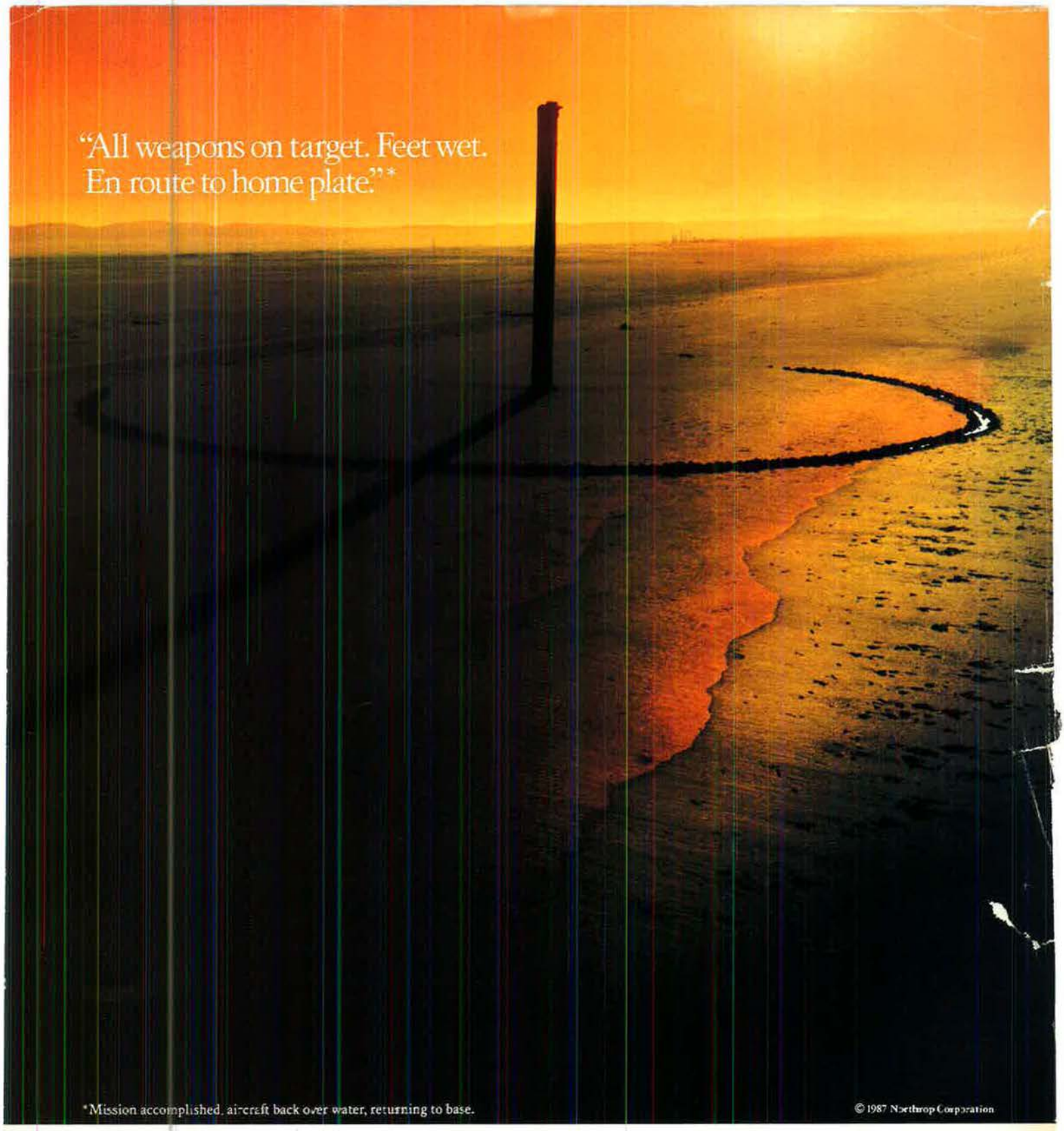
SEPTEMBER 1987/$5

AIR FORCE MAGAZINE

PUBLISHED BY THE AIR FORCE ASSOCIATION

The First Forty Years

USAF as a Separate Service



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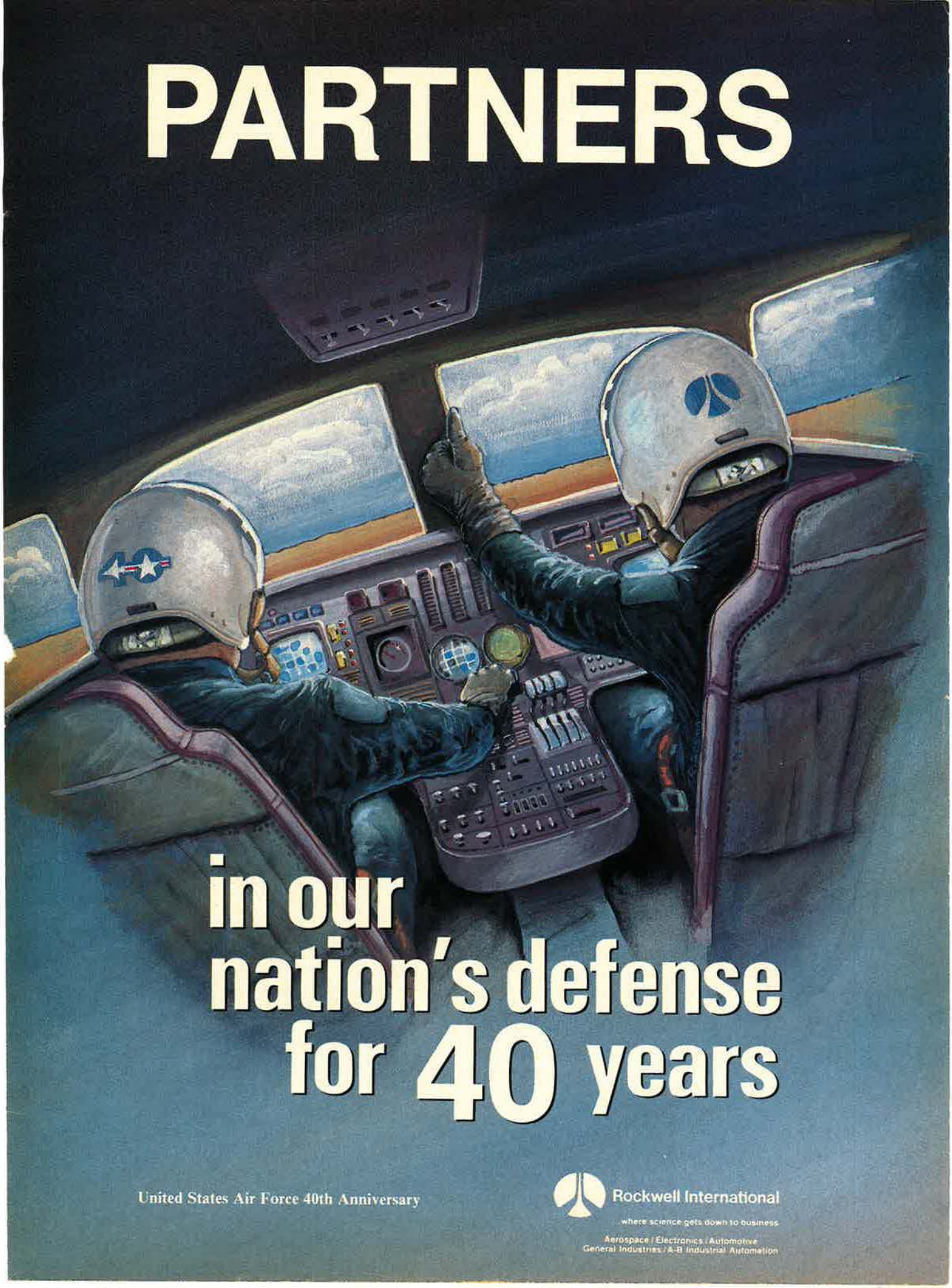

