We'll look at the B-2 first," he replied, "because we've already made a huge investment in its development."

Gen. Merrill A. McPeak, the Air Force Chief of Staff, has taken the position that the Air Force would like more B-2s but can't afford them, given other requirements [see "McPeak Sums It Up," p. 30].

General McPeak seems willing to leave matters in the hands of the Commission on Roles and Missions of the Armed Forces, in the expectation that it will strongly reaffirm the role of landbased airpower and, by implication at least, the need for a bigger bomber force.

Meanwhile, said the Chief of Staff, the Air Force plans to reduce its bomber force, equip bombers with precision guided munitions to make them much more effective, and then expand the force later on and as required.

"I expect to see the bomber force build back up toward the end of the century," he declared.

The rub is that the dwindling bomber force may be caught short of PGMs. The Air Force estimates that it will be at least five more years before the force is fully armed with PGMs. General McPeak acknowledges that the interim period will be "risky."

There are no new bombers on the horizon besides the B-2, and this raises other questions. If the B-2 is out of production, how will the Air Force be able to expand its bomber force without reestablishing the B-2 production line? What good will it do to have the Roles and Missions Commission affirm the primacy of land-based airpower if the Air Force lacks enough bombers to apply it in full measure and has no plans to buy any more?

Protecting the Cap

The bomber dilemma is rooted in the 1992 agreement between the Defense Department and Congress to cap B-2 production at twenty bombers. The Air Force originally planned a force of 132 B-2s; cut that number, under budgetary pressure, to seventy-

five; and finally settled for twenty. B-2 opponents in Congress, led by Rep. Ronald Dellums (D-Calif.), chairman of the House Armed Services Committee, have been fiercely protective of the production-cap agreement.

The Pentagon has gone out of its way to deny it has plans to buy more B-2s. From time to time, General McPeak, Air Force Secretary Sheila E. Widnall, Defense Secretary William J. Perry, and Deputy Defense Secretary John M. Deutch have all come forth with verbal and written assurances.

Anti-B-2 lawmakers saw the SASC proposal to preserve the B-2 industrial base as a foot in the door. In attacking it, Senator Levin used ammunition in the form of a letter from Deputy Defense Secretary Deutch.

Mr. Deutch wrote, "Absent an unlikely budget windfall for Defense or a radical shift in our budget priorities, we simply can't afford additional B-2 aircraft. The billions of dollars that would be needed to sustain such an effort are not affordable. Funds for additional aircraft would have to be taken from higher-priority defense needs that support the readiness and modernization of our forces and a viable support infrastructure."

He also wrote that DoD "has continuously examined the role of the B-2" in the bomber force and that "no requirement has emerged . . . to change the recommendation in the Bottom-Up Review for twenty B-2 aircraft."

Mr. Deutch claimed that DoD "has taken the necessary steps to deal with B-2 industrial-base and programmatic issues." He noted that the Pentagon's Fiscal 1995 budget includes nearly \$800 million to produce "an aircraft with superior military capabilities, as well as to provide us with a wealth of manufacturing technology and experience that our defense industry will draw on in our development and procurement of other systems, even after the B-2 line closes down."

The Deutch letter proved unpersuasive, probably because it was beside the point. The point was not the production of additional B-2s. Nor was it the Pentagon's development of generic aircraft manufacturing technologies. It was the preservation of the B-2 base against the day when more might be needed.

DoD's adamant opposition to the production-base funding left no room for second thoughts about B-2 production in the aftermath of next year's roles and missions report. The Pentagon would have to spend several

billion dollars to reassemble the B-2 industrial base and production team. It also would have to wait a long time—maybe too long—to get those new bombers into operation.

The B-2 program is a case in point. The Air Force took delivery of its first operational B-2 at Whiteman AFB, Mo., last December—no less than fifteen years after the stealth bomber began taking shape on drawing boards.

General Loh knows as well as anyone how slowly new bombers come into being. He monitored the marathon B-2 program from command vantage points in both the operational and acquisition arenas, and he does not relish a repeat performance.

Three per Year?

About a year ago, General Loh asked Northrop to determine the cost of sustaining B-2 production at a low rate of perhaps three bombers a year. Senator Nunn and Sen. Daniel Inouye (D-Hawaii), chairman of the Senate Appropriations Committee's Defense Subcommittee, weighed in with the same request.

The idea of low-rate production to keep an industrial base alive was hardly revolutionary. DoD had already endorsed it for submarines, thus enabling the Navy's submarine contractors to stabilize their work forces and take advantage of their proven production infrastructure.

Northrop concluded that its well-established B-2 industrial base and manufacturing processes would be able to produce three B-2s per year at an average flyaway cost of \$575 million per plane. Northrop also estimated that it would take \$150 million to stabilize the B-2 industrial base.

There was little time to lose. The base had already begun to shrink. Suppliers and vendors had begun closing up shop or looking elsewhere. Northrop's B-2 assembly plant at Palmdale, Calif., was shutting down step by step.

Last spring, B-2 subcontractors Boeing and Vought finished manufacturing their respective B-2 structural sections, sent their final shipsets to the Palmdale plant, and began packing up and stowing their production gear. Boeing delivered its final aft center section last December and its final outboard wing section last May. It will continue work on B-2 fuel systems and landing gear and will support B-2 flight testing, but its role as a major B-2 manufacturer is over unless B-2 production gets a second wind. The same goes for Vought,

maker of composite structures for the bomb bays.

A Northrop report on B-2 production notes that Boeing "has alternate uses for the [B-2] floor space already planned and will begin retooling its facilities immediately as they are freed up. B-2 tooling will be stored or disposed of according to provisions negotiated with the Air Force. This will effectively eliminate Boeing's capability to produce critical subassemblies for the B-2."

Unlike Boeing, Vought did its B-2 manufacturing in a government-owned plant in Texas. Thus, says the Northrop report, Vought's "portion of the manufacturing line will not necessarily be retooled for quite some time, but the [Vought] people dedicated to B-2 production will be diverted or laid off, and critical skills will soon deteriorate."

"Comparable decisions will affect B-2 production potential at the other major contractors," the report states.

Meanwhile, the twentieth and last production B-2, scheduled for delivery to the Air Force in 1997, is now taking shape at Northrop's huge assembly hangar in Palmdale, and the dismantling of the assembly line there has already begun.

The line has fourteen workstations. By the end of June, the final B-2 had progressed to the fourth workstation, leaving the first three with nothing more to do. Each workstation that the final B-2 leaves behind is shut down, its tooling mothballed, and its work force dispersed.

Northrop claims that the \$150 million proposed to preserve the B-2 production base will enable the company to "delay mothballing and keep the line warm for at least one more year." Northrop surveyed its suppliers and vendors and found that "most will probably continue to be available for new procurements over the next three years."

Northrop said that it would spend production-base funds to keep key suppliers in business and to reestablish those already out of business, to provide for adequate stocks of forgings, castings, and composite materials, and to keep tooling at Northrop, Boeing, and Vought plants in top condition.

If Congress does not come through with production-base funding, said Northrop, "the lead time to produce the first additional B-2 will increase by more than a year," and "the total cost to initiate sustained low-rate production will increase by more than \$650 million." ■



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Aerospace World

By Frank Oliveri, Associate Editor

B-1B Moves Front and Center

Under orders from Congress, the Air Force in June began a six-month operational readiness assessment of the B-1B bomber at Ellsworth AFB, S. D.

The service announced that the test, Dakota Challenge '94, will focus on the 28th Bomb Wing's ability to sustain a mission capable rate of seventy-five percent. Gen. John Michael Loh, commander of Air Combat Command, said the B-1B must meet this standard to ensure that Congress will release \$2.3 billion for conventional upgrades and avionics improvements.

The test "will determine what, if any, the limiting factors are in the ability of the B-1B to fly these higher sortie rates," General Loh said at the Pentagon in May. He said the \$2.3 billion is a "relatively modest investment to give [the bomber] an enormous amount of capability."

Seventy-five percent is the mission readiness rate expected of the B-52 and B-2 bombers. The B-1B's current mission readiness rate is about fifty-five percent.

During Dakota Challenge, the 28th BW will fly its bombers at the normal peacetime sortie-generation rate, conducting its normal wartime readiness mission. Near the end of the test, the wing will deploy a squadron to Roswell, N. M., and fly at a higher sortie rate, simulating wartime deployment.

The test parameters allow ACC to equip the 28th BW with a full set of spare parts and full air and ground crews with appropriate skill levels. To accomplish this, the wing is borrowing people and parts from the 384th Bomb Group, McConnell AFB, Kan., and the 7th Wing, Dyess AFB, Tex.

Explosion Cited in AC-130 Crash

The March crash of an Air Force AC-130 gunship near Mombasa, Kenya, in which eight crew members died [see May 1994 "Aerospace World," p. 15] was caused by the accidental explosion of a 105-mm howitzer round in a gun tube, the Air Force reported.

The final report of USAF's official accident investigation said the explosion set off a deadly chain of events.



USAF photo by TSgt. Bob Pease

The McGuire AFB, N. J., Color Guard posted the colors during opening ceremonies of the fifteenth World Cup at Giants Stadium, N. J., in June. More than 70,000 fans turned out for the event, the largest crowd for which the McGuire Color Guard has ever performed. Ireland beat Italy, 1-0.

The gunship was to provide armed reconnaissance support for multinational forces in Somalia. At an altitude of 9,000 feet, the crew was firing rounds for proficiency. One round exploded in the tube, and shrapnel from the explosion hit the propeller on engine number one and drove holes in the fuel tanks.

A fire started in the area of the number one engine, which the crew shut down. Soon there was a fire in the number two engine. This was also shut down, making controlled level flight impossible. The gunship could only be controlled in descent, and the crew did not have enough time to lighten the load to regain level flight.

The aircraft hit the water at about 140 knots, wings level and nose slightly up. The impact separated the cockpit and forward fuselage from the rear fuselage. Of the fourteen on board, three crew members survived by bailing out before the AC-130 hit the water, and three survived the crash.

The World Remembers D-Day

Allied nations of World War II, led

by thousands of veterans, marked the fiftieth anniversary of D-Day on the Normandy coast of France. The Pentagon said 30,000 veterans returned to the Continent with their families to commemorate the June 6, 1944, landing that marked the beginning of the end of Hitler's domination of Europe.

The veterans on the scene were only a tiny fraction of the number participating in D-Day memorial ceremonies around the world. Millions of veterans commemorated the event through television or in US-based events.

President Clinton, at Normandy for the ceremonies, paid tribute to those who fought during Operation Overlord and honored the survivors for their sacrifice. The President, noting the presence of the many veterans, said, "When they were young, these men saved the world."

Tuning Out the Military?

Young people are turning away from the military, and the Pentagon must tailor its marketing to inform them and their parents about the opportu-

USAF photo by SSgt. Theodore J. Konlars



A B-1B bomber crew from the 9th Bomb Squadron, 7th Wing, Dyess AFB, Tex., was forced to land at Rhein-Main AB, Germany, with the bomber's wings swept back after they would not go to cruising position. The aircraft touched down at 242 knots and blew four landing gear tires. No injuries were reported.

nities and benefits of service, said Edwin Dorn, under secretary of defense for Personnel and Readiness.

Mr. Dorn, in May testimony to the Senate Armed Services Committee, said recent studies revealed a declining interest in military service among the nation's youth. About twenty-five percent of sixteen- to twenty-one-year-old males expressed a propensity to join at least one service—a decline of two percent since 1992 and seven percent since 1990, when the level of youth interest reached a post-Vietnam high.

Lt. Gen. Billy J. Boles, deputy chief of staff for Personnel, told the same hearing, "We still are fighting the misperceptions that the Air Force is not hiring and that the military doesn't offer reasonable job security and career opportunities." Increased deployments with fewer personnel, associated family separations, and an erosion of benefits reduce the attractiveness of military service, he said.

The Air Force employs about 1,400 recruiters. Brig. Gen. (Maj. Gen. selectee) John M. McBroom, Air Force Recruiting Service commander, said that USAF met its recruiting goal in 1993, taking in 31,500 enlistees, and will meet the 1994 objective of 30,000.

Arrow Test Successful

The US-Israeli Arrow antiballistic missile interceptor hit a surrogate tactical ballistic missile in a flight test in Israel in June, the contractor reported.

Israel Aircraft Industries said that according to preliminary data, Arrow met all requirements. It acquired the target with its on-board sensor and guided itself close to the target. The intercept occurred when the missile's warhead detonated and fragments hit the target missile.

The June test was the seventh of the program and the third consecutive test against another missile. The information gained from the program has potential applications in several US theater missile defense programs. The Arrow program is jointly funded by the governments of the US and Israel.

USAF Continues Promotion Probe

The Air Force's investigation into alleged improprieties in the Officer Evaluation System promotion recommendation process continues, General Boles said in May.

The service was studying thirty allegations that senior raters may have used a board to rank-order eligible officers or considered such non-performance-related information as professional military education and advanced degrees in completing the promotion recommendation form.

Air Force and major command inspectors general found that eight complaints were substantiated and eight were not. The remaining fourteen investigations continue, General Boles said.

The Air Force began investigations last year when senior officials at Hans-

com AFB, Mass., acknowledged that some senior officers deviated from regulations covering the Officer Evaluation System.

Among about 1,400 senior raters surveyed, the Air Force found thirteen possible violations, General Boles said. Since the survey, another seventeen officers have complained of possible violations. Where violations have occurred, officers were notified and their promotion status reassessed.

Eurasian Crime Groups Increase

Swelling Russian and Eurasian organized crime groups are threatening democracy in Russia and could eventually possess nuclear weapons. So warned Louis Freeh, director of the FBI, in Senate testimony in May.

"The growth of Russian and Eurasian organized crime is a mounting threat to the safety and well-being of the United States," Mr. Freeh said. "It is our problem now, just as it is the problem of Russia and a number of other great nations.

"We are gravely concerned [that] Russian organized crime members may have already attained or will attain the capacity to steal nuclear weapons. . . . Such stolen weapons could be sold . . . to terrorists who could use them against the United States and other countries."

Though US officials are most concerned about the fate of Russian nuclear arms, they said the criminal groups are running thriving enterprises in narcotics, counterfeit money, weapons, fuel, and other commodities.

The Justice Department is working with Russian agencies to combat the problem. The FBI has established a group of agents in Moscow who will work with law enforcement officials there. The FBI plans to train Russian agents in techniques for dealing with organized crime.

C-17 Solutions Identified

The Air Force already has identified several solutions to the problem that caused USAF to suspend live jump tests from the C-17 airlifter, said Gen. Ronald R. Fogleman, Air Mobility Command commander.

General Fogleman, who is also commander in chief of US Transportation Command, told a House committee in May that the problem was not new and could be remedied soon.

He said one answer would be to change the flap angle on the C-17's wing. This would change the deck angle. It is believed that the C-17's wing flaps create turbulence that

forces parachutes back toward the aircraft fuselage. The Air Force said that adjusting the flap angle would change aircraft attitude and correct the airflow problem.

Another way to correct the problem would be to extend parachute static lines to keep paratroopers farther from the aircraft when their parachutes deploy. The Army has done this in the past to accommodate different aircraft but would now rather leave the lines at a standard length of fifteen feet.

Separation Benefits Expanded

Enlisted personnel in the grades of staff sergeant and below, captains, nurses, and staff judge advocates may now take advantage of the Voluntary Separation Incentive and Special Separation Benefit programs, the Air Force said in May.

The programs were expanded to help meet Fiscal 1995 end-strength requirements. The Air Force must cut its ranks by 2,500 officers and 17,000 enlisted personnel this year.

The Air Force is carrying out a phased reduction, which began February 1. So far, the service has met sixty-five percent of its enlisted end-strength goal, about 10,766 people, and sixty-two percent of its officer end-strength goal, 777 people. Applications for voluntary programs have leveled off.

The Air Force is expanding the temporary early retirement and VSI/SSB programs to include nonline, nondeferred lieutenant colonels and majors in the nurse corps and se-

lected nondeferred majors in the judge advocate general field.

Applications of nurses and judge advocates general were being accepted in May. They must separate by January 1, 1995. All others began applying in July. Those who separate must do so by June 30, 1995.

JPATS RFP Issued

Air Force Materiel Command's Aeronautical Systems Center at Wright-Patterson AFB, Ohio, issued the final and formal request for proposal to industry for acquisition of the Joint Primary Aircraft Training System and associated contractor logistics support.

The RFP, released in May, contains many streamlining objectives. It covers the delivery of a "missionized" nondevelopmental aircraft and a groundbased training system (GBTS). Current plans call for the US to acquire 711 aircraft: 372 for the Air Force and 339 for the Navy. The RFP lists options for the first 168 aircraft.

Immediately after a prime contractor is selected, the winner will hold an open competition to select a company to develop, acquire, and provide logistics support for the GBTS.

The current schedule set the evaluation of proposals for July 1994. Source selection will be completed in February 1995 with the contract award.

Interest in NDAA Is Strong

In the wake of a government notice seeking potential sources, eleven suppliers have expressed an interest in the Air Force's Nondevelopmental

Airlift Aircraft (NDAA) program. The program seeks a prime contractor to provide aircraft that would serve as either a supplement or an alternative to the C-17 airlifter.

Among contractors responding to the government notification were Lockheed, with the C-5, C-141, and L1011; McDonnell Douglas, with the MD-11, DC-10, and MD-17 (a commercial version of the C-17); a Russian/Ukrainian combine, with the An-124 and Il-76; Boeing, with various models of the 747; and Airbus, with versions of its 300-series aircraft.

The type and quantity of NDAA will be determined with the ultimate size of the Air Force buy of C-17s, currently projected at 120 aircraft. The Pentagon has given approval to purchase only forty aircraft.

USAF Mechanics May Get FAA Licenses

Military aviation maintenance courses may be applied toward an airframe and powerplant license as a result of a May agreement between the Air Force and the Federal Aviation Administration.

The move will make it easier for Air Force mechanics to enter the civilian job market, the service said. The license is required to work on civilian aircraft. With it, people separating or retiring from the military can make the transition "more easily and rapidly to civilian careers," Air Force Secretary Sheila E. Widnall said after signing a memorandum of understanding between the two organizations.

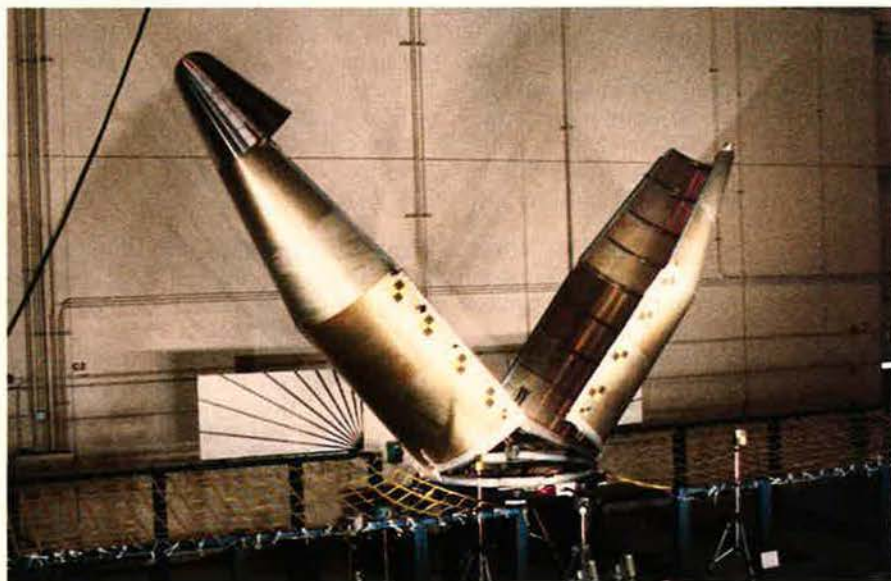
The license benefits not only those leaving the Air Force but also those staying. Both groups will gain a broader base of knowledge than they could have obtained from Air Force courses alone.

The license requires a mechanic to learn every area of an aircraft, from airframe to powerplant. It takes about two years of formal schooling to gain the license.

NATO Stages Evacuation

Seven NATO nations practiced a noncombatant evacuation operation (NEO) in May while executing amphibious operations during Dynamic Impact '94.

With crises in Rwanda and Yemen still simmering, the event was timely, said NATO officials. "While we have planned to exercise this evacuation capability since the DI '94 planning cycle began over eighteen months ago, these ongoing crises in other parts of the world highlight NATO's need to be ready and able to conduct a NEO successfully," said Maj. William McDermott, a Royal Marine staff



The Lockheed Launch Vehicle's ninety-two-inch-diameter payload shroud, which will fly for the first time in November, opens during a "zip tube separation test." The fairing opens cleanly so the satellite can be released in space. The zip tube system has flown on USAF launch vehicles since the 1960s.

officer attached to the exercise coordinating staff at Capo Teulada, Sardinia.

As part of the exercise scenario, 195 "evacuees" from France, Greece, Italy, the Netherlands, Spain, the UK, and the US were scattered throughout Capo Teulada's eleven-kilometer peninsula. They were instructed to attempt to reach the sea and find their rescue locations.

The evacuees were found by national elements and brought to any of three evacuation assembly areas, where they were identified, treated for any medical problems, and processed for transportation to the nearest evacuation holding center, the Air Force said.

They were later picked up by either helicopters or small vessels and transferred to one of the amphibious ships waiting offshore. By the end of the thirty-six-hour exercise, all evacuees had arrived at their respective national navy ships.

CAS Plan to Save \$1.5 Billion

In a change of course, the Air Force has decided to upgrade F-16 Block 30 and F-16 Block 40 fighters to meet future close air support (CAS) and Battlefield Air Interdiction (BAI) needs.

A May report to House and Senate Appropriations subcommittees on defense stated that the Air Force decision, taken in late 1993 but never publicized, will cost the government about \$1.5 billion less than a CAS/BAI plan prepared in 1990. Upgrades under the 1990 plan would have cost \$2.43 billion, while the 1993 plan costs \$943 million.

The new blueprint would give Block 30 F-16s an improved data modem, VHF antijam radio, Pave Penny laser spot tracker, and a 30-mm gun pod. Block 40 F-16s would get a new chaff and flare system and radar warning receiver, a missile warning system, night vision goggles and cockpit lighting, improved data modem, VHF anti-jam radio, and a LANTIRN laser spot tracker.

Air Force Honors Philanthropist

Air Force Chief of Staff Gen. Merrill A. McPeak awarded Zachary Fisher, a retired New York real estate executive, the service's Exceptional Service Award in May, recognizing his donation of twenty-two houses to provide free temporary lodging to family members of seriously ill patients in DoD medical facilities.

The Fisher House Foundation, Inc., is a nonprofit, charitable organiza-

tion founded by the Fisher family. The houses are completely furnished and stocked with food. A Fisher House statement said, "It was the Fishers' intention to be able to keep service families together during periods of medical emergency or crisis, when they especially needed the support of all the family members."

Reserve Pilots' Flying Hours

Maj. Gen. David R. Smith, who heads Air Force Reserve fighter operations, said Reserve fighter pilots have flown an average of 2,000 fighter hours and are highly capable.

The General's statements follow the May release of a General Accounting Office report that found that Reserve fighter units have older, less capable aircraft, participate in fewer joint-service training opportunities, and fly fewer types of missions than active-duty units do.

The GAO report emphasized the need for greater reliance on Reserve and Air National Guard units in the event of war. It noted differences between active and reserve components.

General Smith, who also commands 10th Air Force and was recently named to the Reserve Forces Policy Board, agreed that both his pilots and his airplanes are generally older than those of the active-duty force. But, he said, they measure up well to the active-duty force. "Our people are trained and ready," he said. "They have demonstrated over and over again that they are equal to their active-duty counterparts."

Reserve and ANG units routinely take top honors in such competitions as Gunsmoke.

Air Force Issues Civilian Awards

The Air Force announced its annual civilian personnel award winners in May. Seven individuals and two civilian personnel flights took honors.

The winners were selected from fifty-four nominations for the October 1, 1992, to September 30, 1993, cycle. Winners, by category:

Officer: Steve Mann, 15th Mission Support Squadron, Hickam AFB, Hawaii.

Senior program manager: Shelly Thompson, Affirmative Employment Section, Patrick AFB, Fla.

Intermediate program manager/specialist: Legusta Hathorn, 81st Mission Support Squadron, Keesler AFB, Miss.

Specialist: Carolann Hunt, Westover ARB, Mass.

Air Staff program manager: Diane

Van Bavel, Pentagon, Washington, D. C.

Major air command action officer: Peggy Rutter, Air Force Materiel Command, Wright-Patterson AFB, Ohio.

Flight: 64th Mission Support Squadron, Reese AFB, Tex.

Midsized to large flight: Offutt AFB, Neb.

Fogleman Receives Order of the Sword

Gen. Ronald R. Fogleman was inducted into Air Mobility Command's Order of the Sword by the command's noncommissioned officers in May.

About 600 airmen from throughout the command took part in the ceremony held at the Gateway Convention Center in Collinsville, Ill. The Order of the Sword is the highest honor enlisted members can bestow on an individual.

Since assuming command of AMC and the US Transportation Command in August 1992, General Fogleman has pushed through such initiatives for enlisted personnel as dorm renovations, upgrades to airmen leadership schools, and the creation of authorized positions for enlisted aviators within the new flight system.

C-17 Crosses Atlantic

The C-17 Globemaster III made its first transatlantic flight to Europe in May to test the overwater navigational software and Air Mobility Command's en route structure, the Air Force said.

The aircraft, from the 437th Airlift Wing, Charleston AFB, S. C., also took part in Air Fête '94, an annual European air show, at RAF Mildenhall, UK. The seven C-17s at Charleston have accumulated more than 1,100 total flying hours, 235 missions, and 4,000 landings. Fifteen pilots, fifty-three copilots, and twenty-six loadmasters at Charleston are currently C-17 qualified.

Foreign Language Pay Mix-Up

Air Force personnel receiving foreign language proficiency pay saw their paychecks reduced in June, the Air Force said.

Because of a computer problem, the entitlement was stopped in May for about 2,500 people. Officials corrected the problem for some members, but others received \$200 to \$400 less pay. The problem should have been corrected starting with the June midmonth paycheck.

Regulatory Relief

R. Noel Longuemare, the principal deputy under secretary of defense for

Senior Staff Changes

RETIREMENTS: B/G James L. Cole, Jr.; L/G Buster C. Glosson at the rank of M/G; L/G John E. Jackson, Jr.; M/G Larry L. Henry; Gen. Robert C. Oaks; M/G Ralph G. Tourino.

PROMOTIONS: To be General: Joseph W. Ashy; James L. Jamerson. To be Lieutenant General: Bruce L. Fister; Thomas R. Griffith; Ervin J. Rokke; Paul E. Stein.

CHANGES: L/G (Gen. selectee) Joseph W. Ashy, from Cmdr., Allied Air Forces Southern Europe, NATO, and Cmdr., 16th AF, USAF, Naples, Italy, to CINC, Hq. NORAD; CINC, Hq. USSPACECOM; Cmdr., Hq. AFSPC; and DoD Mgr. for Space Transportation Sys. Contingency Support Ops., Peterson AFB, Colo., replacing retiring Gen. Charles A. Horner . . . B/G William J. Begert, from IG, Hq. AMC, Scott AFB, Ill., to Dir., Air Mobility Warfare Ctr., AMC, McGuire AFB, N.J. . . . M/G Richard C. Bethurem, from Dir., Plans, DCS/P&O, Hq. USAF, Washington, D. C., to Cmdr., USAF Weapons and Tactics Ctr., ACC, Nellis AFB, Nev., replacing M/G (L/G selectee) Thomas R. Griffith . . . Col. (B/G selectee) William C. Brooks, from Cmdr., 92d BW, ACC, Fairchild AFB, Wash., to Cmdr., 2d BW, ACC, Barksdale AFB, La., replacing retiring B/G George P. Cole, Jr. . . . Col. (B/G selectee) Richard E. Brown III, from Chief, Air Security, Ops./Readiness Branch, SHAPE, NATO, Mons, Belgium, to Cmdr., 24th Wing, ACC, and Cmdr., USSOUTHCOM Air Forces Forward, Howard AFB, Panama, replacing B/G David A. Sawyer.

L/G Albert J. Edmonds, from Dir., C4, J-6, Joint Staff, Washington, D. C., to Dir., Defense Information Sys. Agency, Arlington, Va. . . . M/G (L/G selectee) Bruce L. Fister, from Cmdr., Hq. AFSOC, Hurlburt Field, Fla., to Cmdr., 15th AF, AMC, Travis AFB, Calif., replacing L/G Walter Kross . . . B/G John A. Gordon, from Dep. Under Sec'y of Defense for Policy, Under Sec'y of Defense for Policy, OSD, Washington, D. C., to Dir., Ops., Hq. AFSPC, Peterson AFB, Colo., replacing M/G Robert W. Parker . . . M/G (L/G selectee) Thomas R. Griffith, from Cmdr., USAF Weapons and Tactics Ctr., ACC, Nellis AFB, Nev., to Cmdr., 12th AF, ACC, and Cmdr., USSOUTHCOM Air Forces, USSOUTHCOM, Davis-Monthan AFB, Ariz., replacing L/G (Gen. selectee) James L. Jamerson . . . Col. (B/G selectee) Paul V. Hester, from Chief, Weapons Technology Control Branch, J-5, Joint Staff, Washington, D. C., to JCS Rep. for Conference on Security and Cooperation in Europe, J-5, Joint Staff, Washington, D. C.

M/G James F. Hinkel, from Dir., Transportation, DCS/Log., Hq. USAF, Washington, D. C., to Dir., Ops. and Transportation, Hq. AMC, Scott AFB, Ill., replacing M/G James L. Hobson, Jr. . . . M/G James L. Hobson, Jr., from Dir., Ops. and Transportation, Hq. AMC, Scott AFB, Ill., to Cmdr., Hq. AFSOC, Hurlburt Field, Fla., replacing M/G (L/G selectee) Bruce L. Fister . . . B/G Walter S. Hogle, Jr., from Dir., Public Affairs, OSAF, Hq. USAF, Washington, D. C., to Cmdr., 437th AW, AMC, and Cmdr., USCENCOM Air Force Forces, Charleston AFB, S. C., replacing B/G Thomas R. Mikolajcik . . . L/G (Gen. selectee) James L. Jamerson, from Cmdr., 12th AF, ACC, and Cmdr., USSOUTHCOM Air Forces, USSOUTHCOM, Davis-Monthan AFB, Ariz., to Cmdr., AAFCE; Cmdr., Hq. USAF; and AF Component Cmdr., USEUCOM, Ramstein AFB, Germany, replacing retiring Gen. Robert C. Oaks . . . M/G William E. Jones, from Dir., Forces, DCS/P&O, Hq. USAF, Washington, D. C., to Cmdr., 14th AF, AFSPC, Vandenberg AFB, Calif., replacing M/G (L/G selectee) Patrick P. Caruana.

Col. (B/G selectee) Michael C. Kostelnik, from Vice Cmdr., Warner Robins ALC, AFMC, Robins AFB, Ga., to Dir., Special Prgms., Under Sec'y of Defense for Acquisition, OSD, Washington, D. C., replacing retired B/G Ralph H. Graham . . . L/G Walter Kross, from Cmdr., 15th AF, AMC, Travis AFB, Calif., to Dir., Joint Staff, Washington, D. C. . . . Col. (B/G selectee) Robert E. Larned, from Dep. Dir., Ops., Hq. AFSPC, Peterson AFB, Colo., to Cmdr., 341st MW, AFSPC, Malmstrom AFB, Mont., replacing Col. Donald P. Pettit . . . B/G (M/G selectee) Normand G. Lezy, from Dir., Services, Hq. USAF, Washington, D. C., to Dir., Legislative Liaison, Hq. USAF, Washington, D. C., replacing M/G (L/G selectee) Paul E. Stein . . . M/G Robert E. Linhard, from Spec. Ass't to the Sec'y of the Air Force and C/S, USAF, for Power Projection, Hq. USAF, Washington, D. C., to Dir., Plans, DCS/P&O, Hq. USAF, Washington, D. C., replacing M/G Richard C. Bethurem.

M/G David W. McIlvoy, from Dep. Dir., Int'l Negotiations, J-5, Joint Staff, Washington, D. C., to Dep. Dir., Politico-Military Affairs, J-5, Joint Staff, Washington, D. C. . . . B/G Thomas R. Mikolajcik, from Cmdr., 437th AW, AMC, and Cmdr., USCENCOM Air Force Forces, Charleston AFB, S. C., to Dir., Transportation, DCS/Log., Hq. USAF, Washington, D. C., replacing M/G James F. Hinkel . . . B/G Michael A. Moffitt, from DCS/US Army Forces Command, Fort McPherson, Ga., to Dir., Logistics, Hq. AMC, Scott AFB, Ill., replacing B/G (M/G selectee) Rondal H. Smith

. . . M/G Robert W. Parker, from Dir., Ops., Hq. AFSPC, and Cmdr., Space Warfare Ctr., Peterson AFB, Colo., to Cmdr., 20th AF, AFSPC, and Cmdr., ICBM Task Force, STRATCOM, Francis E. Warren AFB, Wyo., replacing L/G Arlen D. Jameson . . . B/G Rudolf F. Peksens, from Cmdr., 410th BW, ACC, K. I. Sawyer AFB, Mich., to Dir., Strategy, Policy, and Plans, J-5, Hq. USSOUTHCOM, Quarry Heights, Panama, replacing Col. (B/G selectee) Antonio J. Ramos.

Col. (B/G selectee) Antonio J. Ramos, from Dir., Strategy, Policy, and Plans, J-5, Hq. USSOUTHCOM, Quarry Heights, Panama, to IG, Hq. AMC, Scott AFB, Ill., replacing B/G William J. Begert . . . M/G (L/G selectee) Ervin J. Rokke, from Ass't C/S, Intelligence, Hq. USAF, Washington, D. C., to President, NDU, Fort McNair, Washington, D. C. . . . M/G Ronald N. Running, from DCS/Hq. UN Command Korea, and DCS/US Forces Korea, USA Garrison, Yongsan, Korea, to Chief of Safety, Hq. USAF, Washington, D. C., replacing retired B/G James L. Cole, Jr. . . . Col. (B/G selectee) John W. Rutledge, from Executive Officer to Dep. CINC, Hq. USEUCOM, Stuttgart-Vaihingen, Germany, to Cmdr., 9th RW, ACC, Beale AFB, Calif., replacing Col. Larry W. Tieman . . . B/G (M/G selectee) John B. Sams, Jr., from Cmdr., Tanker Airlift Control Ctr., Hq. AMC, Scott AFB, Ill., to Dir., Forces, DCS/P&O, Hq. USAF, Washington, D. C., replacing M/G William E. Jones.

B/G David A. Sawyer, from Cmdr., 24th Wing, ACC, and Cmdr., USSOUTHCOM Air Forces Forward, Howard AFB, Panama, to Dep. Cmdr., 5th ATAF, NATO, Vicenza, Italy, replacing retiring B/G Ben Nelson, Jr. . . . M/G (L/G selectee) Paul E. Stein, from Dir., Legislative Liaison, Hq. USAF, Washington, D. C., to Superintendent, USAF Academy, Colo., replacing retiring L/G Bradley C. Hosmer . . . B/G Gary A. Voellger, from Cmdr., 43d ARW, AMC, Malmstrom AFB, Mont., to Cmdr., 92d ARW, AMC, Fairchild AFB, Wash., replacing Col. (B/G selectee) William C. Brooks . . . Col. (B/G selectee) Charles J. Wax, from Vice Cmdr., Tanker Airlift Control Ctr., Hq. AMC, Scott AFB, Ill., to Cmdr., Tanker Airlift Control Ctr., Hq. AMC, Scott AFB, Ill., replacing B/G (M/G selectee) John B. Sams, Jr.

SENIOR ENLISTED ADVISOR (SEA) RETIREMENT: CMSgt. Michael Di Gregorio.

SEA CHANGE: CMSgt. Kathy Ballard, to SEA, AFMC, Wright-Patterson AFB, Ohio, replacing retired CMSgt. Michael Di Gregorio.

SENIOR EXECUTIVE SERVICE (SES) RETIREMENTS: George R. Abrahamson, Alan P. Babbitt, Nikolai Charzenko, L. Denny Crouch, Fred I. Diamond, Jerry W. Dorris, Gary S. Flora, Ralph C. French, Everett G. Hopson, Carroll G. Jones, Eugene C. Kalkman, Gary L. Ludwig, Robert J. McCormick, Gene L. Mortensen, Anthony J. Pansza, Allan C. Schell, Charles R. Wallace.

SES CHANGES: Robert L. Baugh, to Ass't Auditor Gen. (Field Activities), AFAA, Washington, D. C. . . . Joseph K. Black, to Dir., Technology and Industrial Support, Ogden ALC, Hill AFB, Utah, replacing Ronald L. Orr . . . John H. Blair, to Dir., Contracting, Oklahoma City ALC, Tinker AFB, Okla., replacing Robert Hancock . . . Dennis M. Collins, to Dir., Equal Opportunity, Ass't Sec'y of the Air Force, Manpower, Reserve Affairs, Installations, and Environment, OSAF, Washington, D. C., replacing Dora G. Alcalá . . . Ruby B. DeMesme, to Dep. Ass't Sec'y (Force Mgmt. and Personnel), Ass't Sec'y of the Air Force, Manpower, Reserve Affairs, Installations, and Environment, OSAF, Washington, D. C., replacing William G. Norton . . . Benedict A. Kausal IV, to AF Acquisition Mgmt. Chair, Defense Sys. Mgmt. College, Fort Belvoir, Va., replacing Edward J. Trusela . . . Robert J. May, to Prgm. Mgr., Propulsion Sys., San Antonio ALC, Kelly AFB, Tex.

Thomas W. L. McCall, Jr., to Dep. Ass't Sec'y (Environment, Safety, and Occupational Health), Ass't Sec'y of the Air Force, Manpower, Reserve Affairs, Installations, and Environment, OSAF, Washington, D. C., replacing Gary D. Vest . . . Anthony J. Perfilio, to Dir., Law Ctr., Hq. AFMC, Wright-Patterson AFB, Ohio, replacing Edward T. Constable . . . Frederic C. Schwartz, to Dir., Prgm. Integration and Analysis, JAST Prgm. Office, Arlington, Va. . . . Bryan E. Sharratt, to Dep. Ass't Sec'y (Reserve Affairs), Ass't Sec'y of the Air Force, Manpower, Reserve Affairs, Installations, and Environment, OSAF, Washington, D. C., replacing Michael P. Reardon . . . Linda G. Williams, to Dep. Dir., Prgm. Support, Hq. AFMC, Wright-Patterson AFB, Ohio . . . Robert D. Wolff, to Dep. Civil Engineer, Hq. USAF, Washington, D. C., replacing Gary S. Flora . . . Michael W. Zehner, to Ass't General Counsel (International Matters and Civilian Aviation), General Counsel, OSAF, Washington, D. C., replacing Boyd W. Allen. ■

Acquisition and Technology, said in May that a regulatory relief package was approved for the Joint Primary Aircraft Training System and the Joint Direct Attack Munition programs.

The two efforts are trying to incorporate as many commercial items and practices as possible in an attempt at increased efficiency and cost-effectiveness. Regulatory relief will help both programs achieve their stated goals.

The JPATS program seeks to acquire a new primary trainer to serve the Air Force's and Navy's joint undergraduate aviation training programs. The program is looking to buy a missionized existing airframe that demonstrates the acquisition of commercial components and subsystems integrated into the nondevelopmental platform.

JDAM, another joint Navy-USAF program, seeks to improve the capability of general-purpose and penetrating bombs already in the inventory. It too will use commercial practices and components where possible.

12th Air Force Wins Award

The 1993 Air Combat Command Commander's Award for Safety went to 12th Air Force in June for completing 169,000 flight hours without a Class A mishap.

Class A mishaps are the most serious aircraft accidents: \$1 million or more in damage, destruction of an aircraft, or loss of life.

The 12th Air Force's weapons safety program also had another year free of Class A and B mishaps.

DoD Opens New Center

The Defense Megacenter Dayton, Wright-Patterson AFB, Ohio, was established by the Defense Information Systems Agency in June. It is the newest of sixteen DoD computer centers.

DMC Dayton is responsible for providing computer and telecommunications support on a fee-for-service basis to the military services and DoD agencies. It will ensure that schedules are met on time and within budget.

Networked with other information-processing centers satisfying DoD worldwide information-management needs, DMC Dayton will offer products and services in finance, human resources, logistics, supply, and communications. It will operate heterogeneous hardware from various mainframe manufacturers.

5,997 Promoted to Master Sergeant

The Air Force selected 5,997 technical sergeants for promotion to master sergeant in May. A total of 30,948 eligibles were considered, for an overall selection rate of 19.38 percent.

The scoring was based on the following: time in grade, 33.70 points; time in service, 33.10 points; performance reports, 132.14 points; decorations, 8.66 points; promotion fitness examination, 62.64 points; specialty knowledge test, 71.39 points.

The average score for selectees was 331.96 points. Average time in grade was 4.46 years, and average time in service was 15.32 years.

Leave Time Could Be Lost

Air Force members with more than sixty days of leave time are encouraged to use it before September 30 or lose it, the Air Force said in June.

Special leave accrual is authorized in restrictive circumstances in which normal leave is prohibited. For example, members serving in a hostile fire or imminent danger pay area for at least 120 continuous days may appeal for special leave accrual. Service members who deploy for at least sixty days in response to a national emergency, crisis, and security operation may also apply.

News Notes

■ Lt. Col. (Dr.) Daniel Kulund, assistant chief of Orthopedics at Landstuhl Army Regional Medical Center, Germany, has developed a combat physical training program for deployed military members in remote sites, the service said in May. The program is an intensive full-body and strength workout for those who have no access to a gym or exercise equipment.

■ In May, the Air Force successfully launched a small satellite that evaluates radio transmissions in a dense signal field. The space test experiments platform Mission 2 took off from the wing of a B-52 bomber. Preliminary flight data indicated that the Pegasus launch vehicle performed well, placing the satellite into its proper orbit.

■ Rodney A. Coleman, assistant secretary of the Air Force for Manpower, Reserve Affairs, Installations, and Environment, will serve as a member of the Reserve Forces Policy Board. The board is the principal policy advisor to the Secretary of Defense on reserve component matters.

■ Orbital Sciences Corp. signed a preliminary agreement in May to acquire the Fairchild Space and Defense Corp. for \$30 million in cash, 1.5 million shares of Orbital common stock, and 1.35 million shares of preferred stock, convertible on a one-for-one basis into common stock. Fairchild is a leading developer and producer of satellites and other space and information technology products. Orbital will add approximately \$130 million per year in company sales.

■ Brig. Gen. and Mrs. Bobby O. Floyd received the 1994 Gen. and Mrs. Jerome F. O'Malley Award. General Floyd commands the 23d Wing at Pope AFB, N. C. The award recognizes the best wing commander and spouse team in the Air Force. The Floyds distinguished themselves by their contributions to the nation, the

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USAF photo by SSgt. Chuck Roberts

Former AT-6 pilots Clifford Benson (left) and William Forrester tour Camp Casey, South Korea, with Army Col. William Rollins. Officially named "Texan," the AT-6 gained renown in the Korean War as the "Mosquito," flying forward air control missions. The Army named a street on Camp Casey in honor of Mosquito pilots.

Air Force, and Pope AFB personnel during 1993.

- Joshua Gotbaum was appointed in May as the first assistant secretary of defense for Economic Security. He will advise the Defense Secretary, the deputy secretary, and the under secretary of defense for Acquisition and Technology on policies and programs pertaining to the defense industrial base, base closure and reuse, dual-use technology, international programs, and economic adjustment. Mr. Gotbaum was a general partner with the New York investment bank Lazard Freres & Co.

- Lt. Gen. Thomas G. McInerney, the Air Force's assistant vice chief of staff, was awarded the Achievement in Managing Information Technology Gold Award in May for his vision in the development of the Combat Tactical Information System, which improves access to vital information during search-and-rescue missions. The award is cosponsored by American Management Systems and the Graduate School of Industrial Administration of Carnegie-Mellon University in Pittsburgh, Pa.

- DoD said in May that all service members will be required to provide DNA identification specimens by 1999. The specimens will be used as an alternative means of identifying casualties or remains when traditional identification techniques (*i.e.*, fingerprints, dental records, or dog tags) fail.

- In May, Lockheed finished manufacturing its first complete, co-cured composite wing box using technology obtained from Japan's FS-X fighter

program. The wing box substructure and wing lower skin were simultaneously cured and bonded in a large autoclave. Six aircraft will be developed to use the new technologies.

- Air Mobility Command named the 6th Airlift Squadron, 438th Airlift Wing, McGuire AFB, N. J., in May as the best airlift squadron in the command, awarding it the Lt. Gen. Joseph Smith Trophy. The squadron flew a variety of missions in 1993, including air-drop, air-land, aerial refueling, primary nuclear airlift flights, and special State Department missions.

Purchases

The Air Force awarded McDonnell Douglas an \$11 million cost plus incentive fee contract for the design, development, fabrication, testing, integration, and operational demonstration of a pilot Helmet-Mounted Tracker and Display for the F-15 fighter. Expected completion: March 1998.

The Air Force awarded McDonnell Douglas a \$1.3 billion face-value increase to a fixed-price incentive firm contract, which makes definite the C-17 Lot VI production contract for six C-17 aircraft. Expected completion: August 1996.

Obituaries

Bob Stevens—artist, aviator, and creator of the "There I Was . . ." cartoon featured in *AIR FORCE Magazine* for thirty years—died June 18 in Fallbrook, Calif., after a prolonged battle with cancer. He was seventy-one.

Born in Sioux City, Iowa, in March 1923, Mr. Stevens had a love affair

with aviation that began early in his life. He was commissioned in the Army Air Forces in 1943 and saw combat in the Pacific theater, flying every piston-driven American fighter except the P-39.

When the war was over, Mr. Stevens became a pilot of civilian charter aircraft but rejoined the Air Force in 1948. He retired from active duty in 1964 as a lieutenant colonel.

Mr. Stevens had begun cartooning while in college, and it became a lifelong interest. The first "There I Was . . ." to be published in *AIR FORCE Magazine* appeared in the January 1964 issue. It became a regular feature, holding down the last page of the magazine for exactly thirty years. The final offering appeared in the December 1993 issue, when Mr. Stevens was forced to retire because of poor health.

Mr. Stevens also created editorial cartoons for several newspapers. He was nominated three times for the Pulitzer Prize in editorial cartooning and was awarded five Freedom Foundation medals and four Lincoln Day Awards. He was also the author of ten books, seven of them on aviation.