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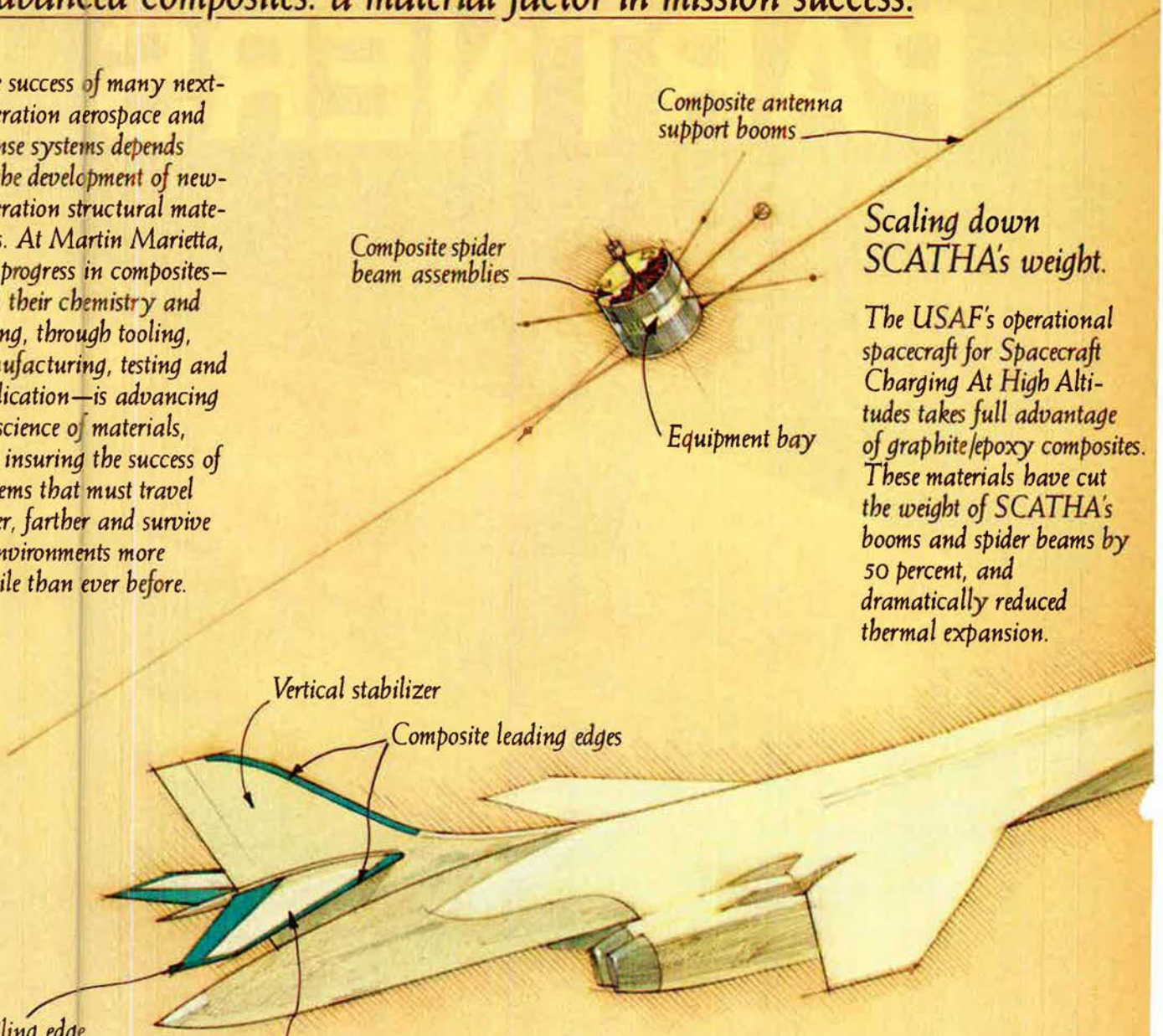