Mr. Stevens is survived by his wife Barbara, a daughter, a brother, and a grandson.

Gen. Charles L. Donnelly, Jr., former commander in chief of US Air Forces in Europe and commander, Allied Air Forces Europe, died on July 3 at Andrews AFB, Md., of cancer. He was sixty-four.

General Donnelly, an Ohio native, retired from the Air Force in 1988 after a thirty-six-year career. After retirement, he served as Executive Director of the Air Force Association and the Aerospace Education Foundation, holding those positions from May 1, 1988, to June 16, 1989. General Donnelly later became an aerospace consultant.

During the war in southeast Asia in the 1960s, General Donnelly flew more than 100 combat missions over North Vietnam and twenty-seven over Laos. He was a command pilot with more than 8,000 hours of flying in thirty-eight types of aircraft. He was USAFE commander in chief at the time of Operation Eldorado Canyon, the 1986 US Air Force and Navy air attack on terrorist sites in Libya.

An AFA Life Member, General Donnelly was instrumental in helping to establish more than thirty AFA chapters in Europe and the Far East while he served as CINCUSAFE and commander of US Forces in Japan.

General Donnelly is survived by his wife Carolyn, a daughter, and two grandchildren. ■

They had a big part in winning the Cold War, but there are no victory parades as their field diminishes.

Twilight of the Missileers

By Frank Oliveri, Associate Editor

Photographs by Guy Aceto,
Art Director



The vast Montana landscape is home to Malmstrom AFB, where the 341st Missile Wing operates. Malmstrom's missile complex comprises 24,000 square miles of territory. Fifty to 100 feet underground, crew commanders like 1st Lt. Lance Kawane keep a watchful eye over missiles and silos.





Crews must keep abreast of what is happening with their missiles. Numerous lists must be checked and rechecked to ensure the system's safety. Here, 2d Lt. Lyle Arnold, a deputy crew commander, runs through a communications check.

SINCE 1960, USAF missile alert crews have operated the nation's ICBM force, standing ready in launch facilities in remote areas of the United States. These alert crews performed almost flawlessly through three decades, preparing for the order that never arrived. Then, in late 1991, the Soviet Union collapsed, the Cold War ended, and the nuclear threat—once so ominous—declined.

The world of Air Force missileers was turned upside down. These crews helped win the Cold War, but they got no parades. Over the past three years, in fact, troops manning the launch complexes that dot the western High Plains have had to come to grips with a far different challenge: With the Cold War at an end, Washington wants to eliminate much of the ICBM arsenal and, consequently, many of the crew members' jobs.

For the most part, the troops have adjusted well. One combat crew commander with the 341st Missile Wing, Malmstrom AFB, Mont., 1st Lt. Paula Hamilton, spoke for many: "If we lose our job for the purpose of peace, [then] put me out of business for peace, but [don't do it] because you're being stupid, . . . because you're not watching. I've been in the Air Force for twelve years. Change is a natural part of the Air Force. If you can't change, you'd better get out."

The ICBM force, and the job of managing it, certainly has changed

in thirty years. Three-warhead Minuteman IIIs and ten-warhead Peacekeepers replaced one-warhead Minuteman Is and IIs. The warhead total grew into the many thousands. Now the missile force is reversing its course, moving back toward only single-warhead missiles within the next decade. The number of missiles also is being reduced considerably. Even the command structure has changed radically, with Strategic Air Command, largely the creation of the legendary Gen. Curtis

E. LeMay, giving way to the new, multiservice US Strategic Command, headed by a Navy officer, Adm. Henry G. Chiles, Jr.

LeMay Would Understand

"When people [say] that Curtis LeMay wouldn't understand what is happening today, . . . and particularly he would not understand the demise of Strategic Air Command, I think that is absolutely wrong," said Col. Don Pettit, the 341st MW commander. "I think Curtis LeMay would recognize faster than some of the others that we won the Cold War and would have stood up and applauded the fact that the command that he set up in the face of this Cold War environment did its job. Mission complete. Time for a new organization."

To emphasize the point, Colonel Pettit recalled the moment at SAC headquarters on September 28, 1991, when the Air Force got the order from President Bush to take all ICBMs off alert. "All the general officers were in the room," Colonel Pettit said. "When that last ICBM came off alert, . . . all those generals, all those 'Cold Warriors' who were there, stood up and applauded."

The Air Force is removing all 450 Minuteman II missiles from their silos. Only the 150 at Malmstrom are being replaced with Minuteman IIIs. The service is awaiting the outcome of the upcoming 1995 Base Realignment and Closure (BRAC)



Crews are briefed daily on what to expect during their alert. Crew members are encouraged to voice their concerns. After the briefing, some crews face three-hour drives over gravel roads to reach their Launch Control Centers.

Commission and the Pentagon's far-reaching Nuclear Posture Review to see which additional bases will be affected. Moreover, the Air Force plans to cut 17,500 enlisted and 2,500 officers by 1995, Colonel Pettit said.

Despite such sweeping change, Air Force officials maintain that the mission of deterrence and the job of the missileer are still rock-solid and that crew members retain high morale and a sense of purpose. Colonel Pettit, who joined the ranks of the missileers in 1974, when the Cold War was still a going concern, said, "The dedication and the morale is about the same as it was then. . . . As long as there are bad actors in this world and this country decides that [it must have] nuclear deterrence, you are going to have people out there doing that job, and they are going to do it flawlessly



1st Lt. Paula Hamilton keeps track of her missiles with a grease pencil. The crew commander is responsible for the integrity and safety of the missiles and silos. Lieutenant Hamilton's deputy, 2d Lt. Phil Danielson (below), provides backup.



because that is what the American public expects us to do."

The crews continue to pull an average of eight twenty-four-hour alerts monthly, during which they drive out to a Missile Alert Facility (MAF) and monitor the well-being of ten to fifty missiles. However, they still operate computer systems from the early 1960s. Though the systems have been upgraded over the years, the average American office worker is better equipped; a typical office computer is about 450 times more powerful than the system used in a Launch Control Center (LCC).

For such dated systems, climate control is extremely important, requiring a highly consistent power source. With the current system, a power failure would automatically bring to life gigantic diesel engines and huge batteries acting as auxiliary systems. Each LCC is linked with every other LCC and to an airborne platform. A fatal failure of power in any LCC would cause control of its missiles to pass to another LCC or to the aircraft.

It is the job of the LCC commander and his or her deputy to monitor constantly the condition of design-

nated missile silos, the missile systems, computers, and security. The systems carry the same power, capability, and mission as they did during the Cold War, officers said, and are cared for accordingly.

Under a recent US-Russia agreement, each side has "detraged" the other. Peacekeeper missiles are not targeted. Minuteman III missiles, whose older technology requires that they be targeted at something, are pointed at vast ocean expanses. Both the US and Russia could retarget the other quickly if relations worsened. Colonel Pettit noted that the retargeting capability of the missiles has been upgraded, making it easier to aim them quickly at new targets.

A Two-Part Plan

Though their mission has remained valid, missileers have expressed concerns about job security and their future in the Air Force. They have seen their career field shrinking. The leadership of the Air Force, recognizing that something had to be done to ease those concerns, responded with a two-part plan.

First, the Air Force put the missileers under a new major command "sponsorship." When SAC rolled up its flag on June 1, 1992, ownership of the ICBM force passed to the newly created Air Combat Command. This move was seen as less than ideal, given ACC's orientation

toward fighters and bombers. The Air Force's solution was to transfer control of the strategic nuclear missiles and their crews to Air Force Space Command, where there appeared to be a greater similarity of tasks.

The latter move seems to have worked. Said 2d Lt. Andy Shobe, a deputy crew member from the 341st MW, "The merger [of] the space and missile fields [alleviated] some of those fears by giving missileers more options. The space field seems to be booming because they're launching satellites every month. So the opportunities have grown."

Colonel Pettit added, "As you go visit the space wings, you find a lot of former ICBM guys flying satellites."

Second, Air Force leadership decided to organize the service's missile wings much as it does its aircraft



The 40th Rescue Squadron supplies rapid access to the many missile sites that dot the western High Plains. It also provides surveillance and protection during the movement of missiles and warheads.



wings. This enables missileers to fit in more or less smoothly with other USAF units if they should move to a different career field. In the past, missileers were somewhat isolated from the rest of the Air Force.

The reorganization began in May at Malmstrom and in July at the remainder of the missile wings. It streamlines the squadrons, providing the squadron commander with control of all the assets needed to operate, maintain, and secure the fifty ICBMs that make up a missile squadron. Until now, the squadron commander controlled only the operational units. "Today [the squad-

ron commander] has the entire security elements that go along with . . . the assets and the electrical mechanical teams, which are key elements of the maintenance for the missiles, all in his squadron," said Colonel Pettit.

Including security personnel in the operational wing provides a clearer line of command. Security elements once followed their own chain of command up to the operations group commander and then back down to the squadron commander.

Solid Experience

Each LCC is run by a two-person

crew. Crew members undergo four months of systems training at Vandenberg AFB, Calif., where they must wrestle with the complexity of the mission while being encouraged to face its implications.

After four months of schooling, they are deemed ready for the mission and move on to their units. Once in their new squadrons, they undergo further training lasting about two weeks. "That's intense," noted Lieutenant Hamilton. "It means doing a lot of 'box rides' [in an LCC trainer], lots of training. They throw just about everything at you, which basically measures your character. They want to see if you are going to make the right decisions and how you are going to react to pressure."

A new deputy then is paired with a commander. Such a relationship typically lasts for six months, until the new deputy has acquired a solid base of experience.

An alert lasts twenty-four hours, not including the time required to drive to the site. Malmstrom's missile complex comprises some 24,000 square miles of territory; it takes three hours to drive to some of the remote sites. Many of the roads are gravel or dirt and are covered with snow for much of the year.

An MAF location is fenced and guarded by at least three security personnel and a facility manager. Each location also has a chef. After undergoing thorough security brief-

Payloads in Orbit

Launcher/ operator	Objects
Argentina	1
Australia	6
Brazil	4
Canada	16
China	11
Czechoslovakia	1
ESA	25
France	26
France/Germany	2
Germany	12
India	9
Indonesia	6
Italy	5
ITSO*	43
Japan	48
Luxembourg	3
Mexico	3
NATO	8
North Korea	2
Portugal	1
Russia	1,274
Saudi Arabia	3
Spain	3
Sweden	3
United Kingdom	20
United States	633
Total	2,168

*International Telecommunications Satellite Organization

Russian/CIS Space Activity, 1993

	Launches	Payloads
Communications	12	22
Military reconnaissance	6	6
Unmanned space station resupply	5	5
Navigation	5	7
Military ocean surveillance	4	4
Remote sensing	4	4
Early warning	3	3
Electronic intelligence	3	3
Manned flight	2	2
Radar calibration	1	1
Meteorology	1	1
Test/development	1	1
Total	47	59

Launch Site Activity

Baikonur Cosmodrome, Tyuratam, Kazakhstan	
Soyuz	10
Proton-4	5
Tsyklon-2	4
Zenit-2	2
Total	21
Plesetsk Cosmodrome, Plesetsk, Russia	
Molniya	8
Soyuz	7
Kosmos	6
Tsyklon-3	4
Start-1	1
Total	26

Operational Spacecraft

Mission	Type	Number
Communications	Kosmos	31-54
	Raduga	12
	Gorizont	10
	Molniya-1	8
	Molniya-3	8
	Kosmos Geyser	4
	Ekran	2
	Kosmos Luch	1
	Kosmos GLONASS	14
	Kosmos	6
Navigation	Kosmos Tsikada	4
	Meteor-2	2
	Meteor-3	2
Early warning	Kosmos	11
Electronic Intelligence	Kosmos	8-14
	Military reconnaissance	Kosmos
Remote sensing	Resurs-F	1
	Resurs-O	1
	Okean	1
Geodesy	Kosmos	1
	Kosmos Etalon	2
	Kosmos GEO-IK	1-2
	Kosmos	7
Radar calibration	Mir	1
	Soyuz TM	1
	Progress M	1
	Kvant-1	1
Space station activity	Kvant-2	1
	Kristall	1
	Granat	1
Scientific activity	Granat	1

Older spacecraft sometimes are placed in orbital standby mode.

US Space Funding (Millions of current dollars)

NASA totals represent space activities only. "Other" category includes the Departments of Energy, Commerce, Agriculture, Interior, and Transportation; the National Science Foundation; the Environmental Protection Agency; and other agencies.

Fiscal Year	NASA	DoD	Other	Total
1959	\$ 261	\$ 490	\$ 34	\$ 785
1960	462	561	43	1,066
1961	926	814	68	1,808
1962	1,797	1,298	200	3,295
1963	3,626	1,550	259	5,435
1964	5,016	1,599	216	6,831
1965	5,138	1,574	244	6,956
1966	5,065	1,689	216	6,970
1967	4,830	1,664	216	6,710
1968	4,430	1,922	177	6,529
1969	3,822	2,013	141	5,976
1970	3,547	1,678	116	5,341
1971	3,101	1,512	128	4,741
1972	3,071	1,407	97	4,575
1973	3,093	1,623	109	4,825
1974	2,759	1,766	115	4,640
1975	2,915	1,892	107	4,914
1976	4,074	2,443	144	6,661
1977	3,440	2,412	131	5,983
1978	3,623	2,738	157	6,518
1979	4,030	3,036	178	7,244
1980	4,680	3,848	161	8,689
1981	4,992	4,828	158	9,978
1982	5,528	6,679	234	12,441
1983	6,328	9,019	242	15,589
1984	6,648	10,195	293	17,136
1985	6,925	12,768	474	20,167
1986	7,165	14,126	368	21,659
1987	9,809	16,287	352	26,448
1988	8,302	17,679	626	26,607
1989	10,098	17,906	440	28,444
1990	12,142	15,616	383	28,141
1991	13,036	14,181	562	27,779
1992	13,199	15,023	619	28,841
1993	13,077	14,106	553	27,736
Total	\$190,955	\$207,942	\$8,561	\$407,458

Spacefarers

(As of end of 1993)

Nation	Persons
Afghanistan	1
Austria	1
Belgium	1
Bulgaria	2
Canada	3
Cuba	1
Czechoslovakia	1
France	4
Germany	7
Hungary	1
India	1
Italy	1
Japan	2
Mexico	1
Mongolia	1
Netherlands	1
Poland	1
Romania	1
Russia	76
Saudi Arabia	1
Switzerland	1
Syria	1
United Kingdom	2
United States	195
Vietnam	1
Total	308

Other Spacefaring Nations

For eight years after Sputnik went into orbit in October 1957, the superpowers alone were able to launch spacecraft. France broke the monopoly in 1965, establishing an independent capability. China, India, Japan, and Israel also have hurled satellites into space using indigenously built rockets. European capabilities are embodied in the European Space Agency (ESA), a group of thirteen nations.

China launched its first satellite in 1970 and has made at least thirty-three successful satellite launches. Weather and communications satellites are in orbit. China also launches science and military reconnaissance satellites and has made commercial launches for other nations. Its primary launch site is near Jiuquan, in northern China; a newer site is near Xichang in southeastern China, and a third is at Taiyuan. The launch program relies on the Long March series of rockets, one version of which has a cryogenic upper stage. Chinese astronauts were in training in the 1970s, but the country has indefinitely deferred manned space flight.

ESA was formed in 1975 for civilian activities only. It has thirteen members: Austria, Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, and the U.K. A major activity is development of the Ariane

rocket. France led development of the booster, which is launched from Kourou, French Guiana. The heavy-pay load Ariane 5 rocket, to debut in fall 1995, will be a significant addition to ESA capabilities. Arianespace, a private company markets Ariane and manages launches. France, Italy, and Germany all have strong programs.

India launched its first satellite, Rohini 1, into orbit in July 1980. The Indian Space Research Organization operates an offshore Sriharikota Island launch site in the Bay of Bengal. India's booster program includes the Satellite Launch Vehicle, Augmented Satellite Launch Vehicle, and Polar Satellite Launch Vehicle. The latter is capable of placing spacecraft into polar orbit. India is particularly interested in remote sensing for resource, weather, and reconnaissance purposes. An Indian cosmonaut was launched by the Soviets in 1984.

Israel launched its first test satellite, Ofeq 1, into orbit September 1988. Believed to have been launched from Yavne in the Negev Desert, satellites in the Ofeq series are thought to be dedicated to military purposes. Ofeq is seen as a step toward creation of a military satellite reconnaissance system. The prime booster is Shavit, possibly based on the Jericho 2 missile.

Launches						
Year	France	China	Japan	Europe	India	Israel
1965	1					
1966	1					
1967	2					
1968						
1969						
1970	2	1	1			
1971	1	1	2			
1972			1			
1973						
1974			1			
1975	3	3	2			
1976		2	1			
1977			2			
1978		1	3			
1979			2	1		
1980			2		1	
1981		1	3	2	1	
1982		1	1			
1983		1	3	2	1	
1984		3	3	4		
1985		1	2	3		
1986		2	2	2		
1987		2	3	2		
1988		4	2	7		1
1989			2	7		
1990		5	3	5		1
1991		1	2	8		
1992		3	1	7	1	
1993		1	1	7		
Total	10	33	45	57	4	2

Japan put its first satellite into orbit in 1970 and has made at least forty-five successful satellite launches. Communications, remote sensing, weather, and scientific satellites are in orbit. Japan's satellite program is run by the National Space Development Agency and the Institute of Space and Astronautical Science. Launch

sites are Uchinoura and Tanegashima. The Mu series of launch vehicles is used to orbit scientific satellites and toss spacecraft into deep space. N-1 and N-2 rockets were based on the US Delta. The H-1 has begun to replace the N-1 and N-2 boosters. The H-2 booster was first launched this year.

US Space Command • Headquarters, Peterson AFB, Colo.

	Personnel	Budget, Fiscal 1995	Activities
Air Force Space Command Peterson AFB, Colo.	41,229	\$2,812,000,000	Operates military space systems, groundbased radars, missile warning satellites, national launch centers and ranges; tracks space debris; operates and maintains the USAF ICBM force; budget includes 14,500 contractor personnel
Naval Space Command Dahlgren, Va.	337	\$69,468,000	Operates assigned space systems for surveillance and warning; provides spacecraft telemetry and on-orbit engineering support
Army Space and Strategic Defense Command Arlington, Va.	461	\$46,500,000	Provides input for DoD space plans; manages joint tactical use of DSCS; conducts planning for national missile defense

Space and Missile Badges



Space Operations



Senior
Space Operations



Master
Space Operations



Astronaut Pilot*



Senior
Astronaut Pilot



Command
Astronaut Pilot



Missileer



Senior
Missileer



Master
Missileer



Missile Operations



Senior
Missile Operations



Master
Missile Operations

Current occupational badges, such as the Missileer and Missile Operations badges, are being phased out and will be obsolete as of October 1, 1998. Those wearing the Senior and Master badges continue to maintain that level on the new occupational badge. However, when new badges are available, stars and wreaths can be earned on new badges only. Members wear either the current badge or the new badge during the transition period, not both.

*The astronaut designator indicates a USAF rated officer qualified to perform duties in space (fifty miles and up) and who has completed at least one operational mission. Pilot wings are used here only to illustrate the position of the designator on the wings.

Selected NASA Projects

Fiscal 1995 Proposal, Current Dollars

Cassini, \$255 million. Space science. Spacecraft mission to Saturn. Seeks data on formation of solar system.

possible presence of basis for chemical evolution of life. Scheduled launch 1997.

Discovery, \$129.7 million. Space science. Spacecraft missions Mars

Environmental Survey Pathfinder and Near Earth Asteroid Rendezvous.

Two launches scheduled for 1996. Low-cost, quick design-to-flight plans.

Earth Observing System,

\$455.1 million. Mission to Planet Earth environmental project. Series of satellites to document global climatic change

and observe environmental processes. Scheduled launches start 1998.

Explorer, \$120.4 million. Space science. Three missions and spacecraft development. Study of X-ray sources, solar corona, organic compounds in

interstellar clouds. Scheduled launches in 1995, 1997.

Galileo, \$127.7 million. Space science, planetary exploration. Funds to be expended to support operations of underway spacecraft.

Hypersonic Technology,

\$40 million. Aeronautics. Will build on National Aerospace Plane and earlier NASA work. Option for next-generation space-launch vehicle. Scramjet work. Partnership with USAF expected.

Mars Surveyor, \$78.4 million. Space science. Development of spacecraft for new Mars exploration strategy. Orbiter, small payload, communications orbiters, landers. Scheduled launch 1996.

Relativity, \$50 million. Space science. Major test of Einstein's general theory of relativity. Development of a

gravity probe and conduct of test aboard shuttle. Launch sought before 2000.

Space Station, \$1.9 billion. Space flight. International manned space facility. Capacity for six persons. Operation shortly after 2000. Development of flight hardware, docking

systems, integration activities.

Space Shuttle, \$3.3 billion. Space flight. Operations, upgrades to Space Transportation System fleet. Up to eight launches scheduled for Fiscal 1995. Enhancements to main engines, sensors.

Other Spacecraft, \$441.7 million. Space science. Operation and data analysis of Hubble Space Telescope, Extreme Ultraviolet Explorer, International Ultraviolet Explorer, Pioneers 10 and 11, Voyagers 1 and 2, Ulysses, many others.

NASA Space Spending on Major Missions

Fiscal 1995 Proposal, Current Dollars

Project Office	Request	Month/Year, Mission
Space flight	\$ 5,720,100,000	October 1994, STS-66
Space sciences	1,766,000,000	December 1994, STS-67
Mission to Planet Earth	1,238,000,000	January 1995, STS-63
Aeronautics	898,500,000	March 1995, STS-69
Space communications	750,100,000	June 1995, STS-71
Advanced concepts and technology	608,400,000	June 1995, STS-70
Life and microgravity sciences	470,900,000	July 1995, STS-72
Safety and mission assurance	38,700,000	September 1995, STS-73
Total	\$11,490,700,000	

Upcoming Shuttle Flights

Fiscal 1995 Proposal

Month/Year, Mission	Name
October 1994, STS-66	Atlantis
December 1994, STS-67	Columbia
January 1995, STS-63	Discovery
March 1995, STS-69	Endeavour
June 1995, STS-71	Atlantis
June 1995, STS-70	Discovery
July 1995, STS-72	Endeavour
September 1995, STS-73	Columbia

Proposals and Prospects

Launcher Concepts

■ Aeroballistic Rocket

Lockheed concept of a single-stage-to-orbit vehicle. Vertical launch, horizontal landing on wheels, like an airplane. Derived from NASA's lifting body database, resembles Dyna-Soar. Could put equivalent of Titan IV payload into low-Earth orbit. Could be manned, but intent is to operate without crew.

■ Delta Clipper

McDonnell Douglas DC-X (Delta Clipper-Experimental), a single-stage space vehicle. Does not depend on booster rockets. A one-third-scale model succeeded in hover tests in 1993. Can hover, move sideways in vertical position, land vertically. When landing, extends four legs similar to those on Apollo lunar landing craft. Full-size Delta Clipper would put 20,000-pound payloads into low-Earth orbit. After expiration of DoD funding, NASA transferred \$1 million into program to keep it alive.

■ National Aerospace Plane

X-30 vehicle, described by the Air Force in 1991 as service's "flagship science and technology project." Military requirement never cogently explained; program continues in R&D status only with low funding.

Small Launch Vehicles

Advanced Defense Department R&D experiments to prototype operational systems and to develop and launch small and medium-class R&D satellites. Current programs include Pegasus and Taurus small launch vehicles.

■ Solar Thermal Propulsion

Air Force development of technology base for unconventional rocket thrusters using intensely concentrated solar energy.

■ SpaceLifter

Proposed by Aldridge Commission in 1992 as modular family of low-cost launch vehicles. Emphasized systems to launch 20,000-pound payloads rather than massive, heavy-lift vehicles. Generally perceived as referring to expendable launchers. Attracted much attention but no real funding. In 1993, Edward C. Aldridge, Jr., who had chaired the 1992 panel, endorsed reusable rather than expendable launchers.

Satellite Concepts

■ ALARM

The new Alert, Locate, and Report Missiles system, designed to develop a next-generation space surveillance system to replace the Defense Support Program. Will provide first warning of

theater or global ballistic missile attack against US and its allies. Takes the place of now-defunct Follow-On Early Warning System (FEWS) scrapped last fall.

■ Laser Communications Crosslink

Program to conduct space demonstration of a laser crosslink, providing high-data-rate link for satellite-to-satellite and satellite-to-ground communication.

■ Miniaturized Satellite Threat

Reporting System

Technology development program designed to create small, lightweight, low-power spacecraft sensors. Used to detect a variety of hostile attacks from groundbased and spacebased weapons.

■ Multispectral Sensor Technology

New state-of-the-art sensors in the ultraviolet, visible, near-infrared, and infrared spectrum. Multimode, multiphenomenology surveillance technologies include advanced signal processing, sensor fusion, and automatic target recognition.

■ Satellite Modeling

Research into directed-energy weapons, kinetic-energy weapons, radio frequency satellite lethality and susceptibility, and space radiation environments. Research analyzes susceptibility of space satellites to directed-energy and other weapons.

The Golden Age of NASA

Name Project Mercury
Duration November 3, 1958–May 16, 1963
Cost \$392.1 million (cost figures are in current dollars)
Distinction First US manned spaceflight program
Highlight Astronauts are launched into space and returned safely to Earth
Number of flights Six
Key events **May 5, 1961** Lt. Cmdr. Alan B. Shepard, Jr., makes first US manned flight, a suborbital trip of fifteen minutes.
February 20, 1962 Lt. Col. John H. Glenn, Jr., becomes first American to orbit Earth.
May 15, 1963 Maj. L. Gordon Cooper, Jr., begins flight of twenty-two orbits in thirty-four hours.

Name Project Gemini
Duration January 15, 1962–November 15, 1966
Cost \$1.3 billion
Distinction First program to explore docking, long-duration flight, rendezvous, spacewalks, and guided reentry
Highlight Dockings and rendezvous techniques practiced in preparation for Project Apollo
Number of flights Ten
Key events **June 3–7, 1965** Flight in which Maj. Edward H. White II makes first spacewalk.
August 21–29, 1965 Cooper and Lt. Cmdr. Charles "Pete" Conrad, Jr., withstand weightlessness.
March 16, 1966 Neil A. Armstrong and Maj. David R. Scott execute the first space docking.
September 15, 1966 Conrad and Richard Francis Gordon, Jr., make first successful automatic, computer-steered reentry.

Name Project Apollo
Duration July 25, 1960–December 19, 1972
Cost \$24 billion
Distinction Space program that put humans on the moon.
Highlights Neil Armstrong steps onto lunar surface. Twelve astronauts spend 160 hours on the moon.
Number of flights Eleven
Key events **May 28, 1964** First Apollo command module is launched into orbit aboard a Saturn 1 rocket.
January 27, 1967 Lt. Col. Virgil I. "Gus" Grissom, Lt. Cmdr. Roger B. Chaffee, and White die in a command module fire in ground test.
October 11–22, 1968 First manned Apollo flight proves "moonworthiness" of spacecraft.
December 21–27, 1968 First manned flight to moon and first lunar orbit.
July 16–24, 1969 Apollo 11 takes Armstrong, Col. Edwin E. "Buzz" Aldrin, Jr., and Lt. Col. Michael Collins to the moon and back. Armstrong and Aldrin make the first and second moon walks.
December 7–19, 1972 Final Apollo lunar flight produces sixth manned moon landing.

Space Leaders

(As of July 1, 1994)

Directors, National Reconnaissance Office

Joseph V. Charyk Sept. 6, 1961–Mar. 1, 1963
 Brockway McMillan Mar. 1, 1963–Oct. 1, 1965
 Alexander H. Flax Oct. 1, 1965–Mar. 11, 1969
 John L. McLucas Mar. 17, 1969–Dec. 20, 1973
 James W. Plummer Dec. 21, 1973–June 28, 1976
 Thomas C. Reed Aug. 9, 1976–Apr. 7, 1977
 Hans Mark Aug. 3, 1977–Oct. 8, 1979
 Robert J. Hermann Oct. 8, 1979–Aug. 2, 1981
 Edward C. Aldridge, Jr. Aug. 3, 1981–Dec. 16, 1988
 Martin C. Faga Sept. 26, 1989–Mar. 5, 1993
 Jeffrey K. Harris May 19, 1994

Commanders, Air Force Space Command

Gen. James V. Hartinger Sept. 1, 1982–July 30, 1984
 Gen. Robert T. Herres July 30, 1984–Oct. 1, 1986
 Maj. Gen. Maurice C. Padden Oct. 1, 1986–Oct. 29, 1987
 Lt. Gen. Donald J. Kutyna Oct. 29, 1987–Mar. 29, 1990
 Lt. Gen. Thomas S. Moorman, Jr. ... Mar. 29, 1990–Mar. 23, 1992
 Gen. Donald J. Kutyna Mar. 23, 1992–July 1, 1992
 Gen. Charles A. Horner July 1, 1992

Reading About Space

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Cochran, Curtis E.; Dumoulin, John D.; and Gorman, Dennis M., eds. *Space Handbook*. Maxwell AFB, Ala.: Air University Press, 1985.
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The trick is to preserve a readiness base with one-half the installations and fewer supply hubs.

The New Way of Logistics in Europe

By James Kitfield

AS HE tracks fighter operations in Europe and the many crisscrossing logistics tails supporting them, Lt. Gen. John G. Lorber sometimes feels a stab of anxiety. It's not hard to understand why.

Take the operational situation in Italy, where an American fighter unit is essential to NATO's ability to inject credible airpower into Balkan airspace. At Aviano AB, Italy, one finds forward-deployed F-15E fighters. These depend heavily for resupply on a sister unit deployed to Incirlik AB, Turkey. That unit, in turn, depends on the main wing, based at RAF Lakenheath, UK.

"It's a house of cards," General Lorber warns. "If you pull out the wrong card, the whole thing collapses."

General Lorber, vice commander in chief of United States Air Forces in Europe (USAFE), was referring to the gigantic challenge of simultaneously conducting far-flung air combat operations and moving units around in an effort to consolidate. That's the state of affairs for USAFE these days.

Shifting from the massive, fight-in-place command of the Cold War

to a leaner, far more mobile operation has forced USAFE to radically reshape its basing and support infrastructure in Europe. Under current plans, USAFE will consolidate its forces on an estimated six main operating bases and fourteen smaller installations by the end of Fiscal 1996—quite a reduction from the 1990 level of sixteen main operating bases and thirty-seven other installations maintained by USAFE. The command will shrink from 8.8 fighter wing equivalents to just 2.33 and from 65,000 troops to 34,000.

The basing structure already has lost some key components: Torrejon AB, Spain; RAF Bentwaters and RAF Upper Heyford, UK; Hahn AB, Germany; and Soesterberg AB, the Netherlands. Each time another card is removed from that basing structure, General Lorber must carefully rebalance his continuing operations on a reduced support foundation.

For instance, the Air Force will soon return almost all of Rhein-Main AB, Germany, to the German government. In doing so, USAFE must somehow shift airlift operations to Ramstein AB, Germany, without disrupting flights to Sarajevo, Bosnia-

Bombs are on the move in USAFE these days as the command radically reshapes its basing and support infrastructure. USAFE will be left with an estimated six operating bases and faces the gigantic challenge of consolidating all its forces on them while continuing to conduct far-flung air combat operations.



USAF photo by TSgt. James Bowman

Hercegovina, as part of Operation Provide Promise, an airlift operation that has lasted longer than the Berlin Airlift of 1948. Meanwhile, fighter operations at Ramstein must go on unabated.

Strategic Hubs

"We're transitioning from a fight-in-place mentality to one that assumes we will have to rapidly deploy from a few strategic hubs and operate out of forward bases," says General Lorber. "That's a tremendous change, and it will require a completely different way of positioning and supporting our forces."

In reducing its basing footprint in Europe, USAFE plans to consolidate its fighting and support force at hubs located in northern, central, and southern Europe. To the north, RAF Lakenheath and RAF Mildenhall, UK, will serve that function. In the central region, operations will be focused at Ramstein and Spangdahlem ABs, Germany. To the south, USAFE hopes, it will be able to establish Aviano as a permanent operating base for USAFE fighters.

To fund needed infrastructure and housing construction at Aviano, the

command plans to redirect the roughly \$73 million in annual operating costs it will save by vacating Rhein-Main. "Since we pulled out of Spain in 1992, establishing a base of operations in the southern region has been our biggest challenge," says General Lorber. "We need an anchor in the south."

The ongoing consolidation of bases has also prompted planners to reconfigure their network of prepositioned supplies in Europe. At its Cold War peak, USAFE had scattered prepositioned supplies to more than seventy collocated operating bases to support the expected arrival of reinforcing squadrons from the United States. Today, the number of supply caches at collocated operating bases has dropped to nineteen.

After assessing the amount of war readiness materiel needed to support two major regional contingencies, as required by the Joint Strategic Capabilities Plan, USAFE logisticians began shipping ammunition and equipment back to the US. Force reductions had left the command with an excess inventory that included 1,592 vehicles; 4,757 pieces of aerospace ground equipment (AGE); 13,444 tanks, racks, adaptors, and pylons

(TRAP); and 32,000 short tons of ammunition.

Roughly twenty percent of the remaining inventory—including 3,667 vehicles, 1,043 pieces of AGE, 4,161 pieces of TRAP, and nearly 82,000 short tons of ammunition—will be spread among the six main operating bases in Europe to support scheduled exercises and small contingencies. The remaining eighty percent is being consolidated at a former POMCUS (Prepositioning of Materiel Configured to Unit Sets) site vacated by the Army in central Europe.

New Storage

By moving right in behind the Army, USAFE officers say, the Air Force has been able to negotiate favorable contracts and store its equipment and supplies in humidity-controlled warehouses operated by private contractors.

"Not only did we realize significant manpower savings by not having blue-suiters in charge of the equipment but, because it's in deep storage, we don't have to revisit it as often," says Maj. Gen. Richard N. Goddard, USAFE's director of Readiness and Support. The former POMCUS site,



F-15Cs of the 53d Fighter Squadron, Bitburg AB, Germany, prepare for takeoff at Aviano AB, Italy, on an Operation Deny Flight mission. USAFE's high operations tempo and numerous mobility missions strain its support infrastructure.

he notes, is also centrally located, adjacent to major air and rail transportation hubs for rapid dispersal.

To further facilitate rapid deployment, USAFE has also changed how its prepositioned supplies are stored. In the past, equipment was simply warehoused en masse and pulled out a la carte. Under a concept called STOWS (Standard Packages of War Reserve Materiel Support), USAFE has created a fixed menu of mobile supply packages.

Thirty-five STOWS packages have each been organized and designed to support a specific type of unit at a forward operating base. Once USAFE logisticians are alerted that a squadron is deploying to a bare base somewhere in the theater, from either the US or Europe, they simply enter the individual STOWS code for that type of unit into their computers. Immediately workers at the central storage site will begin shipping the correct STOWS package, ensuring that the necessary fire trucks, water-purification units, refueling vehicles, and mess and postal facilities are on hand to support the unit.

USAFE has also fervently embraced an Air Force initiative called "lean logistics." The idea is to shorten the logistics pipeline greatly, substituting rapid transportation and repair times for forward-deployed logistics personnel and maintenance equipment wherever possible.

The two-level maintenance sys-

tem is vital to this initiative. Under the traditional three-level system, parts and components that cannot be repaired at the flight line are transported to an intermediate maintenance shop, usually at the wing level. Major repairs that cannot be handled by an intermediate repair shop are repackaged and shipped back to a major depot in the US. Average return time for a piece of equipment to make its way through the three-level system is fifty-four days.

With two-level maintenance, most

of the intermediate-level maintenance shop is eliminated. Broken parts are removed at the flight line and shipped directly to a depot. Many are packaged in preformed containers with pre-addressed labels and sent express via commercial carriers. Supply personnel at the Defense Logistics Agency receive only paperwork that helps them keep track of items.

Shorter Turnarounds

Last October, the Air Force began implementing two-level maintenance for selected avionics and aircraft engines. The average return time for a part that worked its way through the system in the first quarter of Fiscal 1994 was eight days; in the second quarter, 8.2 days. The average repair cycle for parts shipped from USAFE has dropped from twelve days in the first quarter to just over ten in the second.

"In Europe, two-level maintenance reduces our mobility footprint and thus our airlift requirement because you don't have to move as many maintenance personnel and [as much] equipment when you deploy," says General Goddard. "It's also become clear that transportation is becoming increasingly critical to how we operate—and that includes commercial transportation."

According to estimates generated by Air Force Materiel Command, the new system will eventually reduce



Sgt. Tony Mizar, a crew chief with the 510th Fighter Squadron, Spangdahlem AB, Germany, checks his A-10 prior to a Deny Flight sortie out of Aviano AB. USAFE has created mobile supply packages to facilitate its deployments.

the number of intermediate maintenance personnel by eighty percent.

While "ugly cargo," such as aircraft engines, will still travel exclusively on military airlift, USAFE officials say that commercial carriers are increasingly taking up the slack with smaller items. Some fifteen percent of all reparable items in USAFE are transported via commercial carriers—a proportion likely to increase as the command negotiates contracts for additional routes.

"In many places, Federal Express, UPS, and others have direct delivery right to our bases, and the commercial carriers have been very forthcoming in developing new routes to support our day-to-day operations," says General Goddard, who believes that the Persian Gulf War was the critical event in convincing the Air Force that commercial carriers can be depended on even in an emergency. "I remember asking Federal Express officials at one point if they could definitely handle the volume that USAFE demanded. Their only reply was, 'Would that be anything like Christmas?'"

Given the length of its logistics pipeline and far-flung operations, USAFE has also reconfigured its intratheater lift-and-distribution system. Formerly, for instance, the Army acted as the primary distributor of supplies, and a lot of Air Force equipment entered the European theater through the Army's hub-and-spoke system. With so few main operating bases and a new emphasis on rapid turnaround, USAFE officials say, it is now more efficient to take direct delivery of most supplies.

"Then we handle intratheater delivery ourselves through a combination of commercial transport and our own inherent assets," says General Goddard. Such delivery can be by air, rail, or roadway. "For instance, we're using railways to support forces in Zagreb [capital of Croatia] right now."

The Reserve Dilemma

The pressure is on everyone, everywhere in USAFE. When Lt. Col. Rick Ash, commander of the 435th Airlift Wing's Delta Squadron, walks out on the vast tarmac apron at Rhein-



USAF photo by MSGt. H. Delfner

TSgt. Jeff Gougen, a C-130 loadmaster with the 37th Airlift Squadron, Rhein-Main AB, Germany, prepares riggings for an airdrop mission. USAFE had to call on Air Force Reserve and Air National Guard units to augment its airlift force.

Main, he's likely to see another sign of the stresses that USAFE's high operations tempo and mobility missions are placing on the command's support infrastructure.

He says that the demands of Operation Provide Promise have forced USAFE to augment its airlift with Air Force Reserve and Air National Guard forces, which typically do not deploy with enough logistics support to maintain themselves during continual operations. Thus a number of his C-130H aircraft sit idle, awaiting spare parts from the US.

"The reason the 435th Airlift Wing at Rhein-Main augmented itself with a full-time reserve squadron in the first place is that these new mission demands are straining the active Air Force's capabilities," says Colonel Ash, whose unit comprises reserve aircraft from various units in the US. Reserve officers in Delta Squadron serve ninety-day tours, with crews on loan from Stateside units for fifteen-day rotations.

Colonel Ash, who in civilian life is an American Airlines pilot, notes that his home unit in the Kentucky ANG still has a peacetime mission to perform despite having lent three aircraft to Provide Promise. "That commander is real reluctant to send

his [War Readiness Spares Kit] off to Europe because he needs those spare parts to keep planes flying at home," says Colonel Ash.

General Goddard maintains that the dilemma of the Guard and Reserve is merely one more growing pain in a period of profound transformation. He is talking with Air Combat Command planners about the possibility of establishing generic War Readiness Spares Kits not identified with a particular unit. These kits could be activated when reserve forces deploy for contingencies, such as Provide Promise. The problem, of course, is funding.

Then there's the challenge of keeping F-15E aircraft operating at both Aviano and Incirlik, despite an acute spare parts shortage and a logistics pipeline stretching all the way back to the UK. There are the unfamiliar demands of supporting what has become a *de facto* composite wing at Spangdahlem, with collocated A-10s, OA-10s, F-16s, F-15Cs, and F-15Ds. There's the confusion created by multiple logistics lines as USAFE helps support a multinational, multi-service force at Aviano.

"Not only are we adjusting ourselves to the requirements of mobility, but we also find ourselves in . . . open-ended situations that fall somewhere between war and peace," says General Goddard. "We still haven't fully thought through all the implications." ■

James Kitfield is the defense correspondent for Government Executive Magazine in Washington, D. C. His most recent article for AIR FORCE Magazine was "More Base Closures Coming Up" in the June 1994 issue.

Professional military education instructors
are AFA's 1994 Team of the Year.

Teaching Professionalism

FIVE years after joining the Air Force in 1980, **MSgt. Robin L. Garza** thought seriously about leaving. Her work had become a grind that seemed to serve little purpose. She felt starved for any kind of praise or recognition, and she found most of her superiors less than inspiring.

Then she was picked for NCO leadership school. Through her classes and instructors, her outlook suddenly was changed. Here, she thought, were people she could admire. They were not timeservers. They talked about making a difference in her life and in the lives of others.

She was hooked. "I saw my purpose," she recalls. "I saw why I was part of the Air Force. I left there feeling I was valuable."

She also left feeling that one day she would return to the professional military education field as an instructor. Today she is commandant of the PME Center, 4th Mission Support Squadron, 4th Support Group, 4th Wing, Seymour Johnson AFB, N. C., and good enough at her job to be selected by the Air Force and the Air Force Association as one of five members of AFA's 1994 Team of the Year.

Sergeant Garza shares the feelings of her four fellow honorees when she says she is only doing for students what her own instructors did for her. "That's what PME does. We help people see the good in themselves and show them what they are capable of doing," she says.

PME instructors are among the elite of the Air Force. They are mo-



MSgt. Robin L. Garza is consistently recognized in student critiques as caring and open-minded. Air Combat Command commended her for "mature judgment and eager dedication," describing her as "innovative and energetic."

tivators chosen for an ability to pass along military traditions while developing USAF leaders of the future. Selection for the AFA Team of the Year is thus icing on the cake of PME service, say the five winners.

A Love of Teaching

If a common thread runs through the experience of these five, it is a love of teaching. Though most now have administrative duties that make heavy demands on their time, they

return to the classroom as often as they can.

MSgt. Suzanne M. Smithey, commandant of the Airman Leadership School, 1100th Mission Support Squadron, 1100th Air Base Group, Bolling AFB, D. C., enjoys teaching so much that she has earned a master's degree in education and plans to pursue teaching as a career when she retires from the service.

"You do make a difference," she says. "When you see [students who have] been struggling with a particular part of the curriculum get it, all of a sudden the light goes on, their eyes brighten up. That's more rewarding to me than anything else."

Though many of her students spend the first few weeks of their PME experience worrying and complaining about the difficult curriculum, Sergeant Smithey says, by graduation day more than half of them say they do not want to go back to work, where they may face supervisors who do not conform to the very standards they have just been taught.

Not everyone benefits equally from PME. Reaching unmotivated students can be tough. Sergeant Smithey says that she turned around one loafer by asking him to tutor those who were having an even tougher time. He enhanced his own experience and helped fellow students in the bargain. "I think you make a small difference with everybody," she says.



MSgt. Suzanne M. Smithey's superiors say she "starts where all others peak." She has reorganized and upgraded many programs and facilities of the Airman Leadership School at Bolling AFB, D. C.

Resources for PME instruction are often tight, and many of the AFA selectees were cited by their superiors for their ability to squeeze more educational bang out of their bases' PME bucks.

At Bolling AFB, for instance, Sergeant Smithey has set up a Learning Resource Center available for student use twenty-four hours a day. It contains computers, software, videotapes, and an extensive library of books on leadership, management, and quality. By setting up the center

as an adjunct to the base library and making its books available to everyone at Bolling, the PME school was able to buy many more volumes than it could have afforded on its own.

Technical Expertise

Other members of AFA's Team of the Year saved PME money through technical innovations. **MSgt. Brian D. Vander Wilt**, an instructor at the Kisling NCO Academy at Kapaun Administrative Annex, Germany, was cited by his superiors for giving the school's education program the most significant upgrade in its history with his technology enhancements.

His main tool was the cutting edge of today's personal computer world: multimedia. His "Video Show" audiovisual system "is now the standard for all USAFE PME schools," his award nomination states.

Video Show is an integrated system that can tie together video decks, slide projectors, sound systems, and all manner of electronic equipment, says Sergeant Vander Wilt. Instructors need just one remote control for all their teaching aids, as opposed to the two or three they would need if they attempted to use more than one medium. "There's no delay in presentation," says the Sergeant Vander Wilt. "It's a nice program."

The Sergeant acquired many of his technical skills from his earlier work in aircraft maintenance. He was



MSgt. Brian D. Vander Wilt, "the epitome of a professional military educator" according to his award citation, devised an integrated multimedia instruction system that is now the standard throughout USAF PME schools.



TSgt. Hector R. Carrion has made PME training more efficient; **TSgt. Marvita D. Franklin** makes it more caring and thorough. Both draw on varied USAF experiences to help them communicate well with students.

an avionics navigation systems specialist at Fairchild AFB, Wash., and Kadena AB, Japan, before transferring to PME in 1992. Besides serving as an instructor, he is the unofficial computer hardware expert at Kising NCO Academy, the person others come to when their disk drives stop driving or their monitors go blank.

After growing up in Iowa, Sergeant Vander Wilt decided against joining the Marines when a recruiter used language that added greatly to his vocabulary of four-letter words—a difficult achievement, considering that Vander Wilt had five talkative older brothers. He signed up with the Air Force recruiter instead. Since he was only seventeen, the recruiter had to get Vander Wilt's mother's permission for her son to join the service. The trouble was, son did not tell mom what was going on until the recruiter showed up at her office.

"She came home from work that evening and said, 'Brian, do you have something to tell us?'" he remembers. "I said, 'Well, yeah, I joined the Air Force today.'"

His mother signed the paperwork.

Sergeant Vander Wilt had a clear vision, at least, of what he wanted to do. Not everyone who joins the Air Force does—and realizing this can make a PME instructor more sympathetic and effective.

TSgt. Hector R. Carrion, chief of educational programs for PACAF

headquarters at Hickam AFB, Hawaii, drifted somewhat after graduating from high school in Puerto Rico in 1978. Living in the New York city area, he went to school during the day and worked as a computer programmer and club disc jockey at night.