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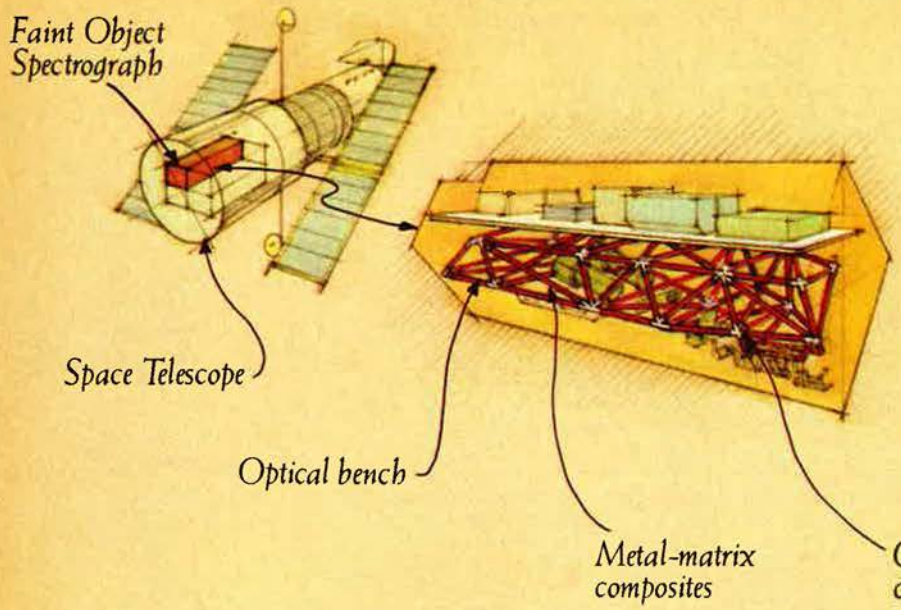

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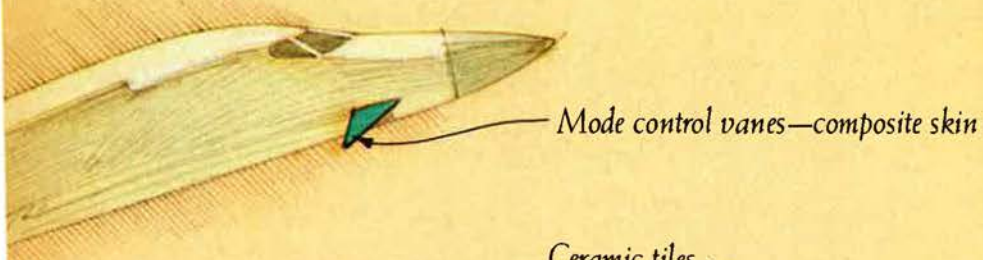

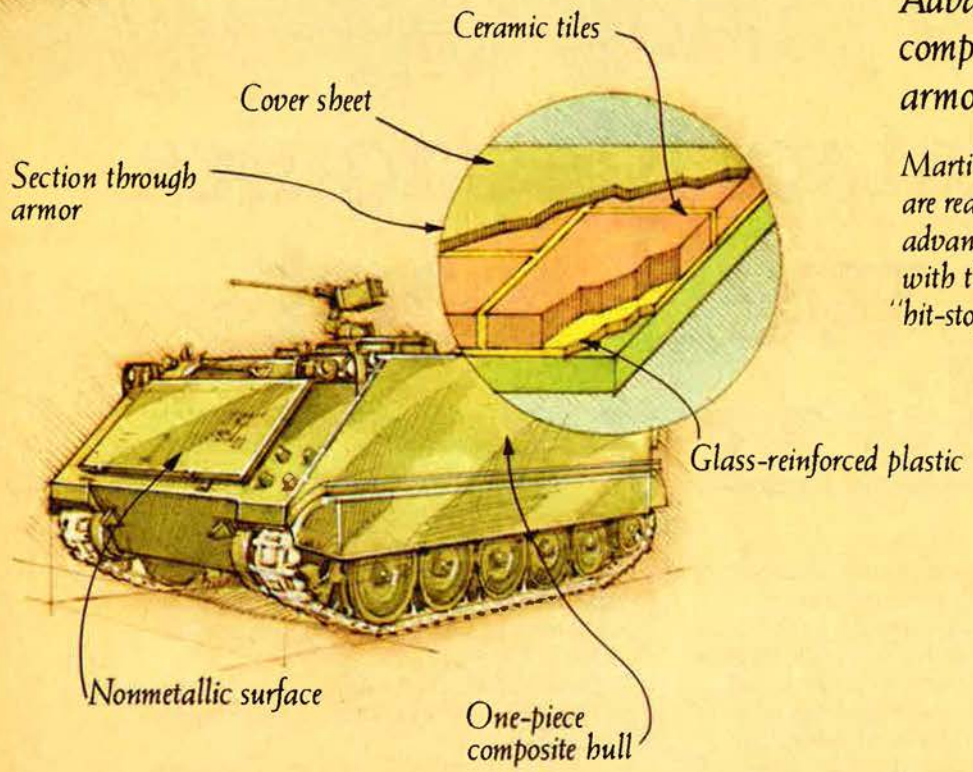

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SEPTEMBER 1987
VOLUME 70, NUMBER 9

AIR FORCE MAGAZINE

PUBLISHED BY THE AIR FORCE ASSOCIATION

Page 81

Page 164

About the cover: A lot more than the uniform has changed in USAF since 1947, but there's one constant: USAF's high-quality people. See p. 61 for details about this Paul Kennedy photo. A special section on the "Heritage of Airpower" begins on p. 60.

Special Section: The Heritage of Airpower

Features

Departments

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AN EDITORIAL

Birth Certificate

By David L. Gray, PUBLISHER

WE ARE about to celebrate the Air Force's fortieth birthday, marking the anniversary of its independence from the Army and its establishment as a separate military service. It would be more accurate, though, to describe September 18, 1947, as the day the Air Force finally got its birth certificate.

By 1947, the nation's air arm was already mature and battle-proven. The Army Air Forces had been operating with great autonomy since 1942, and Field Manual 100-20 had confessed in 1943 that "land power and air power are co-equal and interdependent; neither is an auxiliary of the other."

The arguments surrounding the reorganization of 1947 were mostly about roles, missions, and shares of the budget—not about the inherent value of airpower. The attack on Pearl Harbor and the events of World War II had confirmed most of what Billy Mitchell tried to tell the traditionalists in the 1920s and 1930s. Even Mitchell's old foe, the Navy, had shifted its emphasis to aircraft carriers. The War Department had long since filed away the embarrassing judgment of the 1934 Baker Board that "independent air missions have little effect upon the issue of battle and none upon the outcome of war."