Sometimes after returning home in the early hours of the morning, he would turn on the TV and see reruns of "WKRP in Cincinnati." "I'd see Johnny Fever, and I just couldn't see myself doing that" in the future, he says.

So he signed up at a recruiting station that he passed on his way to work. Before shifting to PME in the late 1980s he held jobs in intelligence, transportation, and fuels. Sergeant Carrion says his varied work experience and background can help him relate to students: "I've been there."

Guidance and News

Among Sergeant Carrion's accomplishments most appreciated by PACAF leadership is his development of core curriculum guides now used in all the command's airman and NCO leadership schools. These guides lay out in a simple way what students will need to accomplish in order to graduate. They ease the back-

to-school transition for often-nervous students. "It sets them up for success," says Sergeant Carrion.

He also serves as the unofficial voice of PACAF PME, as publisher of a PACAF PME newsletter. He used his computer programmer background in setting up and laying out the newsletter on a personal computer. "Everyone wants to know who's moving, who's having a child. They all enjoy it," he says.

Genuinely enjoying dealing with people seems to be a PME success prerequisite. That does not mean instructors always have to be backslapping extroverts. It does mean they must enjoy the constant flow of new students to meet, teach, and learn from.

TSgt. Marvita D. Franklin, director of education for the Tyndall Airman Leadership School at Tyndall AFB, Fla., says the greatest lesson involved in her instructor experiences is not what she teaches her students but what they teach her.

"They have taught me compassion, if nothing else," she says.

The job of PME instructor largely involves ministering to the needs of other people, says Sergeant Franklin. As they communicate those needs to you, with all their strengths and weaknesses, "it has to be something inside you that makes you care enough about them to make you concerned about what happens to them."

This was a hard lesson for Sergeant Franklin to learn. Upon joining the Air Force, she was sent to RAF Upper Heyford, UK, for four years. She had a difficult time adjusting to the overseas environment.

As with almost all the other members of the Team of the Year, a stint at NCO leadership school turned her around and even helped her resolve some family difficulties. "That's what PME did for me," she says. "It helped me tap into the best part of me—that best part that up to then nobody had seen. So that's what I try to do for the students."

"Yes, I'll teach them what the Air Force directs me to teach them as far as the curriculum is concerned. But I also want to teach them to tap into what's the best in them." ■

This article was written by Peter Grier, a regular contributor to AIR FORCE Magazine. Another of his articles, "Reengineering the Industrial Base," appears on p. 36 of this issue.

Smooth as Ice

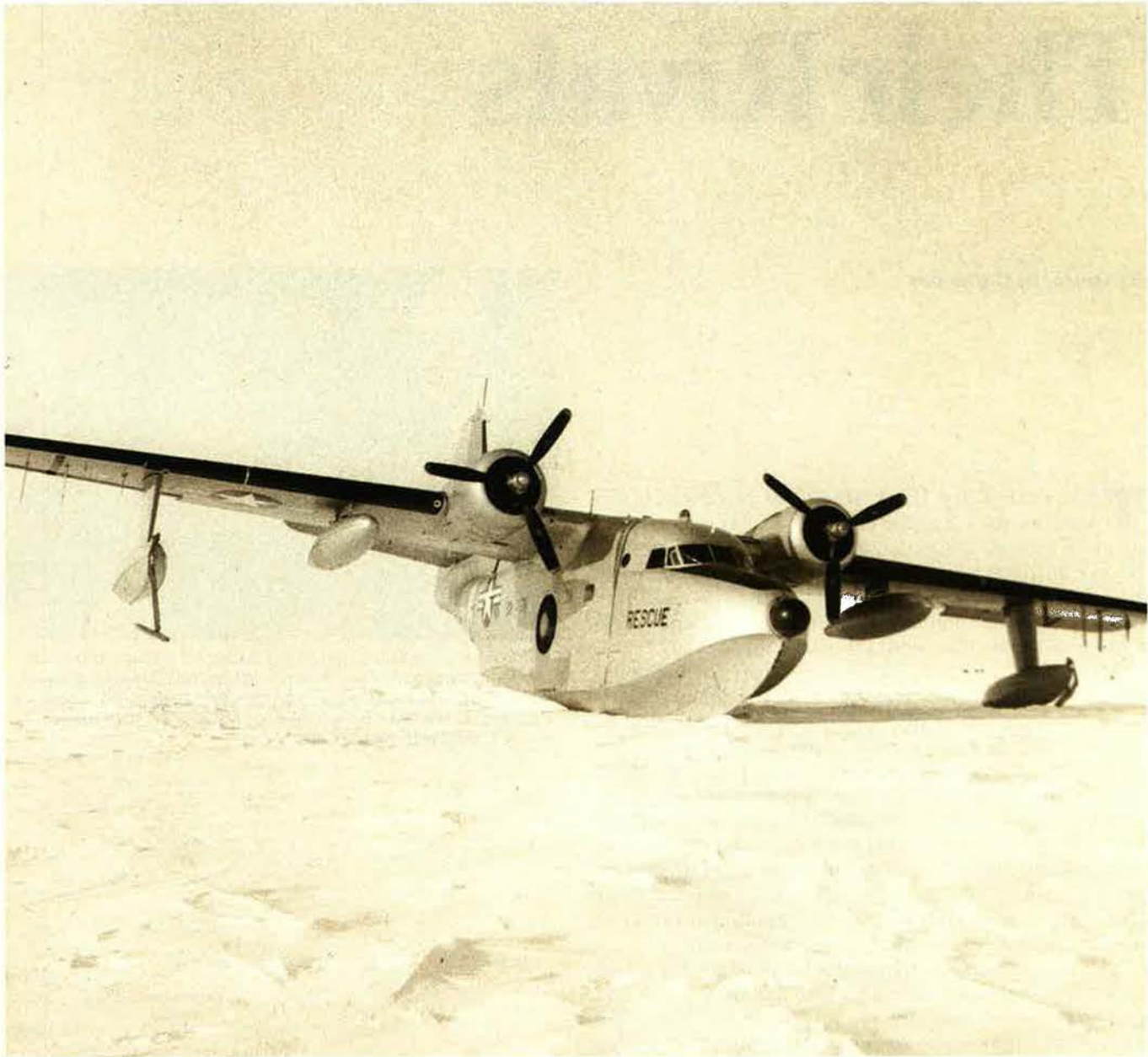


Photo courtesy C.V. Glines

The calendar said it was spring, but above the Arctic Circle the newly established USAF weather station on ice island T-3 was still icebound in April 1952. The pilot of this Grumman SA-16 from the 10th Air Rescue Squadron, Elmendorf AFB, Alaska, improvised a ski landing in order to deliver scientific equipment to the

floating research station. Such belly landings on snow and ice were not uncommon back then; one of the first to do it was Col. Bernt Balchen, who landed a PBV (OA-10) flying boat on a Greenland ice cap to rescue a group of downed airmen in World War II.

The Wright brothers employed some sharp practices to get their airplane business off the ground.

The Wrights and Their Rivals

By Bruce D. Callander

THE FAMED Kitty Hawk flights of December 1903 stamped the US as the unquestioned aviation leader of the world, a position it enjoyed for a brief period. Barely thirteen years later, when the US entered World War I in April 1917, it lacked any first-rate military aircraft and was forced to scrounge its warplanes from European allies. How could this have happened?

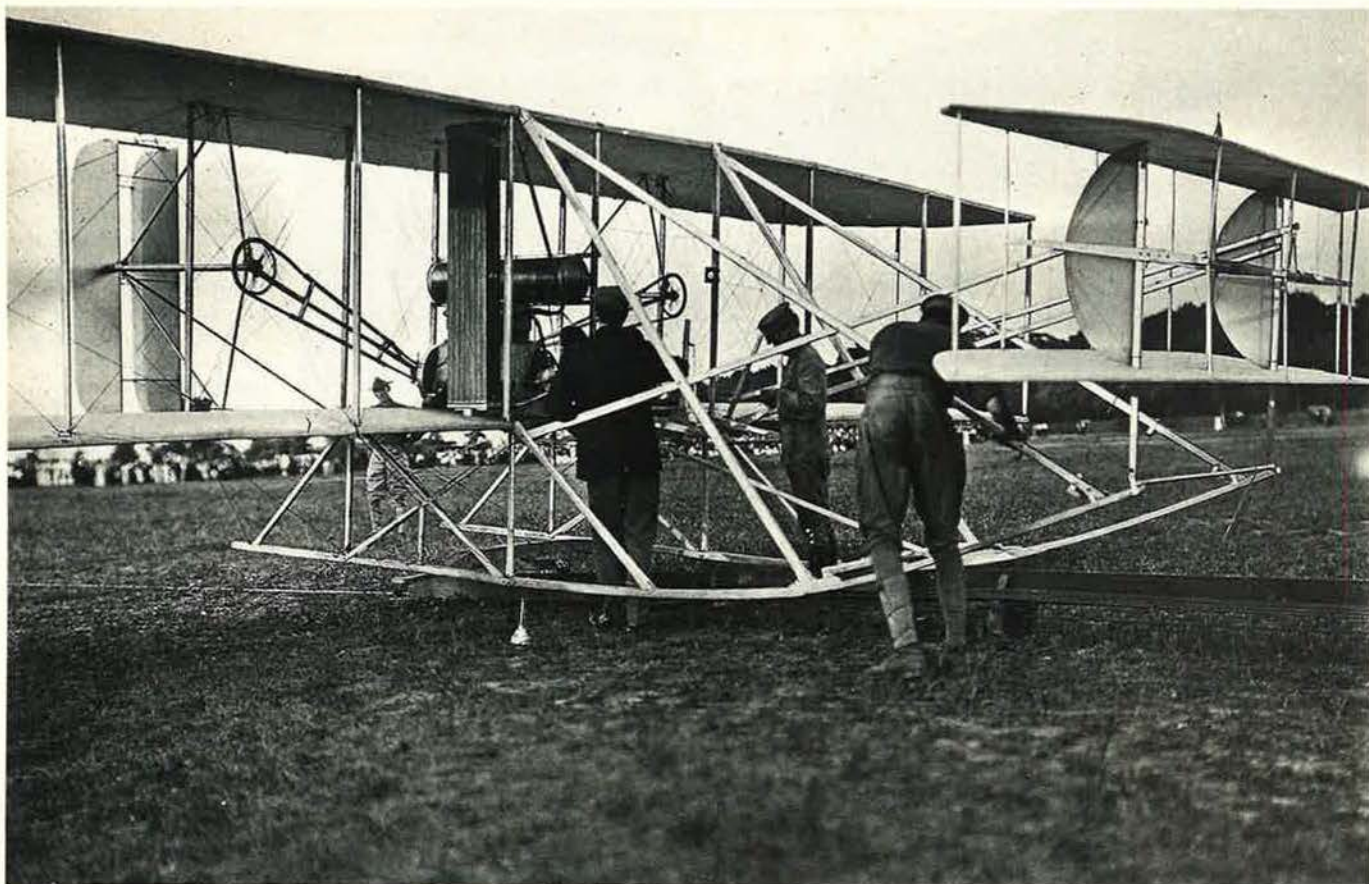
Many postwar critics blamed the Army for being too slow to recognize the potential of the airplane. Others faulted Congress for stinginess toward military airpower.

There was another factor. In the prewar years, the inventors who unlocked the secret of powered flight, Orville and Wilbur Wright, had waged a furious battle against their domestic commercial rivals, and they had perhaps been too successful for the overall good of the nation. Their lawsuits, threats, and stratagems had stifled innovation and investment in American aviation, even as their vigorous sales pitches overseas stimulated a surge of activity in France, England, Italy, and Germany.

The Wright brothers frequently are portrayed as gifted amateurs—bold experimenters who had little interest in commerce. That was not entirely the case. They had enough business sense to run a job-printing shop, and their bicycle trade generated enough money to support their flying experiments. When they hit on the means of controlling their machine in flight, they quickly realized its sales potential and moved to capitalize on it. Fully nine months before making the first sustained powered flight, the Wrights applied for their first US aircraft patent. Over the next year, they filed applications in France and Germany. Later they took out patents in Belgium, Austria, Italy, and Britain.



Wilbur (left) and Orville Wright brought the same persistence necessary to achieve flight to the safeguarding of their business interests. The US Army (opposite, soldiers examine a Wright aircraft at Fort Myer, Va.) was one of many prospective customers.



The First Foreign Overture

In October 1904, nearly a year after the Kitty Hawk flights, a British officer came to Dayton, inquiring whether the Wrights would be interested in making a sale. The brothers replied that they were not ready to take that step. A few months later, they asked their congressman to see if the US was interested in purchasing aircraft. The congressman suggested they describe their work in a letter, which he promised to forward to Secretary of War William Howard Taft. Before doing that, however, the Wrights wrote to the British officer, asking if his government was still serious about buying a flying machine.

The Wrights' letter to the US Army finally arrived in the congressman's office. He had taken ill, and a staffer bypassed the War Secretary and sent it directly to the Army's Board of Ordnance and Fortification. The board, accustomed to being approached by crackpots peddling flying contraptions, gave the Wrights a stock answer: The Army could not fund flying experiments but would talk further when their machine "reached the stage of practical operation."

The board's reaction was understandable. A few years earlier, the Army had poured \$50,000 into the ill-fated work of one of the country's most respected scientists, Samuel Pierpont Langley. When Langley's "aerodrome" plopped into the Potomac River without ever flying, the Army was castigated by Congress and the press for wasting money.

After the Army's rejection, the Wrights wrote the British War Office that they were ready to sell a flying machine for scouting purposes, the price to be contingent on performance. That deal fell through in the fall of

1905, and the brothers wrote directly to Secretary Taft, offering the US Army the same terms as those they had offered to Britain. This time, they added a warning: "We do not wish to take the invention abroad unless we find it necessary to do so."

The same day, however, the brothers wrote to a French officer who earlier had inquired about the possibility of making a purchase. They reported on that year's progress and said they were ready to sell a machine on contract.

When it took up the Wrights' new offer, the Army board said it would be willing to look at drawings of their invention and asked them to name a price. With their US patent still pending, the Wrights refused to send drawings and said they couldn't fix a price until the Army set some conditions for measuring the machine's performance. Did the government intend to monopolize the business, they asked, or would it let them exhibit and make sales abroad?

The board tabled the matter. The Wrights moved quickly to close a deal with France, signing a tentative agreement to sell a flying machine for one million francs (about \$200,000). France made a deposit and sent a delegation to Dayton. The negotiations foundered when France demanded exclusive rights for one year and the Wrights countered with a demand that the US government be exempted from such terms. With both sides at an impasse, the brothers then wrote letters to the German, Italian, Japanese, and Russian ministers of war, offering to sell them airplanes.

Years later, Orville claimed they had never intended to provide a new weapon to a foreign government. They had not foreseen a fighter role for the airplane and had not



Some of the Wrights' competitors were tenacious rivals. Glenn Curtiss (left, at the controls) persisted in his aircraft-building efforts despite several court battles with the brothers. He even went so far as to resurrect Samuel Langley's failed "aerodrome" (below) in an effort to disprove the validity of the Wrights' patents.

thought it practical for bombing, he said, but they had hoped their machine would be such an effective observation tool that it would rob all armies of the element of surprise and thus make war impossible.

Searching for Buyers

In the early 1900s, however, no government seemed interested in it for any purpose.

Throughout 1904 and 1905, the Wrights had regularly flown aircraft from a small pasture near Dayton, sometimes going aloft for more than half an hour. Then, abruptly, they announced an end to their public flying. Although their patent had been approved, they now feared that further exposure might jeopardize their chances for sales.

During a two-and-a-half-year sabbatical, the brothers went to Europe in search of buyers. When they had little success on their own, they signed with an agent, Flint and Company, which began to set up companies in Britain, France, and Germany. At one point, the brothers even approached the Barnum & Bailey Circus about exhibiting a machine in London. Nothing came of the idea.

While negotiations in Europe dragged on, the US Army got some high-level prodding to get on with the business of aviation. In early 1907, a New York congressman became interested in the Wrights and contacted Theodore Roosevelt. The President nudged Secretary Taft, who bucked the matter to the Board of Ordnance and Fortification with a note of endorsement. This time the board asked the Wrights to submit a definite proposal.

The brothers asked for \$100,000 to supply an airplane and train an operator, but they insisted on having a contract in hand before showing their machine. When the board balked at the asking price, Wilbur went to Washington to negotiate. He lowered the bid to \$25,000 and made a deal. By then, some European customers also seemed to be coming around. It was time to stop talking and start flying again.



While Orville was demonstrating one machine to the US Army, Wilbur was demonstrating another in France and Italy. In 1909, Orville finished the Army trials and began flying in Germany. Both brothers also trained foreign operators. Wilbur had three students in France and two in Italy, and Orville trained two Germans. Some of the men were military officers. Others were to be pilots and instructors for the overseas Wright companies.

The Wrights' German firm now had patent rights and a sales monopoly in Germany, Turkey, Denmark, Sweden, and Norway. The Wrights received a cash payment, company stock, and royalties on every machine sold. There was a similar arrangement in France. The British company did not build machines but licensed others, including the Short brothers, to build them.

The Wrights' overseas flights did more than stimulate commercial trade. Among those who flocked to their exhibitions were European experimenters who had been struggling to perfect their own machines. The spectacular performance of the Americans was the shot in the arm they needed to press on.

All-Out War

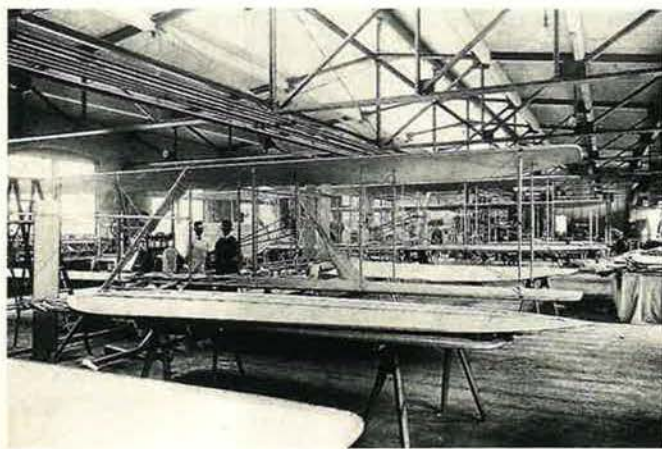
Over the next few years, the Wrights sold the US Army a dozen more machines, supplied some to private American buyers, and built a few abroad. They made few changes in their basic pusher-type biplane or its wing-warping controls, fearing that any alterations could compromise their patent claims. By then they were in an all-out war with domestic competitors.

The most serious threat was posed by Glenn H. Curtiss. He used his *June Bug* aircraft to win the *Scientific American* Trophy in 1908. He then sold another machine to the Aeronautic Society of New York and built a third to fly in an air meet in France. That was too much for the Wrights. On the eve of the French meet, they filed suit enjoining Curtiss from building, selling, or exhibiting his machines. The case would drag on for five years. Though Curtiss continued to build airplanes and train students, the Wrights' action discouraged investors from supporting other companies.

The Wrights, through their US company, also went after pilots who flew "illegal" machines. When Louis Paulhan brought four French machines to America, the brothers sought and won a court injunction against him, and he had to return home. When English pilot Claude Grahame-White earned \$100,000 giving US exhibitions, the Wright Co. sued him for half that amount. It received far less, but the message was clear: When in the US, use Wright airplanes or pay a penalty.

Lincoln Beachey, who flew Curtiss machines and other non-Wright types, was the first to apply for a Wright manufacturing license. It cost him \$1,000 per year and \$25 for each day of paid flying. This became the standard fee for any pilot who used competitive machines. The Wrights' company also struck a deal with the Aero Club of America, under which the club would sanction only those air meets approved by the Wrights. The fee for such sanction was a percentage of the prize money or of the gross receipts.

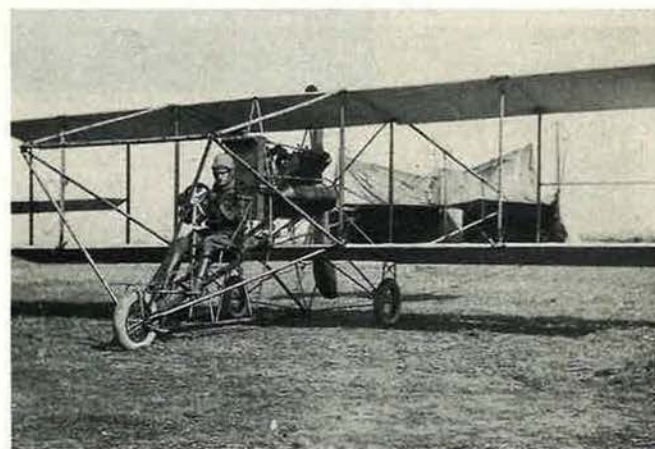
The Wrights took legal action abroad as well. The French Wright Co. sued Henri Farman, Louis Blériot, and other aviation pioneers. The English Wright firm even sued the British government and managed to collect some damages. At issue in most cases was the Wrights'



If the Wrights had had their way, all airplanes would have been built in their factory (above) or under licenses secured from them. Their litigious ways inhibited competition in the US; they were equally willing to sue in foreign courts.

control system. Early on, before they built either kites or gliders, they had hit on the idea of twisting the wingtips in opposite directions to maintain balance and assist in turning. [See "The Critical Twist," *September 1989*, p. 150.] Other builders, including Curtiss, used an even older idea: attaching small hinged surfaces (ailerons) to their wings. The Wrights insisted that their patents covered any means of distorting the wings for control, and most courts agreed.

Back in the United States, the patent wars continued. By 1914, Wilbur Wright was dead, and most of the patent suits had been settled, but Orville kept up a running battle with Curtiss, trying to collect back royalties. Some other builders paid license fees to avoid similar actions, but not many could afford the cost. At one point, the Aero Club of America tried to raise \$1 million to buy the patents. Later the US government tried to buy them. Neither scheme succeeded, and Wright interests continued to call the shots.



By mounting ailerons (small, hinged control surfaces) between the wings of his aircraft, Glenn Curtiss hoped to circumvent the Wrights' patents. Most US courts upheld the Wrights' claims, however.

Aviation Flourishes in Europe

In Europe the situation was different. The Wrights' 1903 breakthrough stunned European designers only briefly. In France, Capt. Ferdinand Ferber refitted his gliders with Wright-type controls, added some improvements of his own, and flew. Others followed much the same course and quickly caught up. In 1909, while Orville was demonstrating his machine to the US Army, Blériot flew his little monoplane across the English Channel. When the first big aviation meet opened at Reims, France, that year, most of the twenty-three machines competing were French. The three Wright flyers entered in the race barely made a showing, and the only American to win any big prize money was Curtiss.

Aviation bloomed in Britain, Germany, Italy, and Russia. Spurred by air meets and races, the Europeans were quick to improve their engines and enclose their cockpits to gain more speed and endurance. While America's Wright and Curtiss planes still looked like skeletons, French Deperdussin monoplanes took on the bullet shape that would not appear in America until the 1930s. Europe also served as the first real proving ground

The 11th Day Bombardment Squadron (right) was the only US unit to reach France with American-built aircraft—de Havilland DH-4s—during World War I. All of the US aces of that conflict, including Capt. Eddie Rickenbacker (below), flew French-built or British-built aircraft.



for military aircraft. In 1911, when Italy attacked Libya, the Italians used Blériots and Farman for reconnaissance and then “bombed” Turkish troops with hand grenades from a Taube. In 1912, when war broke out in the Balkans, Bulgarian flyers dropped real bombs on the Turkish-held city of Adrianople (now Edirne, Turkey).

With the advent of World War I, all the major European combatants rushed to improve and expand their aviation arms. The US Army’s inventory still consisted largely of Wright and Curtiss models. When the Army grounded pusher-type aircraft in 1914 as unsafe, most Wright flyers were scrapped. New builders such as the Standard Aero Corp. and the Glenn Martin Co. moved into the military market with tractor-type propulsion, but overall designs changed only slightly.

Curtiss converted to safer tractors and branched out to

supply the Navy as well. He hired a British designer to create a new J model along European lines. Later he combined it with his standard N design to produce the JN, which would become the Army’s standard wartime trainer and the beloved “Jenny” of postwar barnstormers.

When America entered the war in 1917, the Wrights’ grip on the aviation business ended. Under government pressure, aircraft manufacturers worked out a cross-licensing agreement, sharing each other’s patents for the good of the war effort. The arrangement came too late for America to develop any significant warplanes in time for actual use in combat. The Wright Co. turned to building engines. Curtiss tried to develop observation and bomber versions of the “Jenny” but wound up concentrating on trainers. A pursuit plane developed by the Standard Co. was outclassed by European models.

During the war, the US bought some 1,000 Nieuports, 650 Sopwiths, 1,100 Spads, and a relatively small number of Caproni bombers. American auto and engine manufacturers retooled to produce some of these planes in the US but never built more than a handful. The only combat planes turned out in quantity here were British de Havilland DH-4s. More than 4,800 were built as “Liberty Planes,” and another 7,500 were on order when the war ended. The early models were poorly made and tended to catch fire or nose over on landing. The plane was redesigned, but none of the new models reached France in time to see combat.

When the armistice came in November 1918, Orville Wright reported that “the Aeroplane has made war so terrible that I do not believe any country will again care to start a war.” Like his earlier prediction that the airplane would make war virtually impossible, this too proved wrong. ■

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, becoming editor in 1972. His most recent article for AIR FORCE Magazine, “Ugly Chickens Come Home to Roost,” appeared in the June 1994 issue.

By John L. Frisbee, Contributing Editor

The "Stadium" at Duc Lap

Outnumbered ARVN troops were surrounded by enemy regulars within 100 feet of their inner defenses. Their salvation lay in precise resupply airdrops.

AFTER the failure of Hanoi's Tet offensive in early 1968, the North began building up forces for another widespread attack throughout South Vietnam. One of Gen. Vo Nguyen Giap's targets was Duc Lap, a Special Forces camp in hilly, forested territory near the Cambodian border. More than 4,000 North Vietnamese regulars were committed against Duc Lap's defenders. By August 23, the enemy had breached the camp's outer perimeter, cutting the ARVN troops off from the rough airstrip that had been used to supply them.

In the center of the camp was an open area about 200 feet square where supplies would have to be air-dropped. Hitting that small drop zone called for a low-altitude run-in at 200 feet. Making an airdrop at Duc Lap was roughly comparable to flying into a stadium with the surrounding stands occupied by unfriendly spectators, all armed with AK-47s. This was a job for the Air Force's rugged, maneuverable C-7 Caribou.

The C-7 was a light, two-engine short takeoff and landing transport built by de Havilland Aircraft of Canada; it was sold to the US Army in 1962 and turned over to the Air Force in January 1967.

The Air Force formed six C-7 squadrons in southeast Asia. They were unique in several respects, not the least in their level and variety of manning. About half the pilots were recent flying school graduates on their first cockpit assignments. Most of the others were older men, some with World War II or Korean War experience. In the spring of 1968, more than fifty C-7 pilots were lieutenant colonels, two were World War II fighter aces, and six had Ph.D.s. With

all that varied talent and experience, these were well-run units.

One of the C-7 pilots who came directly from an operational outfit was Maj. Hunter Hackney. Having earned his wings in 1955, he had accumulated several thousand hours of flight time as a T-33 instructor and as an aircraft commander and instructor in KC-97s and KC-135s. He had refueled fighters over the Gulf of Tonkin and Laos, but he wanted an assignment closer to the shooting. Major Hackney requested a Vietnam tour and ended up in January 1968 flying C-7s with the 458th Tactical Airlift Squadron based at Cam Ranh Bay. Flying four to six sorties a day, he soon logged several hundred hours in the Caribou.

At Duc Lap on August 24, ARVN troops and their American advisors were running out of medical supplies, ammunition, and water. To get them through the night, Hackney's roommate, Maj. George Finck, volunteered to fly the first-ever C-7 operational night drop, guided by tracer fire and one white light that identified the tiny drop zone. He was awarded the Air Force Cross for that mission.

At noon on August 25, Special



Maj. Hunter Hackney (right) and Maj. George Finck both received the Air Force Cross for heroism at Duc Lap.

Forces officers reported that Duc Lap's survival was doubtful without prompt help. Major Hackney and his crew immediately took off from Cam Ranh Bay, stopped to load cargo at Nha Trang, and were forced to land at Ban Me Thout until the fighting at Duc Lap subsided enough for the friendlies to retrieve dropped supplies. A few hours later, Major Hackney took off again and orbited east of the camp until air strikes lifted. He then took up a run-in heading and descended to 200 feet above ground.

Heavy ground fire began two miles from his release point. The C-7 took several hundred hits but completed an accurate drop on the first pass. Major Hackney then made another run from a different direction, again flying through a hail of ground fire to make another drop "on the money." Incredibly, none of the three-man crew had been hit, and the C-7 operated normally as they returned to Ban Me Thout. After landing, they discovered that all cells of their "self-sealing" tanks were leaking.

Major Hackney and his crew picked up an undamaged C-7, loaded four pallets of ammunition and water, and flew back to Duc Lap. Taking fire from all sides, they dropped the pallets in the center of the small drop zone. Miraculously, they emerged again with an uninjured crew and made it back to Cam Ranh Bay, their C-7 riddled with bullets. Duc Lap survived the siege, which was lifted several days later.

For tenacious heroism in penetrating the "stadium" at Duc Lap three times, contributing so notably to the survival of the camp, Maj. Hunter Hackney was awarded the Air Force Cross and the RVN Gallantry Cross with Silver Star.

In December 1968, Hackney returned to KC-135s and, shortly, to southeast Asia. He retired as a colonel in 1981 after serving in several senior posts, including deputy director for Command and Control, 8th Air Force. He now lives in Bossier City, La., as does his onetime roommate and fellow Air Force Cross recipient, retired Lt. Col. George Finck. ■



AFA Nominees for 1994-95

AT A meeting May 28 in Colorado Springs, Colo., the Air Force Association Nominating Committee selected a slate of candidates for the four national officer positions and the six elective positions on the Board of Directors. This slate will be presented to the delegates at the National Convention in Washington, D. C., on September 12.

The Nominating Committee consists of the five previous National Presidents and one representative from each of the twelve US regions.

Nominated for his first term as National President was **R. E. "Gene" Smith** of West Point, Miss. Mr. Smith is a retired lieutenant colonel (1956-78). Active in many business and civic organizations, he has served as president of the Starkville, Miss., Chamber of Commerce, Mississippi Airport Managers Association, Southeastern Airport, and the Greater Golden Triangle Economic Development Council Managers Association. He is a Rotarian.

Mr. Smith was born in Marks, Miss. He graduated from Tunica County High School in 1952. He earned a degree in chemical engineering in 1956 at Mississippi State University. He joined the Air Force in September 1956, serving in Air Defense Command and Tactical Air Command and flying a variety of fighter aircraft. On October 25, 1967, while flying his thirty-third combat mission over North Vietnam, he was shot down in Hanoi and captured. He was repatriated on March 14, 1973. He completed his Air Force career in August 1978 as director of Operations for Air Training Command's 14th Flying Training

By Toni Kuzma

Wing. Mr. Smith received two Silver Stars, two Distinguished Flying Crosses, a Legion of Merit, two Air Medals, two Purple Hearts, the Vietnam Cross of Gallantry, a Meritorious Service Medal, and other military decorations.

Mr. Smith joined AFA in 1974 and is serving as chairman of the Long-Range Planning Committee. He is a past chairman of the Veterans/Retirees Council; past president of Mississippi State AFA; and past president of the Golden Triangle Chapter. His national AFA awards include two Medals of Merit, an Exceptional Service Award, a Special Citation, two State Storz Awards, and a Chapter Storz Award. Mr. Smith is a Life Member of AFA.

James M. McCoy of Omaha, Neb., was nominated for his first term as Chairman of the Board. Mr. McCoy, a retired Chief Master Sergeant of the Air Force (1951-81), joined Mutual of Omaha as vice president and director of military sales. He left Mutual of Omaha in 1991. Active in many business and civic organizations, he has served as a member of the Subcommittee on Military Matters, American Council of Life In-



R. E. "Gene" Smith

urance; Corporate Contributions Coordinating Council, Omaha Chamber of Commerce; Board of Directors, Omaha Zoological Society; Airman Memorial Foundation; Met Life Military Advisory Board; and many national, regional, and local boards of the Boy Scouts of America, including the National Eagle Scouts Scholarship Selection Committee.

Mr. McCoy was born in Creston, Iowa. He graduated from Maur Hill High School, Atchison, Kan., in 1948. He attended St. Ambrose College in Davenport, Iowa, then enlisted in the Air Force in January 1951, serving as a basic training instructor, non-commissioned officer professional



James M. McCoy

military education (PME) instructor, and sergeant major at Strategic Air Command's 2d Air Force NCO Academy. He graduated from that academy and the first class of the USAF Senior NCO Academy. In addition to serving in personnel, training, and operations posts, Mr. McCoy was Strategic Air Command's first Senior Enlisted Advisor and the sixth Chief Master Sergeant of the Air Force. He earned a B.S. degree in business administration from Centenary College of Louisiana in 1966.

Mr. McCoy joined AFA in 1974 and has served on the Resolutions, Executive, and Membership Committees; as president, executive vice president, and membership chairman of the Ak-Sar-Ben Chapter; as chairman of AFA's Long-Range Planning Committee and Ad Hoc, Active-Duty Voting Privileges Committee; and as a member of the Aerospace Education Foundation (AEF) Board of Trustees. Mr. McCoy has served as National President, National Vice President (Midwest Region), and chairman of AFA's Membership Committee and is a permanent member of AFA's National Board of Directors. He was recognized as one of AFA's twelve Outstanding Airmen of the Year in 1974. He has received AFA's Presidential and Special Citations and the Storz membership award. He is a Life Member of AFA and a Charter Life Member of AEF.

Mary Anne Thompson of Oakton, Va., was nominated for her first elected term as National Secretary.

Born in Montclair, N. J., Ms. Thompson graduated from Montclair High School. She holds a B.S. degree from Pennsylvania State University in commercial consumer services, an M.Ed. in elementary education

from the University of Nebraska, and an education specialist post-master's degree in educational administration and supervision from Troy State University, Ala.

For the last ten years, she has been a master facilitator for total quality management programs. She is Systems Engineering and Technical Assistance task lead for the FAA Voice Switching and Control System logistics maintenance and training elements. She represents TRW on the Industry Steering Group of the Computer-Aided Acquisition and



Mary Anne Thompson

Logistics System (CALs) program. She chaired the International CALs Expo in 1992 and currently chairs the Software Products Technical Committee and is a member of the 1994 CALs Expo Planning Committee.

Ms. Thompson joined AFA in 1981. However, her activity with AFA began in 1957 when she was the first national administrative services officer of Angel Flight. She wrote the original national standard operating procedure for Angel Flight and designed the Angel Flight pin still used today. Following graduation from Penn State, she served on the Angel Flight National Advisory Board and was founder of and advisor to the University of Nebraska Angel Flight in 1963.

Active in aerospace education since 1960, Ms. Thompson developed and managed the nation's first university-level Aerospace Education Instructional Materials Center at the University of Nebraska. She has written several aerospace education publications for Civil Air Patrol and the National Air and Space Museum and continues to serve on the Staff Com-

mittee for the National Congress on Aviation and Space Education.

Currently Ms. Thompson is an AFA National Vice President (Central East Region). She has served as AFA Virginia state president; Virginia state vice president for Programs and North Area; Virginia state secretary; and Donald W. Steele, Sr., Chapter president, vice president, and secretary. Her national committee assignments have included AFA National Board of Directors, Executive Committee, Resolutions Committee, and Membership Committee. She has received numerous AFA chapter, state, region, and national awards, including the AFA Presidential Award.

William N. Webb of Midwest City, Okla., was nominated for his eighth elected term as National Treasurer.

Born in western Oklahoma, Mr. Webb completed primary and secondary school at Burns Flat, Okla. He attended Southwestern State Teachers College, Weatherford, Okla., in 1945. He moved to Midwest City, Okla., in August 1950 and obtained employment at the Oklahoma City Air Materiel Command (now Oklahoma City Air Logistics Center) at



William N. Webb

Tinker AFB. He started at Tinker as a warehouseman and completed his career in April 1981 as chief of the Management Organization for Distribution. His responsibilities included accounting, manpower, funding, data systems, and engineering.

Mr. Webb joined AFA in 1960. He has held the office of National Vice President (Southwest Region), has served on the Finance Committee for fifteen years, and has been chairman of the Building Acquisitions



R. Donald Anderson

Committee. Currently he is chairman of the National Finance Committee, a member of the Executive Committee, an AEF Trustee, and a member of the Central Oklahoma (Gerrity) Chapter and the Oklahoma AFA Executive Committee. He has received AFA's Special Award, has twice received AFA's Exceptional Service Award, and was honored with the first Storz Award for membership. He is a Life Member of AFA.

The following individuals are permanent members of the AFA Board of Directors under the provisions of



Robert J. Cantu

Article IX of AFA's National Constitution: John R. Alison, Joseph E. Assaf, David L. Blankenship, John G. Brosky, Dan F. Callahan, Robert L. Carr, George H. Chabbott, Charles E. Church, Jr., Earl D. Clark, Jr., M. Lee Cordell, R. L. Devoucoux, Jon R. Donnelly, Russell E. Dougherty, George M. Douglas, E. F. Faust, Joe Foss, Barry Goldwater, Jack B. Gross, George D. Hardy, Alexander E. Harris, Martin H. Harris, Gerald V. Hasler, H. B. Henderson, John P. Henebry, Robert S. Johnson, David C. Jones, Arthur F. Kelly, Victor R. Kregel, Jan M. Laitos, Frank M. Lugo, Nathan H. Mazer, William V. McBride, James M. McCoy, Edward J. Monaghan, J. B. Montgomery, J. Gilbert Nettleton, Jr., Ellis Notting-

ham, Jack C. Price, William C. Rapp, Julian B. Rosenthal, Peter J. Schenk, Joe L. Shosid, William W. Spruance, Thos. F. Stack, Edward A. Stearn, James M. Stewart, Harold C. Stuart, James M. Trail, A. A. West, and Sherman W. Wilkins.

The six people whose photographs appear on this page are nominees for the six elected Directorships for the coming year. Asterisks indicate incumbent National Directors.

R. Donald Anderson, Virginia. Retired Air Force Interceptor Controller. Former National Director,



Gen. Michael J. Dugan, USAF (Ret.)

National Vice President (Central East Region); Virginia state president and Langley Chapter president; Membership Committee. Life Member of both AFA and AEF.

Robert J. Cantu, Texas. Chief, Strategic Plans, Air Force Recruiting Service. Former Alamo Chapter vice president, treasurer, executive vice president, president; Civilian Personnel Council; Long-Range Planning Committee. Currently National Vice President (Southwest Region); Executive Committee; Resolutions Committee. Life Member of both AFA and AEF.

***Gen. Michael J. Dugan**, USAF (Ret.), New York. President and CEO



Capt. Gilbert E. Petrina, Jr.



Nuel Sanders

of the National Multiple Sclerosis Society. Former trustee of the Air Force Historical Foundation, Air University Foundation, and Falcon Foundation; member of the Council on Foreign Relations, National Space Club, and Business Executives for National Security. Currently AFA National Director. Life Member of both AFA and AEF.

***Capt. Gilbert E. Petrina, Jr.**, New York. Air Force B-52 pilot. Former Olmstead (Pa.) Chapter secretary. Currently Under-40 AFA National Director and member of Junior Officer Advisory Council. AFA Life Member.

Nuel Sanders, Utah. President, NES Corp. Former Utah state vice



Brig. Gen. Walter G. Vartan, USAF (Ret.)

president, state president; former National Vice President (Rocky Mountain Region). AFA Life Member.

Walter G. "Gibby" Vartan, Illinois. Retired Air Force brigadier general. Former Chicagoland-O'Hare Chapter vice president, president; Illinois state vice president; National Director; National Vice President (Great Lakes Region); Chairman, National Vice Presidents; and chairman, Membership Committee. Currently director, Chicagoland-O'Hare Chapter. Life Member of AFA and Charter Life Member of AEF. ■

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"High Risk" Bomber Force

"This Bottom-Up Review ultimately determined that the United States should retain the capability to deal with two 'nearly simultaneous' MRCs [major regional conflicts]. . . .

"The thrust of testimony from DoD witnesses is inconsistent with the published results of the Bottom-Up Review, as well as with the Air Force's 1992 'Bomber Roadmap' and recent detailed analyses carried out by major defense contractors, such as Boeing and Rockwell, by 'think tanks,' such as the RAND Corporation, and by respected independent analysts.

"DoD has not revealed its own detailed analyses supporting its decisions to sharply reduce the bomber force structure. Nor has it attempted to refute any of the studies noted above, all of which call for substantially larger bomber forces. . . . Results of several of the independent studies show that a heavy bomber force reduced to the size and composition that DoD proposes to fund would be inadequate to prevent major losses in the opening phases of a two-MRC scenario and would run high risk of failure even in single-MRC scenarios."

Senate Armed Services Committee, June 10, 1994, final report on the Defense Department authorization for Fiscal 1995.

No Trade

"I certainly would never consider trading off the F-22 for more B-2s." **Sheila E. Widnall, Air Force Secretary, as quoted in a June 27, 1994, Aerospace Daily interview during which she said unplanned buys of B-2 bombers would force major force-structure changes elsewhere.**

The Fear That Wouldn't Die

"The Administration has decimated the missile defense budget. . . . When it comes to killing [US] missile defenses, an Administration given to drift and vacillation has found an uncharacteristic sense of purpose. The extraordinary thing about the oppo-

sition to an American strategic defense is its resilience. The now-obsolete . . . concern that development of an American missile defense would deepen a US-Soviet arms race has managed to survive the end of the Cold War and the dissolution of the Soviet Union with no loss of fervor."

Richard N. Perle, in a June 17, 1994, statement. Perle was an assistant secretary of Defense during the Reagan Administration.

And That Was in 1990

"The KGB has received information from reliable sources saying that [North Korea] has been actively continuing its research and design work aimed at creating nuclear weapons. According to available data, the development of the first nuclear explosive device had been completed at the nuclear research center in the town of Yongbyon."

Vladimir Kryuchkov, former KGB chief, in Document 363-K, a top-secret February 22, 1990, intelligence memo to senior Kremlin leaders, as reported in Izvestia, June 24, 1994.

NATO Abuse

"Isn't it absurd . . . that the world's best military alliance has to be subjected to the judgment of a civilian bureaucrat from Japan who happens to be a civil servant of the UN? . . . This is a wholly absurd arrangement, and it turns people off. It turns me off."

Rep. Tom Lantos (D-Calif.), chairman of the House International Security, International Organizations, and Human Rights Subcommittee, on May 17, 1994, commenting on the authority of Yasushi Akashi, a UN functionary in Bosnia-Herzegovina, to direct NATO forces.

Why C-17's the One

"All parties agree that there is an urgent military requirement for a military airlifter that delivers outsize cargo with significant throughput to austere fields. . . . That view has been confirmed by every militarily

competent review of this problem. . . . The reason the C-17 requirement has been confirmed is that a combination of commercial wide-body jets and C-130s cannot do the job. Why? Because of . . . the need to deliver outsize cargo and the need to have high throughput on austere fields."

John M. Deutch, deputy secretary of Defense, in May 17, 1994, testimony to the House Armed Services Committee.

Life at Sea, 1994

"Please don't worry [about] what you might inadvertently grasp. I'd rather be groped than end up in sick bay."

Lt. Cmdr. Jan Hamby, an officer on the carrier USS Eisenhower, as quoted in the June 27, 1994, Washington Post. The commander addressed a male lieutenant who, worried that he might commit a sexual offense, had stopped himself from catching her as she tripped on one of the ship's ladders.

Yes, It Does

"It seems strange to me that I'm welcoming you here to this building today."

Gen. Pavel S. Grachev, Russian Minister of Defense, in a May 25, 1994, greeting to Defense Secretary William J. Perry upon the latter's arrival at NATO headquarters in Brussels. Grachev was representing Russia at a NATO conference.

Voodoo Foreign Policy

"I had some reservations about whether I was willing to say this on television, but I guess I'll say it. My recommendation for what to do about Korea is to invade Haiti. We'll win in Haiti. The Koreans might think that we're tough, and Bill Clinton needs to look tough."

Nina Totenberg, television reporter and pundit, in a June 12, 1994, broadcast of "Inside Washington," a weekly television show originating in Washington, D. C. ■



National Report

AFA Fights Disparity in Retiree COLAs

AFA has been emphasizing COLA (cost of living adjustment) equity as a major issue of interest when meeting on Capitol Hill with members of Congress and their staffs. AFA National President Jim McCoy, Chairman of the Board O.R. Crawford, and Executive Director Monroe Hatch have discussed AFA members' concerns over the current situation during numerous congressional visits.

AFA has adamantly opposed administration proposals to freeze or reduce only federal retirees' COLAs. AFA believes that any changes to COLAs should be across the board and not exclusively targeted at federal retirees.

The situation for military retirees is even worse, since their COLAs have been delayed for a longer period than federal civilian retirees. For instance, under current law, in Fiscal Years 1995 and 1996, military retirees will be subject to 9-month delays, while federal civilian retirees receive 3-month delays. In both FY 1997 and 1998, military retirees will be hit with another 9-month delay. In all, under current plans, military retirees will suffer 39 months of delay in receiving their COLAs from FY 1994 to FY 1998; federal civilian retirees will be hit with 9 months of delay during the same period.

AFA believes that any changes to COLAs should be across the board and not exclusively targeted.

The spiraling reduction in buying power that COLA freezes and caps generate causes undue hardship on retirees who depend on these annual adjustments to maintain a quality of life they were promised as federal employees.

Many members of Congress are not aware of this disparity. Through distribution of materials and personal visits, AFA is bringing attention to the COLA issue and actively supporting efforts to eliminate the disparity.

Roles and Missions Update

AFA continues to take an active role in the debate over roles and missions. Earlier this year, the Commission on Roles and Missions of the Armed Forces, which was established by the National Defense Authorization Act of 1994, began work to identify changes that can be made to improve military effectiveness and eliminate unnecessary duplication among the services. AFA was invited to provide its views and written materials to the Commission and will do so.

The AFA Advisory Group on Military Roles & Missions also released its latest report in July. That report covers space issues and follows the report on "Long-Range Airpower" released last summer.



How Are We Doing?