Thus it was that the Air Force received legitimate title to its own good name. Over the next forty years, this youngest of the services would become the foremost military instrument of US global policy. In the special section of our magazine this month, we look back over this period and recall the Air Force's stewardship of its legacy.

Ironically, the independent Air Force has never achieved the wartime size of its AAF predecessor, which peaked at 2,400,000 people and 68,000 aircraft. Today's force consists of 606,000 people on active duty, 112,500 in the Air National Guard, 78,000 in the Air Force Reserve, and 9,500 aircraft in all components. The real fortieth anniversary story is that this smaller force can do more, and do it faster, than could any previous generation of airmen—including the AAF.

We have seen spectacular gains in speed, range, accuracy, payloads, and readiness. Consider, for example, that the second raid against the Schweinfurt ball-bearing plants during World War II put 291 B-17 bombers in the air. A theater commander of 1987 might allocate such a target to a relatively small number of F-16s. Even using conventional ordnance, they would have a high probability of success. Precision-guided munitions yield even more amazing results. In Vietnam, four aircraft carrying "smart" weapons destroyed the Thanh Hoa bridge, which had earlier withstood 871 conventional sorties.

Fighter aircraft in World War II averaged one combat mission every four days. Current fighters fly better than three sorties a day for surge periods and can sustain the rate of one sortie a day over time. A lone C-5 Galaxy can carry as much cargo as a fleet of AAF C-47s. Airlifters go halfway around the world to reach their destinations within seconds of their preassigned arrival times. We have seen F-111s operating out of Great Britain strike targets in Libya and return to their home bases before landing. Tactical squadrons in Europe report unprecedented mission-capable rates, 87.5 percent for F-16s and 79.3 percent for F-15s. We are on the threshold of capabilities that will enable fighters to conduct ground attacks at night or in bad weather and to engage more than one airborne enemy on a single pass.

Much of this progress is attributable to huge gains in aeronautical and electronic technology since World War II. A great deal of the credit, however, must go to Air Force leaders over the years. They have chosen well from what technology had to offer and then blended it wisely with operational and training concepts. Advancements in propulsion and flight controls have redrawn the fighter aircraft envelope in astounding ways. Training has become so realistic that it approximates combat experience. Yet, by contrast, aircraft accident rates have fallen to their lowest levels in history.

The factor that makes any force jell is the caliber of people in it. When sortie-generation rates hit a new high, you can bet there are some determined maintenance and support troops out there shedding extra sweat. When a feat of airmanship looks easy, it's usually an indication of training and talent behind the hand on the stick. The Air Force of 1987 can count among its blessings the quality of airmen and officers it has been able to recruit and retain.

The independent Air Force has moved in a generally upward direction, but the course has not been smooth or straight. It began in rather shabby condition in 1947, with operational efficiency nearly destroyed in the nation's rush to postwar demobilization. Three years later, the force was rebuilding to fight the Korean War. That, unfortunately, has not been the only time the Air Force has had to replace lost experience at heavy cost. This syndrome of tearing down and building up not only hurts military preparedness but has also proved repeatedly to be false economy in the long run.

All in all, the Air Force has been quite a bargain for the United States since 1947. It provides global defense and effective power projection, even though it has fewer total airplanes than the AAF lost in 1943 in noncombat crashes alone. A couple of years ago, somebody figured out that Americans were spending more money on alcoholic beverages than they were to fund Air Force operations. The Air Force budget, expressed as a share of GNP, is nowhere near what it was in the AAF days and in fact is down by thirty-six percent since 1964.

On its fortieth birthday, the Air Force can field thirty-seven combat-coded fighter and attack wings, its goal of forty shelved at present for economic reasons. Strategic, tactical, and force-projection budgets as well as funding for manpower, readiness, and sustainability are being questioned again on Capitol Hill as Congress searches for ways to reduce spending.

Apparently, we did not learn as much as we should have from the experience of the 1970s, when sparse defense budgets depleted the ranks of experienced veterans and dropped readiness to a dangerous level. As the Air Force begins its second forty years as an independent service, its greatest challenge may be to hold its course in the face of yet another wave of reduced resources. ■

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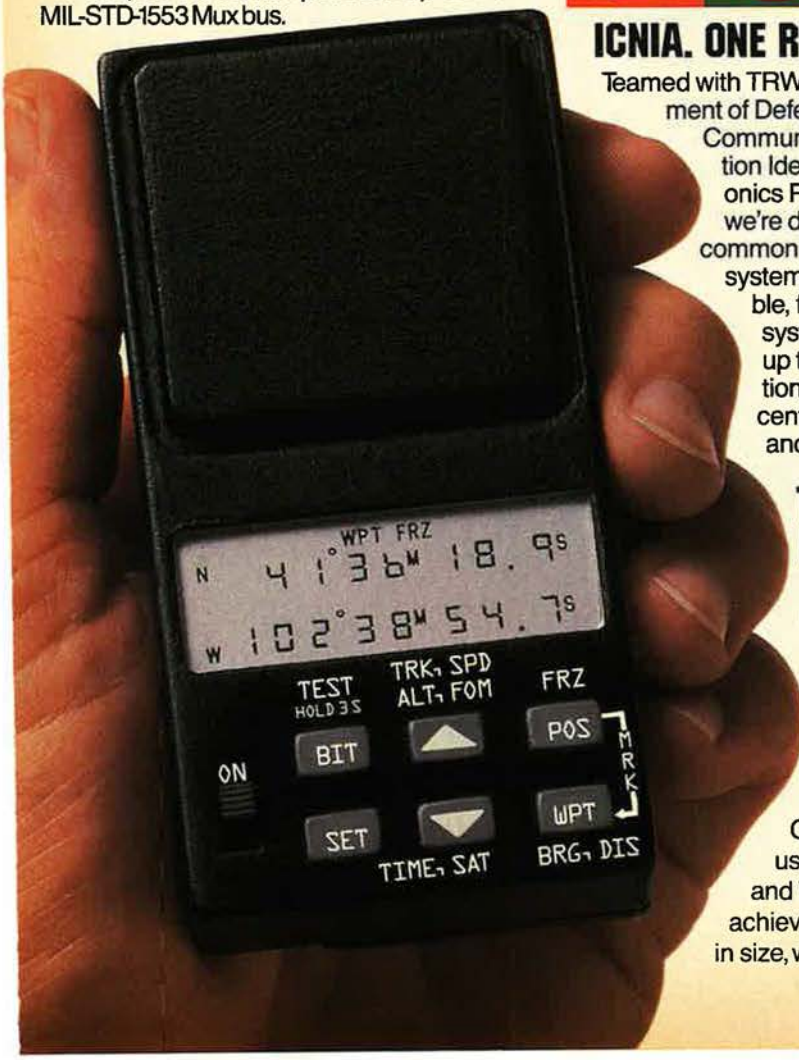