"Many of us in the Senate understand that a powerful American military and potent aerospace forces are key to our security and peace in many areas of the world. The AFA's work is important to our efforts to stem the erosion of our military capabilities."

—Sen. Phil Gramm (R-TX)
Senate Appropriations
Defense Subcommittee

AFA/AEF Report



By Daniel M. Sheehan, Assistant Managing Editor

Open for Business

In 1986, in an effort to make breakthrough technologies available to industry, Congress passed the Technology Transfer Act, mandating government laboratories to move government-developed technology into the civilian economy. The Air Force Institute of Technology (AFIT), Wright-Patterson AFB, Ohio, has been at the forefront of this measure to make US goods more competitive on the world market. Technology transfer cannot occur if decision-makers in industry are unaware of the resources available to them.

To increase this awareness, the **Chicagoland-O'Hare (Ill.) Chapter** invited AFIT Commandant Col. Joseph Koz to address chapter members and industry representatives and let them know how Air University's powerhouse of engineering research can help them. He said that AFIT is now being run "like a business" and has surplus capacity available to industry. After telling the audience of the impressive array of resources at his command, Colonel Koz related AFIT's eagerness for joint ventures. "All we need now are partners from the corporate sector and academia to tap in and help market the ideas and exploit the technology," he said.

Chicagoland-O'Hare Chapter President John Hoff hosted the meeting at Northrop's Chicago facility. National Director Richard Becker and Illinois Vice President Anton Brees were among the distinguished guests in the audience.

Chapter News

The **Carl Vinson Memorial (Ga.) Chapter** hosted another successful Young Astronauts Day at the Robins AFB Museum of Aviation, welcoming nearly 300 students with an interest in the US space program. Chapter Director Vicki Hunnicutt worked closely with area schools' Young Astronauts Program directors to plan, organize, and ensure the success of the annual event.

Capt. Roland Fenton, a C-141 test pilot, and Capt. Charles Brink, an engineer, spoke to the students, dis-

ussing in-flight emergencies and avionics in Operation Desert Storm, respectively. Warner Robins Air Logistics Center Commander Maj. Gen. William P. Hallin closed the event by urging students to study hard to keep pace with today's rapidly changing technology.

Concentrating on scholarships for young people, the **Anchorage (Alaska) Chapter** staged a successful

R. Birchard Award for valor, Sgt. Richard Cox of Elmendorf AFB garnered the Norman C. Miller Award for heroism, and MSgt. Jim Pollreis and his family, also from Elmendorf, earned an AFA award for their outstanding contributions as a family. The 90th Fighter Squadron from Elmendorf won the Robert C. Reeve Award for its contributions to aerospace progress.



AFA National President James M. McCoy (right) meets with Rep. Peter Hoagland (D-Neb.) to discuss taxation issues affecting the active-duty force. Representative Hoagland, whose district includes Offutt AFB, sits on the powerful House Ways and Means Committee.

awards banquet last May. Cadet 1st Lt. Rhia Webster won the \$500 Mike Jenne AFJROTC Scholarship, Donna Lumpkin took home the \$1,000 Robert C. Reeve Memorial Scholarship, and Christopher Morgan earned the \$1,000 Michael Monaghan Memorial Scholarship. AFA Director of Volunteer and Regional Activities Dave Noerr served as guest speaker and assisted Chapter President Gary Hoff with the presentations.

The active-duty military was also recognized. Maj. Richard Barnett of Eielson AFB won the Lt. Gen. Glen

Former and current chapter officers got together for the **Longs Peak (Colo.) Chapter's** celebration of its twenty-first anniversary. Space Warfare Center Commander Brig. Gen. David L. Vesely was the guest speaker, outlining the center's role in the new directions of Air Force Space Command.

Founding Chapter President Jerry Purcell recalled the challenges of the chapter's early years and noted with satisfaction its current vitality. President Jim Strickland remarked on the chapter's strong heritage and bright

future, citing seventeen new Community Partners and its avid participation in the "Visions of Exploration" program—a joint venture of *USA Today* and AFA to promote grade school education. Mr. Strickland has also fostered closer ties with the AFROTC detachment at Colorado State University.

Anniversary celebrations were also the order of the day in Florida, where the **John W. DeMilley, Jr., Chapter** marked its twenty-fifth anniversary. The chapter combined the celebration with an informative meeting on the many changes affecting the area since the conversion of Homestead AFB to an Air Reserve Base. Mike Reardon, site director for the Air Force Base Conversion Agency, explained the Air Force's plans for the base, and Sandra O'Neil, vice president of an architectural and engineering firm, provided an in-depth review of Dade County's plans for the two-thirds of the base not retained by the Air Force Reserve and Air National Guard. She outlined various options for the land, including commercial aviation and education and training proposals. State Sen. Daryl Jones and Patrick AFB Exchange General Manager Bill Heye also spoke.

Chapter President Mike Richardson thanked the speakers and presented plaques to four new Community Partners—compelling evidence that, despite Homestead's closing as an active-duty base, this nearby chapter is thriving.



NASA Mission Specialist Marsha Ivins, who has logged more than thirty days in space on three shuttle missions, accepts a Paul Revere bowl from Paul Revere (Mass.) Chapter Young Astronauts Program Director Lyle Niswander after a recent speech to area schoolchildren and chapter members at Hanscom AFB.

The **Thomas Watson, Sr., Memorial (N. Y.) Chapter** and its president, Ray Ward, have been working hard to ensure that the men who participated in the fierce fighting in Holland during World War II are not forgotten. Mr. Ward traveled from Waverly, N. Y., to the Netherlands to take part in commemorative ceremonies with officials of the Dutch government and heroes of the Dutch resistance. He presented a Department

of Defense plaque and an American flag that had flown over the US Capitol to P. J. J. Klaassen, director of the National War Museum in Overloon. Mr. Ward also participated in a wreath-laying ceremony and met with famed Dutch resistance leader Maj. William A. H. C. Boellaard.

The **Fort Wayne (Ind.) Chapter** found an innovative way to earn money for its aerospace education program: It raffled off a vividly colored quilt and two pillows with patriotic themes at a recent statewide meeting. Chapter President Ted Huff and Vice President Gene Foster conferred with State Treasurer Al Feeback and National Vice President (Great Lakes Region) Harold Henneke during the meeting.

John C. Stennis (Miss.) Chapter President Quentin Smith was on hand at AFROTC Awards Day ceremonies for Det. 432 at the University of Southern Mississippi. Mr. Smith presented an AFA Award to cadet Shelby Townsend of Hattiesburg.

William Webb, president of the **Bud West (Fla.) Chapter**, presided at the annual dining-out of AFJROTC cadets from Amos P. Godby High School in Tallahassee. Cadet Lt. Col. Dewayne Hurst accepted an Outstanding Cadet Award from Mr. Webb.

Have AFA/AEF News?

Contributions to "AFA/AEF Report" should be sent to Dave Noerr, AFA National Headquarters, 1501 Lee Highway, Arlington, VA 22209-1198. ■



Major General Edward R. Fry (Kan.) Chapter President Ronald E. Crow (left) and Harry S. Truman (Mo.) Chapter President James M. Snyder (right) present a memento to Air War College Commandant Maj. Gen. Peter D. Robinson to thank him for his speech about recent changes in USAF education.



Altus (Okla.) Chapter President Bob Bartlett (left) presented AFA's annual Leadership Awards to (from left) MSgt. Anthony Picinich, SSgt. David Jones, and Johnette Howard during Armed Forces Day ceremonies. Brig. Gen. (Maj. Gen. selectee) Edward Grillo (right), 97th AMW commander, served as guest speaker.

Coming Events

August 5-6, **New Mexico State Convention**, Albuquerque, N. M.; August 6, **Montana State Convention**, Three Forks, Mont.; August 6, **North Dakota State Convention**, Grand Forks, N. D.; August 12-13, **Arkansas State Convention**, Hot Springs, Ark.; August 12-13, **Colorado State Convention**, Denver, Colo.; August 12-13, **Michigan State Convention**, Alpena, Mich.; August 12-14, **California State Convention**, Vandenberg AFB, Calif.; August 18-21, **Washington State Convention**, Seattle, Wash.; August 19-21, **Kansas State Convention**, Wichita, Kan.; August 20, **Indiana State Convention**, Indianapolis, Ind.; September 12-14, **AFA National Convention and Aerospace Technology Exhibition**, Washington, D. C.

Unit Reunions

Airlift/Tanker Ass'n

The Airlift/Tanker Association will hold a reunion October 26-30, 1994, at the Red Lion Hotel Seattle Airport, Wash. **Contact:** Col. Thomas P. Williams, USAF (Ret.), 315 Eissman Rd., #24, Leesville, LA 71446-9313. Phone: (501) 758-6885.

Buckingham/Page AAF/446th Bomb Group

World War II veterans and civilian personnel assigned to Buckingham AAF, Fla. (flexible gunnery and copilot school), and Page Field, Fla. (fighter pilot transition), and members of the 446th Bomb Group will hold a reunion October 28-30, 1994, at the Sheraton Harbor Place Hotel in Fort Myers, Fla. **Contact:** Richard Beattie, 2300 Peck St., P. O. Drawer 2217, Fort Myers, FL 33902. Phone: (813) 332-5955.

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.

SHAEF/ETOUSA Veterans Ass'n

Veterans of the Supreme Headquarters, Allied Expeditionary Force (SHAEF), and European Theater of Operations, US Army (ETOUSA), will hold their tenth annual reunion October 7-10, 1994, at the Holiday Inn on the Bay in San Diego, Calif. **Contact:** Alan F. Reeves, 2301 Broadway, San Francisco, CA 94115. Phone: (415) 921-8322.

12th Tactical Fighter Wing

CORRECTION: The phone number for the September 9-11, 1994, 12th Tactical Fighter Wing reunion contact was incorrectly reported in the June 1994 issue. **Contact:** Gregory T. Scott, 643 McKinstry Ave., Chicopee, MA 01020-1122. Phone: (413) 532-1519.

17th Weather Squadron

The 17th Weather Squadron (World War II) will hold a reunion in conjunction with the Air Weather Association October 26-30, 1994, in Tucson, Ariz. **Contact:** James F. Van Dyne, 725 N. Hawkins Ave., Akron, OH 44313. Phone: (216) 867-3754.

20th Air Force

Veterans of 20th Air Force (World War II, Guam) will hold a reunion September 8-11, 1994, in Nashville, Tenn. **Contact:** Olan Thomas, 81 E. Cleveland Ave., Newark, DE 19711-2212. Phone: (302) 731-5247.

21st Air Depot Group

Veterans of the 21st Air Depot Group will hold a reunion September 3, 1994, in Van Wert, Ohio. **Contact:** Russell H. Moore, 3641 Weston Pl., Columbus, OH 43214-3624. Phone: (614) 268-3146.

Class 44-I

Members of Pilot Class 44-I (Eastern Flying Training Command) will hold a reunion October 13-15, 1994, in Montgomery, Ala. **Contact:** Joe King, 210 Snow Lane, Lexington, SC 29073. Phone: (803) 356-2368.

Class 51-06N

Observer and Navigator Class 51-06N (Ellington AFB, Tex.) will hold a reunion October 28-30, 1994, in New Orleans, La. **Contact:** Maj. Joseph L. Lodrige, USAF (Ret.), P. O. Box 62, Gorum, LA 71434-0062. Phone: (318) 379-2620.

51st Fighter Group Ass'n

Veterans of the 51st Fighter Group, which included the 16th, 25th, 26th, and 449th Fighter Squadrons, will hold a reunion September 21-23, 1994, in Dayton, Ohio. **Contacts:** Robert G. Haines, 1720 13th Ave., Belle Fourche, SD 57717. Phone: (605) 892-4623 or (614) 545-9630 (John W. Mackey).

58th Bomb Wing Ass'n

Veterans of the 58th Bomb Wing (World War II) assigned to the 40th, 444th, 462d, and 468th Bomb Groups; 25th, 78th, and 86th Air Service Groups; and 11th, 12th, 13th, and 14th Photoreconnaissance Squadrons will hold a reunion August 22-28, 1994, at the Hilton-Airport Hotel in New Orleans, La. **Contacts:** Max P. Zander, 2709 Joseph St., New Orleans, LA 70115. Phone: (504) 866-4158. Tom Young, 10201 Watterson Trail, Louisville, KY 40299. Phone: (502) 267-6504.

79th Airdrome Squadron

Veterans of the 79th Airdrome Squadron, 5th Air Force, will hold a reunion October 4-10, 1994, at the Best Western Le Baron Hotel in Colorado Springs, Colo. **Contact:** Fred H. Hitchcock, 29 Blueberry Hill Lane, Sudbury, MA 01776. Phone: (508) 443-6679.

96th Bomb Group Ass'n

Veterans of the 96th Bomb Group, 8th Air Force (World War II), will hold a reunion October 4-9, 1994, in San Diego, Calif. **Contact:** Thomas L. Thomas, 1607 E. Willow Ave., Wheaton, IL 60187. Phone: (708) 668-0215.

196th Squadron/163d Group

Members of the 196th Air Refueling Squadron and 163d Air Refueling Group and their predecessor organizations (1946 to present) will hold a reunion September 23-25, 1994, at March AFB, Calif. **Contact:** CMSgt. James D. Rodgers, USAF

Unit Reunions

(Ret.), 4710 Mt. Vernon Ave., Chino, CA 91710-3318. Phone: (909) 628-5631.

308th Airdrome Squadron

Veterans of the 308th Airdrome Squadron, 5th Air Force (World War II), will hold a reunion October 12-16, 1994, in Colorado Springs, Colo. **Contact:** Herb Sterling, 2625 Techny Rd., #508, Northbrook, IL 60062. Phone: (708) 272-6121.

320th Bomb Group

Veterans of the 320th Bomb Group (World War II) will hold a reunion September 29-October 1, 1994, in St. Louis, Mo. **Contact:** Stu Rowan, 108 Aspen, Hereford, TX 79045. Phone: (806) 364-4015.

466th Bomb Group Ass'n

Veterans of the 466th Bomb Group will hold a reunion in conjunction with the 8th Air Force Historical Society October 4-9, 1994, at the Town and Country Resort in San Diego, Calif. **Contact:** Louis Loevsky, 16 Hamilton Dr. E., North Caldwell, NJ 07006. Phone: (201) 226-4624.

491st Bomb Group

Veterans of the 491st Bomb Group, 2d Air Division, 8th Air Force, will hold a reunion October 10-12, 1994, at the Menger Hotel in San Antonio, Tex. **Contacts:** Norman P. Johns, 6321 Able St., Fridley, MN 55432. Lt. Col. Edwin C. Watson,

USAF (Ret.), P. O. Box 966, Etowah, NC 28729. Phone: (704) 891-2620.

530th/9th Aviation Squadron

Veterans of the 530th/9th Aviation Squadron will hold a reunion October 20-23, 1994, in Titusville, Fla. **Contact:** Lt. Col. Elmer L. Vinson, USAF (Ret.), 2460 Royal Oak Dr., Titusville, FL 32780. Phone: (407) 269-0571.

555th Fighter Squadron

The 555th Fighter Squadron ("Triple Nickel") will celebrate twenty years of flying the F-15 Eagle with a reunion November 11-14, 1994, at Luke AFB, Ariz. **Contact:** Capt. Larry A. Cross, USAF, 7255 N. Fighter Country Ave., Luke AFB, AZ 85309-1231. Phone: (602) 856-7250 or fax: (602) 856-3056.

4145th Army Air Field Base Unit

Veterans of the 4145th Army Air Field Base Unit will hold a reunion November 3-5, 1994, in Tucson, Ariz. **Contact:** Russell Roberg, 2086 Raymond Ave., Salina, KS 67401-6716. Phone: (913) 825-5221.

32d Photorecon Squadron

Veterans of the 32d Photoreconnaissance Squadron (World War II), 15th Air Force, are planning to

hold a reunion September 1994. **Contact:** Al Ostergaard, 1003 Tulip Lane, Ellisville, MO 63021.

Class 55-C

I am trying to locate members of Pilot Class 55-C for a fortieth-anniversary reunion. **Contact:** Col. Edward A. Travis, USAF (Ret.), 5835 Cardinal Way, Greensboro, NC 27410. Phone: (910) 665-1285 (home) or (910) 273-9465 (work).

61st Maintenance Squadron

Seeking contact with Berlin Airlift veterans (1948-51) for planning a reunion with the 61st Maintenance Squadron. **Contact:** Tom Tallant, 1207 Johnson Dr., Fort Worth, TX 76126. Phone: (817) 249-2411.

576th Strategic Missile Squadron

Seeking contact with former members of the 576th Strategic Missile Squadron who served between 1958 and 1967 at Vandenberg AFB, Calif. A reunion is planned for September 1994 to celebrate the thirty-fifth anniversary of the first launch of an Atlas missile from Vandenberg AFB. Also seeking former members of the 4300th Support Squadron who served between 1964 and 1966 who were assigned to the Atlas launch crew. Please send a self-addressed, stamped envelope for information. **Contact:** SMSgt. Eric G. Lemmon, USAF (Ret.), 4416 Titan Ave., Lompoc, CA 93436-1027. ■

Bulletin Board

For a unit history, seeking information about the American presence at **Volkel AB**, the Netherlands, including unit designations, commanders' names and dates of command, and arrival date of the first Americans. **Contact:** Lt. Col. John Williamson, USAF, 602 MUNSS, PSC 75 Box 3081, APO AE 09719.

Seeking names, addresses, and phone numbers of companies selling **posters** of aircraft cockpits. **Contact:** L. J. Cassanova, 18701 Roxbury Rd., 2C17, Hagerstown, MD 21746.

Seeking contact with **Sgt. Danial Willson** of the 68th Bomb Squadron, 44th Bomb Group, 14th Combat Wing, based at Shipdham, England, in 1944. **Contact:** M. Matthews, 15 The Moorings, Hindhead, Surrey GU26 6SD, UK.

Seeking the whereabouts of **Sgts. William S. Bronson, Frank T. Gaeta, Arthur C. Lehmann, Jr., and Franklin D. Walling**, who were stationed with the 3917th Air Base Group, RAF Station East Kirkby, England. **Contact:** MSgt. G. J. McNally, USAF (Ret.), 123 School Rd., Bethel, PA 19507.

For presentation of military medals, seeking family members of **2d Lt. Archie Moran** of Chicago, Ill.; **Flight Officer William Kavner** of Brooklyn, N. Y.; **Cpl. George Brada** of Cleveland, Ohio; **Cpl. Richard L. Davis** of Oakland, Calif.; **Pfc. Paul J. Berumin** of Tucson, Ariz.; and **Pfc. Jack L. McCullough** of Coolidge, Ariz., who were killed in a B-17 collision on August 5, 1944, in Laurel, Neb. **Contact:** Donald E. Persinger, 1725 Second Ave., South Sioux City, NE 68776.

Seeking former members of the **4000th Support Group, 4000th Satellite Operations Group, 1000th Satellite Operations Group, or 6th Space Operations Squadron**, Offutt AFB, Neb.,

to form a booster club auxiliary and create a unit historical journal. **Contact:** Capt. Richard A. De-Vaux II, USAF, 106 Peacekeeper Dr., Suite 2N3, Offutt AFB, NE 68113-4027.

Seeking contact with **Escom "Jimmy" Murray**, who was in the 467th Service Squadron at Honington, England, 1943-45. He was originally from Hazard, Ky., and lived in New York state before entering the service. **Contact:** Lt. Col. Charles Norcutt, USAF (Ret.), 934 E. Elmwood Ave., Burbank, CA 91501.

For a building dedication ceremony, seeking information from former 93d Bomb Group members on **Lt. Col. Addison Baker**, who took part in the Ploesti, Romania, raid August 1, 1943. **Contacts:** Brig. Gen. Gordon M. Campbell or TSgt. Nancy Butcher, 121st Air Refueling Wing Historical Office, 7556 S. Perimeter Rd., Rickenbacker ANGB, Ohio 43217-5910.

Seeking information on **Maurice M. Pace**, a navigator with Luis Coppola's crew, 379th Group, 8th Air Force, in early 1945. Last known address was Nashville, Tenn. **Contact:** Luis Coppola, 18552 MacArthur Blvd., Suite 205, Irvine, CA 92715.

Seeking contact with relatives of **SSgt. John R. Tinker**, originally from Groton, Conn., who was killed in action May 8, 1944, while a tailgunner with the 452d Bomb Group. **Contact:** John Chopelas, 508 S. Gray St., Killeen, TX 76541.

Historian for 301st Bomb Group Veterans Association seeks contact with **William J. Emerson**, who was a B-17 pilot with the 301st BG. **Contact:** Erwin H. Eckert, 13607 Topper Cir., San Antonio, TX 78233-4031.

Researcher seeks contact with members of the **11th, 61st, and 65th Materiel Squadrons; 8th,**

22d, 27th, 36th, 38th, 45th, 46th, and 51st Air Base (Service) Groups; 81st Air Depot Group; and 370th Service Squadron who served in Australia and New Guinea in 1942. **Contact:** Col. John E. Olson, USA (Ret.), 1 Towers Park Lane #510D, San Antonio, TX 78209-6412.

Seeking contact with **Maj. Wayne E. Griffith**, USAF (Ret.), a former editor of Aerospace Defense Command's *Interceptor* magazine. **Contact:** Elmer Ross, P. O. Box 807, Everett, WA 98206.

Collector seeks flight manuals on **B-52G, B-57B, KC-135A, and F-111F** aircraft. **Contact:** Harold W. Arnold, Jr., 300 E. Paducah St., South Fulton, TN 38257.

Seeking contact with **Ralph Smith**, who was stationed at Dow AFB, Me., in 1955. He was a staff sergeant and a military policeman and was later sent to Guam. **Contact:** Laura A. Bouzan, 96 Harlow St., Suite 4, Bangor, ME 04401.

Seeking contact with anyone who took basic training at **Sampson AFB, N. Y.**, to receive a newsletter, contribute information to its museum, or take part in reunions. **Contact:** Walt Steesy, P. O. Box 299, Interlaken, NY 14847.

Seeking the whereabouts of **Kenneth L. Brown**, who was with the 312th Bomb Group (World War II). **Contact:** Bob Sands, 7809 Watson Ln., Wichita, KS 67207.

Seeking contact with members of the **372d Bomb Squadron, 7th Air Force (World War II)**. **Contact:** Raymond C. Turley, 4898 Camargo Levee Rd., Mt. Sterling, KY 40353.

Seeking contact with members of the **558th Service Group, 8th Air Force (World War II)**.

Contact: Andrew J. Gruttadauro, 2205 W. Estes Ave., Chicago, IL 60645.

Collector seeks expired membership cards, charge cards, or charge plates from any **officers club**. Contact: Maj. Gary K. Olsen, USAF, 505 S. Royal Ave., Front Royal, VA 22630.

To return photos, seeking the whereabouts of **Lt. Col. Robert G. Whittington**, who served with the 5th or 8th Air Force 1941-45 and may have lived in Fort Worth, Tex., and **Lt. Col. Brooke L. Leynkoop** (or **Ceynkoop**), who was stationed in New Delhi, India, in 1944. Contact: Herbert E. Reusch, 10614 El Este Ave., Fountain Valley, CA 92708-6010.

Seeking information on **Douglas B-18s, B-18As, and B-18Bs**. Also seeking information on the **5th Reconnaissance Squadron**, redesignated the 395th Bombardment Squadron, which flew B-18s from 1941 to 1943 and was stationed at Punta Borinquen, P. R. Contact: Robert Lumpkin, 9366 E. Stella Rd., Tucson, AZ 85730.

Seeking the whereabouts of **Sgt. Laurie Smith** (maiden name), who was with the 625th MASG, Torrejon AB, Spain, in 1988-92. Contact: Jill Crowther-Peters, 7106 Sheffield Rd., Baltimore, MD 21212.

Collector seeks patches from USAF **fire-fighting departments**. Contact: Brian Thorburn, Fire Section, RAAF Tindal, Northern Territory 0853, Australia.

Seeking information on **Col. Daniel Andre, Col. Robert Stephens**, Lockheed designer **Kelly Johnson, Al White, Florence "Pancho" Barnes** of the Flying Inn, **YB-49** or **XB-35** pilots, and

children of aircraft designer **Geoffrey de Havilland**. Contact: John A. Moore, 13914 Tree Crossing, San Antonio, TX 78247.

For corporate archives, seeking **MA-1 flight jackets** made in the late 1950s and 1960s by Dobbs Industries or Alpha Industries (see tag in pocket). Contact: Tina Gettier, Alpha Industries, 1600 Spring Hill Rd., Suite 220, Vienna, VA 22182.

Collector seeks World War II **German, Japanese, and AAF relics**. Contact: TSgt. Mark Conrad, 86CG PSC 1, Box 4844, APO AE 09009.

Seeking the whereabouts of **Capt. Douglas H. Christensen**, who was commissioned in 1945 into the Western Flying Training Command and assigned to Troop Carrier Command, Panama. He later flew in the Berlin Airlift. Contact: Jack C. McElhiney, 9838 Greentree Dr., Carmel, IN 46032.

For a movie script, seeking airmen who flew **F-4** or **F-105 combat missions** over Vietnam. Contact: Donald Driss, 201 W. 79th St., #709, New York, NY 10024.

Seeking anyone who knew **George F. Weller**, bombardier with the 446th Bombardment Group, 2d Division, on D-Day. Contact: Maret Bower, P. O. Box 12873, Santa Barbara, CA 93107.

For a book, seeking humorous, bizarre, or poignant **short stories about the Vietnam War**. Contact: Bob Michel, 5901 Mt. Eagle Dr., #805, Alexandria, VA 22303.

Seeking information on the **Iraqi Integrated Air Defense System** and **Iraqi Air Force** during the Persian Gulf War. Also seeking maps, diagrams,

and sketches of Iraqi airfields and gun camera footage. Contact: Lee A. Brownfield, 527 I Ave., #999, Sheppard AFB, TX 76311-2527.

Seeking **Erik G. Hansen**, who left the Air Force in July 1967. Contact: Charles R. Forzano, 446 Mulberry Ln., West Hempstead, NY 11552.

Seeking contact with or information on crew members of the **B-17 Thru Hell & High Water**, 401st Bomb Squadron, 91st Bomb Group, who knew **Sgt. P. C. Zahler**. Contact: Ed G. Zahler, 3195 Clifton Church Rd., S. E., Atlanta, GA 30316-4953.

Seeking the whereabouts of **Nicolaos Joseph Roussos**, an Air Force aircraft engineer. He married an American named Helen and had three children: Joseph-Antonis, Maria-Christine, and Anezio-Liza. Last known address was Medical Lake, Wash. Contact: Michael Gavril, 3 Milou St., Hermoupolis, Syros 841.00, Greece.

Collector seeks tactical, B-52, and wing **bomb squadron patches** for American Legion display. Contact: SSgt. Rich J. Kolasch, USA, 10360 St. Katherine Ln., St. Ann, MO 63074.

Seeking contact with **Col. (or Brig. Gen.) William B. Martensen, Jr.**, USAF (Ret.), who was commander of the 4123d SW (SAC) at Clinton Sherman AFB, Okla., in 1959-63. Contact: David H. Parker, 3815 Tortugas, Torrance, CA 90505.

Seeking contact with or information on a USAF member named **Clyde**, who was from **Louisiana** and was stationed at either Forbes Field or McConnell AFB, Kan. He was about twenty-five in 1964 and knew Mildred Jones, who worked at

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Forbes Field. **Contact:** Kathy A. Johnson, 3847 W. Danbury Rd., Glendale, AZ 85308.

Seeking information on **KC-135 #63-8888**. **Contact:** Thomas B. Kiernan, Jr., 9724 Legion St., Philadelphia, PA 19114-1720.

Seeking information on the **485th Bomb Group**, stationed at Sioux City AAF, Iowa, and Smoky Hill AAF, Kan. The unit served in Venosa, Italy, with B-24s in World War II and at Florennes AB, Belgium, as a tactical missile unit. **Contact:** Robert S. Deeds, 117 Mel Simon Dr., #1, Toledo, OH 43612-4735.

Author seeks information and photos from **61st, 64th, 313th, 314th, and 316th Troop Carrier Group/Squadron** aircrew members who flew the Sicily parachute missions "Husky I and II" in July 1943. **Contact:** Phillip C. Gowdy, 150 N. Bluff, Alpharetta, GA 30201.

Seeking veterans wishing to locate **families and friends of those who served in Vietnam**. **Contact:** Friends of the Vietnam Veterans Memorial, 2030 Clarendon Blvd., Suite 412, Arlington, VA 22201.

Seeking the whereabouts of **Louis Clark**, who was stationed at RAF Alconbury, UK, as a mechanic during World War II and who may be living in Florida. **Contact:** Mrs. D. L. Stone, 3-4 Wickhurst Cottages, Bath Rd., Littlewick Green, Maidenhead, Berkshire SL6 3RQ, UK.

Seeking contact with **Lt. Rex Carpentier, Lt. Donald K. MacIntyre, and Sgt. William I. Wilson**, who served with the 379th Bomb Group, 8th Air Force, and made an emergency landing in Switzerland on July 20, 1944. **Contact:** Dick Fowlkes, 5401 Richenbacher Ave., Alexandria, VA 22304.

Seeking contact with **317th Communication Squadron** veterans who served in Celle, Germany, during the Berlin Airlift. **Contact:** Vidal B. Ramirez, 4079 San Simeon Way, San Jose, CA 95111.

Seeking a book on Vietnam War operations at **U Tapao RTAFB, Thailand**, and unit patches from the **307th Bomb Wing and 635th Combat Support Group**. **Contact:** David Hayes, 1546 Longfellow, Waterloo, IA 50703.

Seeking contact with **Capt. Paul R. Riley, SSgt. Jean G. Kinsella, SSgt. Allen P. Hile, and MSgt. James R. Frazer**, of the 3200th Light Bomb Test Squadron, who were crew members of the XC-123 in which Capt. William A. Fairfield was killed June 27, 1951, at Eglin AFB, Fla. **Contact:** Wayne Shearsmith, 27 Coniston Rd., Kettering, Northants NN16 8UL, UK.

Seeking contact with retired **MSgt. John D. Phillips**, of Alton, Ill., and **Donald Trapp**, from Peoria, Ill., who were in the 483d Air Police Squadron in Ashiya, Japan, 1953-55. **Contact:** Earl Johnson, 3812 El Conlon Ave., Las Vegas, NV 89102.

Seeking contact with **POWs of Stalag Luft 1** who were subjects of C. Ross Greening's paintings used in his book *Not as Briefed*. **Contact:** John Ford, 5974 Buckingham Pkwy., #308, Culver City, CA 90230.

Seeking the whereabouts of **Lt. Ernest E. Triplett and Lt. Richard E. Tvedt** of pilot class 44-G, Williams Field, Ariz.; B-24 pilot **Lt. George T. Anonich**; bombardier **Lt. Bernard Garrett**; and radio operators **Sgt. Lloyd Rowe and Sgt. Harvey Rainey**. **Contact:** John F. Tucker, 709 N. Juanita Ave., #5, Redondo Beach, CA 90277-2227.

For a project, seeking thirty-six solid **die-cast model B-17s** with three-inch wingspan. **Contact:** C. A. Brennan, 92 Overlook Rd., Morristown, NJ 07960.

Seeking contact with **Cecilia Young Bennet**, who left England in 1946. Her husband, Gordon Bennet, served in the Canadian Army. They were married in Scotland in 1944 and were last known to be in Canada. **Contact:** Margaret Williams, 21 Warwick Place, Workington, Cumbria CA14 2BH, UK.

Collector seeking military uniforms, **flying gear**, medals, patches, and especially World War II items. **Contact:** Sid Wright, 6392 Lincolnia Rd., Alexandria, VA 22312.

Seeking contact with personnel from **60th Troop Carrier Command**, 15th Air Force, involved in C-47 flights to Yugoslavia, 1943-44, particularly the **Halyard Mission**. **Contact:** Col. Mike M. Kovar, USAF (Ret.), 24407 S. Ribbonwood Dr., Sun Lakes, AZ 84248.

Seeking **Childress Army Air Field Bombardier School** veterans to visit the Childress County Heritage Museum exhibit. **Contact:** Jenny Lou Taylor, Childress County Heritage Museum, 210 3d St., N. W., Childress, TX 79201.

Seeking the whereabouts of **John, Ken, and Dien-Jai**, who knew each other at Korat AB, Thailand. Ken and Dien-Jai introduced John to a woman named Tong around 1966. **Contact:** Leroy T. Moberley, P. O. Box 2762, Poulsbo, WA 98370.

Seeking veterans of **Flight 196, 1409th Air Base Unit/Ball Project** (Leuchars, Scotland) for a memorial ceremony September 3-4, 1994, in Norway. **Contact:** Suzanne Bancel, c/o Seljord Kulturkontor, 3840 Seljord, Norway.

Seeking the whereabouts of **Roland S. Clark**, a flight instructor from Oregon, or information on civilian flight instructors for **Rankin Aeronautical Academy**, Tulare, Calif., Class 44-F, 1943. **Contact:** Ralph E. Smith, 526 Bender Rd., West Bend, WI 53095.

Seeking contact with anyone interested in forming a **C-124 "Old Shaky" Association**. **Contact:** Mike Rubick, 8040 Emberly Dr., Jenison, MI 49428.

Seeking **B-24 crews, escort pilots, and their ground support personnel** for membership in the B-17 Combat Crewmen and Wingmen organization. **Contact:** B-17 Combat Crewmen, P. O. Box 482, Southgate, CA 90280.

Seeking the whereabouts of **Joshua H. Batchelder (ANG), John D. Bennett, David C. Blanchard, Dennis J. Cleary, Max L. Coffey, and Vernon Davis**, who attended navigator training at James Connally AFB, Tex., 1962-63. **Contact:** James Faulkner, 4109 Timberlane, Enid, OK 73703.

Author seeking information on use of "**war weary**" aircraft in the USAAF aviation training program during World War II. **Contact:** Lou Those, 11263 Marlette Dr., Cincinnati, OH 45249.

Seeking information on the **726th Bomb Squadron**, 451st Bomb Group, 49th Bomb Wing, and 15th Air Force B-24 Liberator operations in Italy, June 1944-February 1945. **Contact:** Dr. Steve Morris, Office of Veterans Affairs, Franklin Hall 096, Indiana University, Bloomington, IN 47405.

Seeking the whereabouts of **James E. Davis, Robert E. Heath, Guy R. Hunt, Refugio R. Ramos, Gary A. Wilkins, and Richard S. Vyka**,

who served with the 85th Bomb Squadron, Sculthorpe, England, in the 1950s. **Contact:** Richard L. McCormick, 307 S. Meridian St., Greenwood, IN 46143.

Seeking the whereabouts of **Col. Donald Drake**, radar operator-navigator with the 397th Bomb Squadron, 306th Bomb Wing, MacDill AFB, Fla., 1957-61. **Contact:** Bob Slover, 10205 Doyle Ln., Knoxville, TN 37922.

Seeking members for a **Distinguished Flying Cross Society**. **Contact:** Alexander D. Ciurczak, 34552 Camino Capistrano, Capistrano Beach, CA 92624-1232.

For a book, seeking contact with anyone who served in a **USAF or ANG fighter-interceptor squadron**. **Contact:** Alec Fushi, 20 E. Cedar St., Apt. 11D, Chicago, IL 60611.

Seeking contact with former members of air materiel squadrons, air base service groups, and **air depots in Australia** in 1942. **Contact:** Col. John E. Olson, USA (Ret.), One Towers, Apt. 510, San Antonio, TX 78209.

Seeking issues of **Air Force Magazine** from 1985 to spring 1992. **Contact:** Monica L. Koepfel, 75 Strauss Dr., Suite 104, Winnipeg, Manitoba R3J 3R6, Canada.

Seeking graduates of USAF, USAAF, and USAAC **navigator or observer schools** interested in membership in The Air Force Navigators Observers Association. **Contact:** Joe Lyons, 6503 Joline, San Antonio, TX 78218-3533.

If you need information on an individual, unit, or aircraft, or if you want to collect, donate, or trade USAF-related items, write to "Bulletin Board," AIR FORCE Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. Letters should be brief and type-written; we reserve the right to condense them as necessary. We cannot acknowledge receipt of letters. Unsigned letters, items or services for sale or otherwise intended to bring in money, and photographs will not be used or returned.—THE EDITORS

Seeking information on **Lt. Col. Russell Rogers**, who was killed in 1967 when his F-105 Thunderchief exploded near Vietnam. **Contact:** John N. Cashman, 1637 Beechwood Dr., Martinez, CA 94553.

Seeking the whereabouts of **1st Lt. or Capt. Alan Ross**, a former staff sergeant, who was commissioned at the University of Arizona at Tucson. His wife's name is Valerie. **Contact:** Francis W. Seiler, 14851 Jeffrey Rd., Sp. #343, Irvine, CA 92720.

Researcher seeking information on and photos of **volunteers who worked on spacecraft simulators, space cabin, sled track, space suit, centrifuge, ejection systems, high-altitude balloons, and other space-related programs** from 1940s to present. **Contact:** Bobby Cole, Jr., 503 Chinquapin Dr., Eglin AFB, FL 32542.

Seeking **patches** to start a collection. **Contact:** David Johnson, 16515 Willow Run, San Antonio, TX 78247-1136.

Author seeks information on F-105s in service in Thailand, 1964-68, specifically **F-105G #63-8352**, 357th Tactical Fighter Squadron, which crashed at Udorn RTAFB in December 1969. Also seeking **James E. Thomas** and **Neal Schneider**. **Contact:** David A. Hansen, 3936 E. Elm Rd., Oak Creek, WI 53154-6622.

Seeking members of **pilot training Class 67-E**, Laughlin AFB, Tex., who can contribute to a "Where Are They Now?" newsletter. **Contact:** Richard W. Buickerood, 621 E. Clarendon Dr., Dallas, TX 75203.

Seeking **patches** from 6486th Air Base Wing, Hickam AFB, Hawaii, from 1967. Also seeking information on "**Flying Command Posts**" stationed there. **Contact:** Jim Skorupski, P. O. Box 182, Moses Lake, WA 98837.

Seeking information on **Maj. Donald A. Brown** of Phoenix, Ariz., whose RF-4C was shot down July 30, 1970, over Laos. **Contact:** Charles P. Schley, 3743 Amarillo Dr., Harrisburg, NC 28075.

Seeking the whereabouts of **1st Lt. Joe Marling**, flight instructor for Class 49-A, Goodfellow AFB, Tex. **Contact:** Alfred H. Bennett, 1319 11th Ave. W., Anchorage, AK 99501.

For the Black Pearl Veterans Association, seeking military personnel who served on **Iwo Jima** after World War II. **Contact:** Eugene J. Robinson, 754 McCallister Ave., Sun City Center, FL 33573.

Seeking contact with members of Reese AFB, Tex., **Pilot Class 50-A**. **Contact:** Col. Edwin D. Stoltz, USAF (Ret.), 9117 W. Kerry Lane, Peoria, AZ 85382-4624.

Seeking contact with any USAAF or civilian personnel stationed at **Anderson Field, S. C.**, 1942-44. **Contact:** Lloyd M. Drago, 1242 Eastside Blvd., Hastings, NE 68901.

Seeking information on **Raymond Chester Palmer**, from West Palm Beach, Fla. He served at Barksdale AFB, La. (1941-42), Kirtland AFB, N. M., and in India. **Contact:** Sonya S. Reiland, P. O. Box 1905, Marshall, TX 75671-1905.

For the **B-26 Marauder** International Archive at the University of Akron (Ohio), seeking anyone who built, maintained, supported, flew, or trained personnel for the Martin B-26 Marauder during World War II. **Contact:** James B. Story, 1475 Oakmont Place, Niceville, FL 32578.

Collector seeking information on the **SAC Thundervarks** patch and copies of the TAC Mach 2+ FB-111 and USAFE Mach 2+ FB-111 patches. **Contact:** Robert E. Styger, 15 Genesee Lane, Willingboro, NJ 08046-3319.

Seeking the whereabouts of **Lt. Sam Holland**, 31st Tactical Fighter Wing, 1964-65, who survived a crash in Magdeburg, West Germany. **Contact:** Capt. Donald F. Henry, USAF, 2449 S. Perillo Dr., Tucson, AZ 85710.

Seeking the whereabouts of **Roger Stuart**, a navigator in the 303d Air Refueling Squadron, stationed in Bermuda 1956-58. **Contact:** Frank Lollar, 18242 Francisco Dr., Villa Park, CA 92667.

Seeking contact with **Lt. Col. Robert Dow** and **veterans of the 12th Fighter-Bomber Squadron**, 18th Fighter-Bomber Group. **Contact:** Eric Mingleddorf, 3100 Deborah Dr., Apt. 61, Monroe, LA 71201.

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seeking **pilot training classbooks** from all classes and bases. **Contact:** Thomas A. Manning, c/o Hq. AETC, 100 H St., Suite 5, Randolph AFB, TX 78150-4332.

Seeking information on B-29 pilot **2d Lt. Clarence Edward Boatright, Jr.**, 873d Bomb Squadron, 498th Bomb Group. He was declared MIA in December 1944 after ditching his aircraft on the way back to Saipan. **Contact:** Chris E. Boatright, 1007 Hickory Trail, San Antonio, TX 78245-1608.

Collector seeking contact with **Corporate Logos, Inc., or Jamy, Ltd.**, and anyone with scarves and stickers from FB-111 units at Pease AFB, N. H., or Plattsburgh AFB, N. Y. **Contact:** Curtis J. Lenz, 32 June St., Nashua, NH 03060-5345.

Seeking contact with members of the **25th Fighter Squadron** or other squadrons of the **51st Fighter**

Group, stationed at Naha, Okinawa, 1947-49. **Contact:** David Llorente, 3127 Avenue J, Santa Fe, TX 77510.

Seeking the whereabouts of Army Spec. 5 **Robert Deinlein** from Kansas, born in 1948. He was stationed in Vietnam and met AnAn while in Thailand. **Contact:** Thore Brolin, Ruddamsvägen 6, S-114 21 Stockholm, Sweden.

Collector seeking **AAF memorabilia** from World War I and World War II. **Contact:** Jon Cerar, 425 John St., Carlinville, IL 62626.

Seeking contact with aircrew members from the **23d Tactical Air Support Squadron**, Nakhon Phanom, Thailand, 1971-72. Also seeking photo or tail number of Lieutenant Burt's P-47, lost at Faenza, Italy, June 26, 1944. **Contact:** Fred W. Mitchell, 2870 Meadow Port Dr., Dallas, TX 75234. ■

Pieces of History

Photography by Paul Kennedy

Opening the Envelope



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performance. It is fitting that the Air Force base there, where limits are still being redefined, should be named for one of their number—Glen Edwards. Captain Edwards was killed in a 1948 crash of the YB-49 "Flying Wing," a design similar to one that entered the operational Air Force more than forty years later: the B-2.



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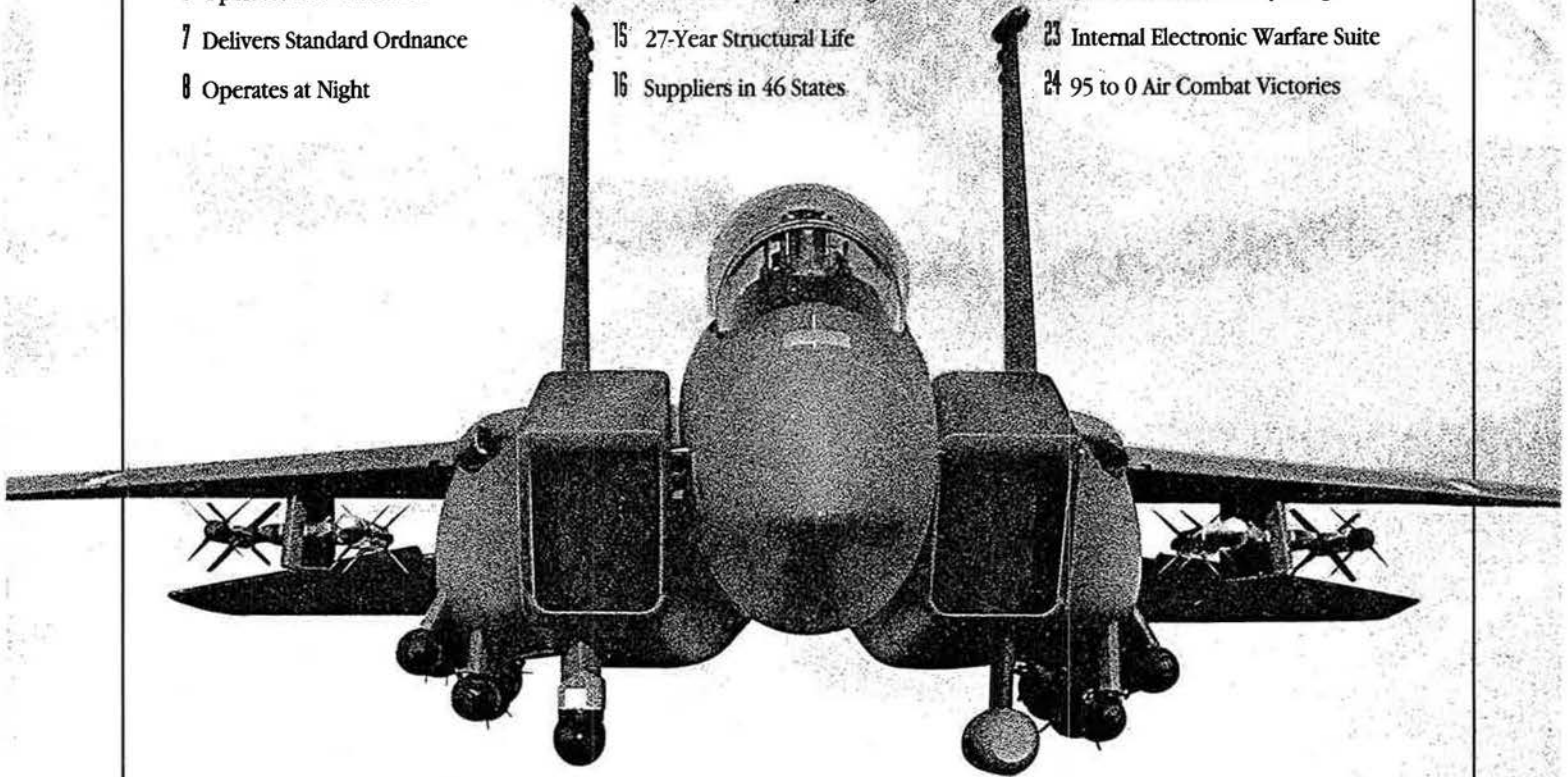
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