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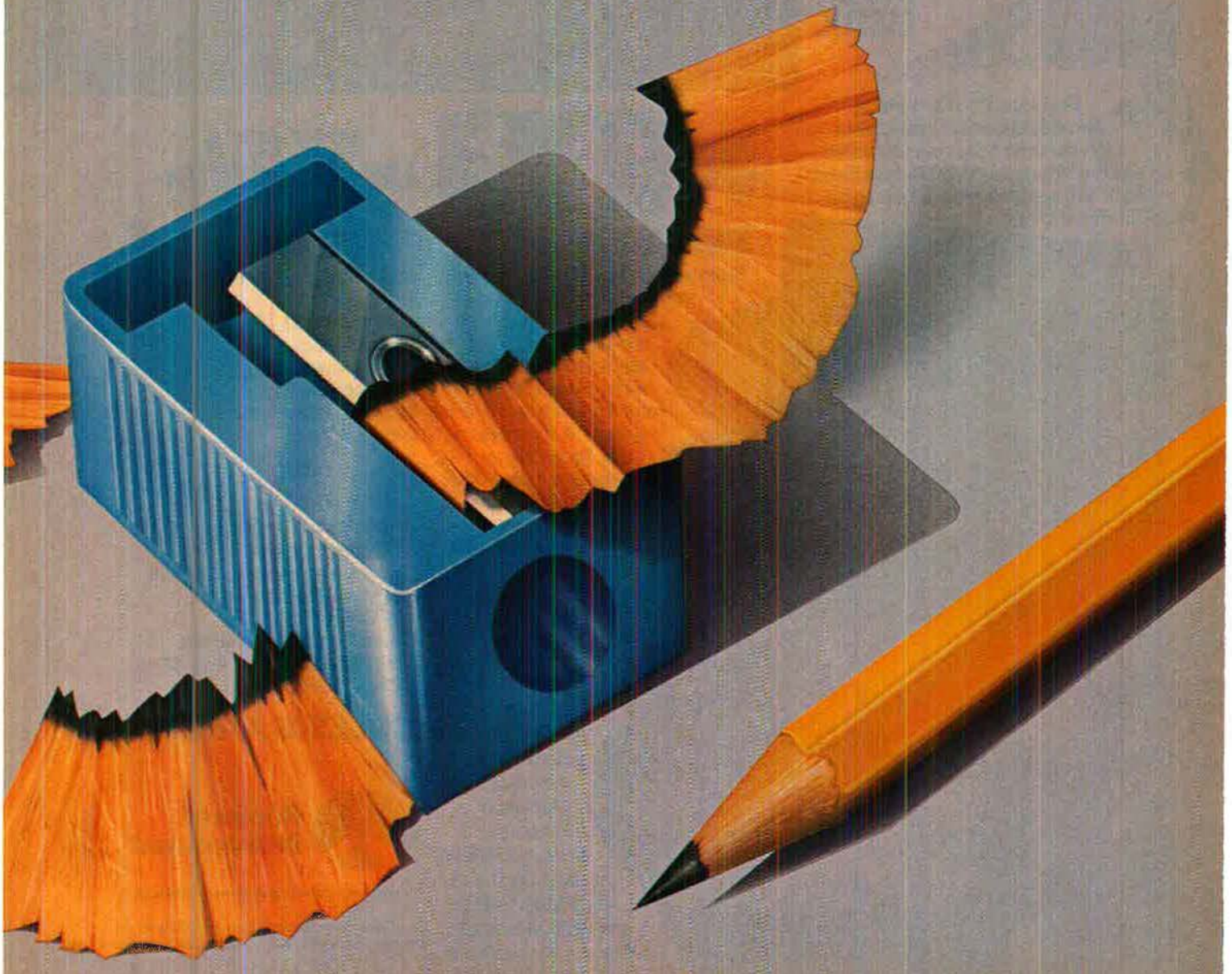

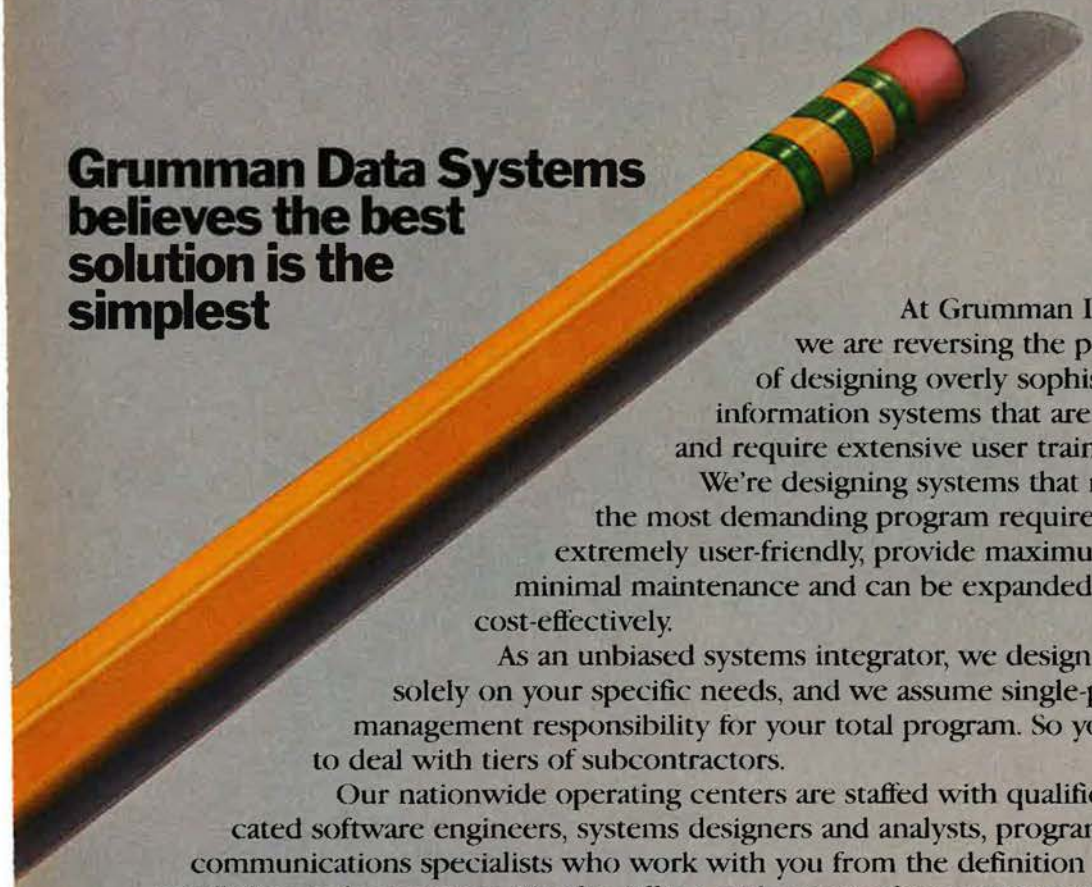

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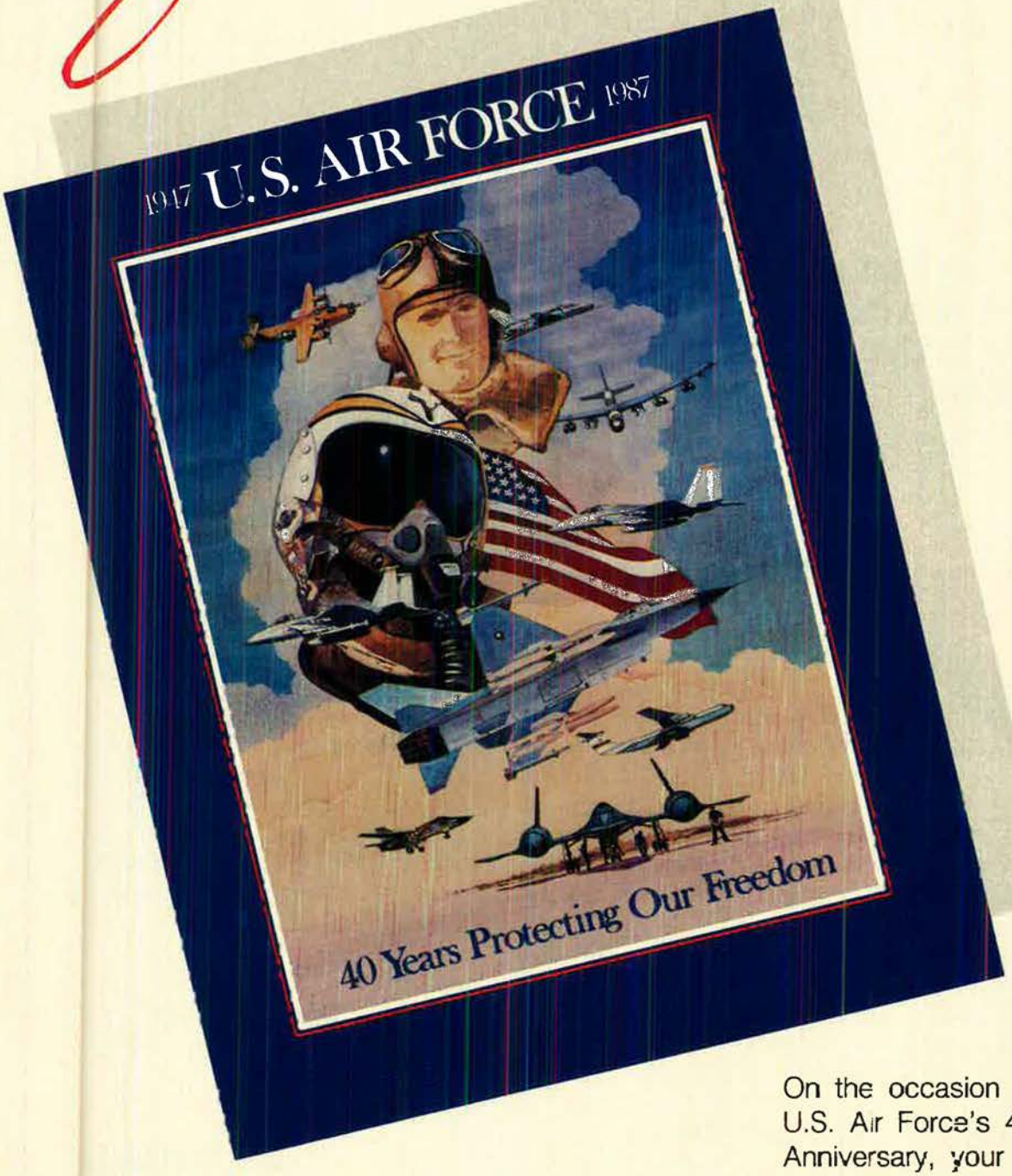

On the occasion of the U.S. Air Force's 40th Anniversary, your friends at Pratt & Whitney dedicate this poster to the proud tradition of the men and women who defend our nation and the Free World.

Copies of this poster will be available at the Pratt & Whitney exhibit during the 1987 Air Force Association Exposition in Washington, D.C. September 15-17.

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AIRMAIL

Understanding SDI

I would like to congratulate you on the excellent article in the July 1987 issue of the magazine titled "The Emerging Lineup for SDI."

Having followed much of what has been said and written on this subject since 1981, when we were originally funded to validate the technological and economic feasibility and political and military soundness of the proposal that became the Strategic Defense Initiative in 1983, I can assure you that many publications—including AIR FORCE Magazine—have not covered themselves with glory in terms of the accuracy and objectivity of their past reporting. The tendency has all too often been to pay lip service to the President's desires and goals while genuflecting to the bureaucrats who fear that any changes in strategy or weapon systems will rattle their pet cages.

One problem with explaining SDI to lay audiences is that the subject can be broken down into some fifty or more issue areas. I listed some forty-two in 1984 and have not updated this to include issues related to early deployment. One can write a book on each of these issue areas. Obviously, no one can discuss all in any one speech or article; therefore, everything said and written is bound to be incomplete and criticized for not having addressed X, Y, A, or Z.

The best one can do is to deal with major functional areas separately and assume that if each is OK, then the whole will be valid. Your excellent article, in effect, did this with the factual elements of near-term possibilities. We sent copies to our speakers and overseas activists.

By accurately reporting what can be done now and for how much and not mixing in opinions and prejudices on whether or not it should be done or the possible consequences, you have helped proponents and opponents alike to understand that these are separate questions. All too many writers, being unable to win when discussing questions of judgment, mix judgments and factual issues to confuse the audience: "Strategic defenses are provocative, so since they are technically infeasible, we should not build them!"

Again, congratulations on a very readable and accurate article.

Brig. Gen. Robert Richardson III, USAF (Ret.)
Deputy Director
High Frontier
Washington, D. C.

This Elite Group

I want to thank you and Contributing Editor John L. Frisbee for the fine "Valor" article "The Film of War" in the July 1987 issue. It is right and proper that Darryl Winters and the other combat photographers be singled out for recognition. I'm just sorry that it has taken some twenty years to do it.

The AAVS contingent in Southeast Asia was not a large group. There were never more than a few hundred people at any time, all spread across the major USAF bases in Vietnam and Thailand. The size of the group has led to the obscurity of their work.

In a combat zone, danger is a matter of location and assignment. AAVS "photogs" shot film from many types of combat aircraft—FACs, fighters, Sandys. Many flew over Laos and the North. Some became regular crew members on Jolly Greens, operating both their cameras and a minigun. Other cameramen documented events at air bases and firebases. Some were with the lead echelons in Cambodia. It was all part of the job.

Twenty years from now, when the air machines of that era are gone and the memories of men fade with them, the surviving visual record of USAF's role in Southeast Asia will be motion pictures and photos—the legacy of this elite group.

Kenneth Griffey
Orlando, Fla.

Uncritical Support?

As a staunch advocate of the Air Force, I expect the Association and AIR FORCE Magazine to support Air Force positions. I do; otherwise, I would neither be a Life Member of AFA nor remain in the Reserve. However, I fail to accept the totally uncritical support permeating AIR FORCE Magazine pages. Senior Editor Edgar Ulsamer's recent "In Focus . . ." column *(July '87 issue, p. 19)* serves as one blatant case. To avoid an extremely long letter, I choose only one instance.

Mr. Ulsamer related the following, quoting USAF Chief of Staff Gen. Larry D. Welch without comment: "The lethality and effectiveness of AMRAAM, the advanced medium-range air-to-air missile, can 'double the capability of the F-15. . . .' The air-to-air capability of the F-16 goes up 'sixfold' with the help of AMRAAM."

Perhaps my two decades in scientific and engineering research and my inherently skeptical nature have conditioned me to question everything. In any event, anytime I hear (or see in print) such a remark, several critical questions pop to mind.

How do you *define* capability? How do you arrive at "double" and "sixfold"? Compared to what? Is AMRAAM the *only* weapon capable of achieving this result? Either the "defense writers" at the meeting failed to ask such questions or Mr. Ulsamer failed to note General Welch's responses. In either case, why not?

As already stated, I basically support the military—the Air Force in particular. However, I, for one, certainly would like to read in AIR FORCE Magazine some constructively critical comments concerning Air Force programs, policies, and positions!

Lt. Col. James H. Fenner, USAFR
Euskirchen, Germany

Do you have a comment about a current issue? Write to "Airmail," AIR FORCE Magazine, 1501 Lee Highway, Arlington, Va. 22209-1198. Letters should be concise, timely, and legible (preferably typed). We reserve the right to condense letters as necessary. Unsigned letters are not acceptable, and photographs cannot be used or returned.

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AIRMAIL

• *General Welch's comparison was based on an evaluation that considered aircraft maneuvering performance, radar capability, electronic countermeasures, missile and gun performance, and friendly and threat tactics, among other factors. In a flight-size engagement, the F-15 with AMRAAM is at least twice as operationally effective as it is with the AIM-7M in terms of exchange ratio (enemy aircraft destroyed vs. friendly losses). The F-16 with AMRAAM proved six times more effective than the F-16 with AIM-9s and a gun. Applying these measures to a force-size engagement, there were significant improvements in force ratios after "n" days in a Central European scenario, and a force equipped only with AIM-7s would have to be augmented with many more squadrons to achieve the same results.*—THE EDITORS

Whole New Constituency?

You've done it again!

The "Capitol Hill" column in the July 1987 issue is another expression of the fact that the Air Force is totally ignoring the unwillingness of the Reagan Administration to *pay* for the level of defense that it considers essential.

When is the Air Force, if ever, going to recognize that it is President Reagan's policies on taxes and his fear of being accused of fulfilling the Mondale promise made during the 1984 campaign that are defeating the defense budget? Granted, there isn't much realism with regard to how and when to pay, but does the Air Force always have to play follow-the-Teflon-leader on every issue?

Who knows—you may find you have a whole new constituency out there.

Edward H. Newman
Aptos, Calif.

Production-Line Commodity?

Re: The "Airmail" letter from Robert G. McCallum on page 13 of the July 1987 issue concerning the April '87 article "The Uncertain Art of Career Management."

The Air Force is not alone in having a system that drives good officers from the service. I resigned my commission from the Army several years ago because of the career path that the Army's Military Personnel Center had chosen for me.

I entered the Army as a newly minted Ph.D. in chemistry, after being assured during my undergraduate and graduate education that the Army would certainly utilize my training (most of which the government paid for). After my officer basic course, however, I was assigned to an infantry brigade because it was "important for my career." After two years of writing to my assignment officers to explain that I had no desire to be Chief of Staff or a division commander . . . I was reassigned to a staff position at another post.

The stock reply that I received to my letters, as supplied by the Army Military Personnel Center, was that the Army was managing my career in my "best interests." Only after personally petitioning the post commander was I allowed to approach a technical position as the manager of a chemistry laboratory. My next assignment was to another staff position; I then left the service.

My situation is not unique by any means. In my case, the Army had many chemistry laboratory positions available for officers at the time, but some formula decided that I was going a different direction, whether I liked it or not.

So long as the services continue to treat their officers as production-line, interchangeable commodities, they will continue to lose people in whom they have made heavy investments.

David N. Clark
Plain City, Ohio

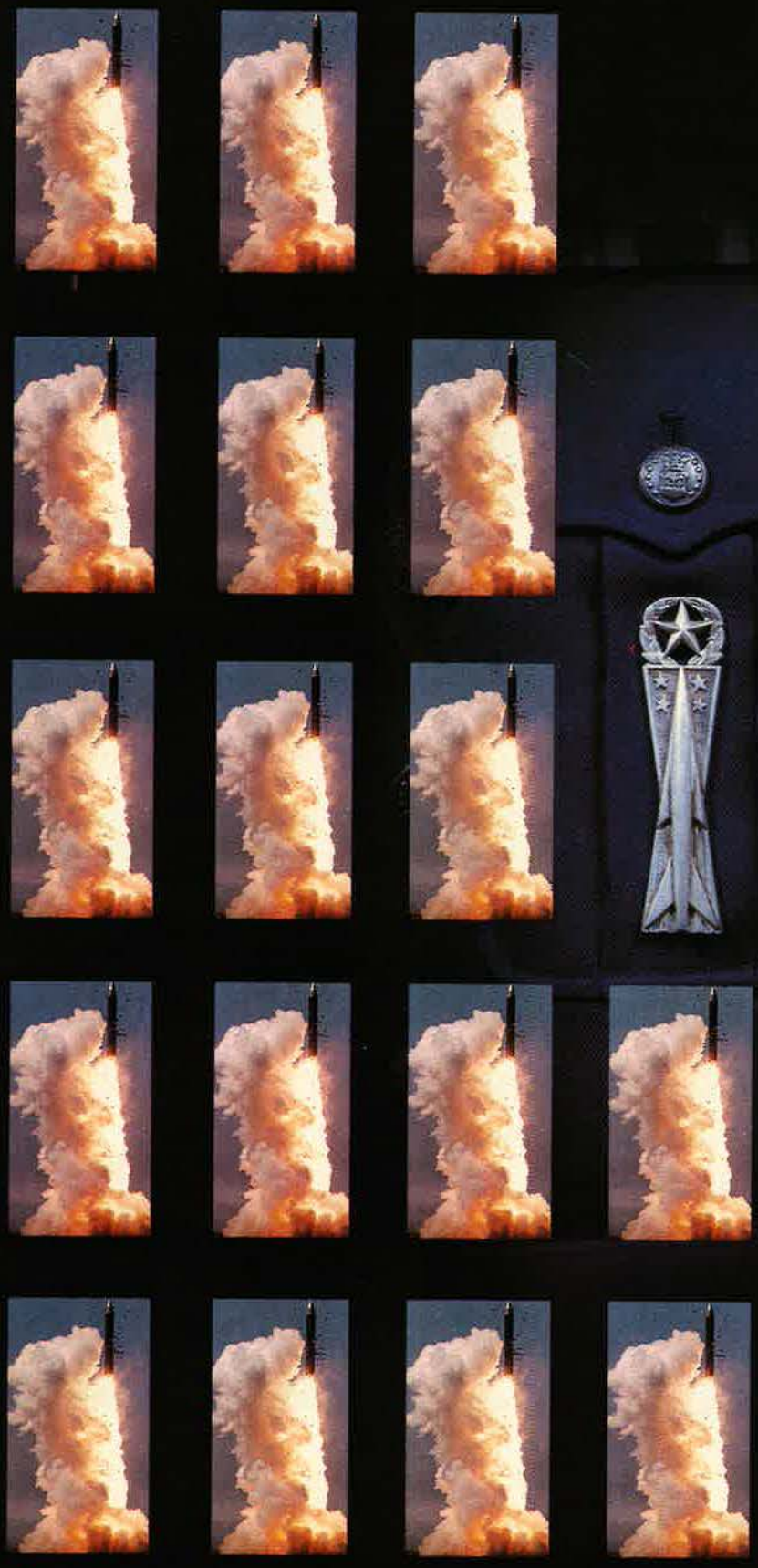
Salute to the CAP

The letter from CAP Capt. Richard A. DeCastro in the July 1987 "Airmail" column served to insert the proverbial knife into the center of a troubled conscience dating back to 1945. Now it can all be told, and I can offer my deep gratitude to the CAP. A C-47 with a valuable cargo, seven men, and three parachutes was saved from destruction with only minutes to spare because of the Civil Air Patrol.

Our C-47 was immediately above a cloud-covered New York City, thirty days after the crash of a B-25 into the Empire State Building. With no communications and all tanks registering "off" zero, the preference was to ditch over the ocean for a slow, cold death.

Just as the No. 1 engine coughed and sputtered while switching to an adjacent tank, a small CAP plane appeared off to our left. What a blessing! We headed toward him and throttled back, signifying we were lost and needed to land. Using flaps and zigzag, we remained close until shortly he pointed his hand downward. Through an opening, we could see

Sweet Seventeen And Never A Miss



Seventeen Successes Out Of 17 Launches

The Peacekeeper Flight Test program is an impressive tribute to the Air Force Ballistic Missile Office and its team of Associate Contractors.

The presidential commission on strategic forces stated that "Deterrence ... requires military effectiveness," and deterrence, in the final analysis, "... is the set of beliefs in the minds of the Soviet leaders."

If a missile's effectiveness is measured by its test performance, then it's safe to say that the Peacekeeper program's impressive test record has already made a major contribution to world peace.

And the Small ICBM is not far behind.

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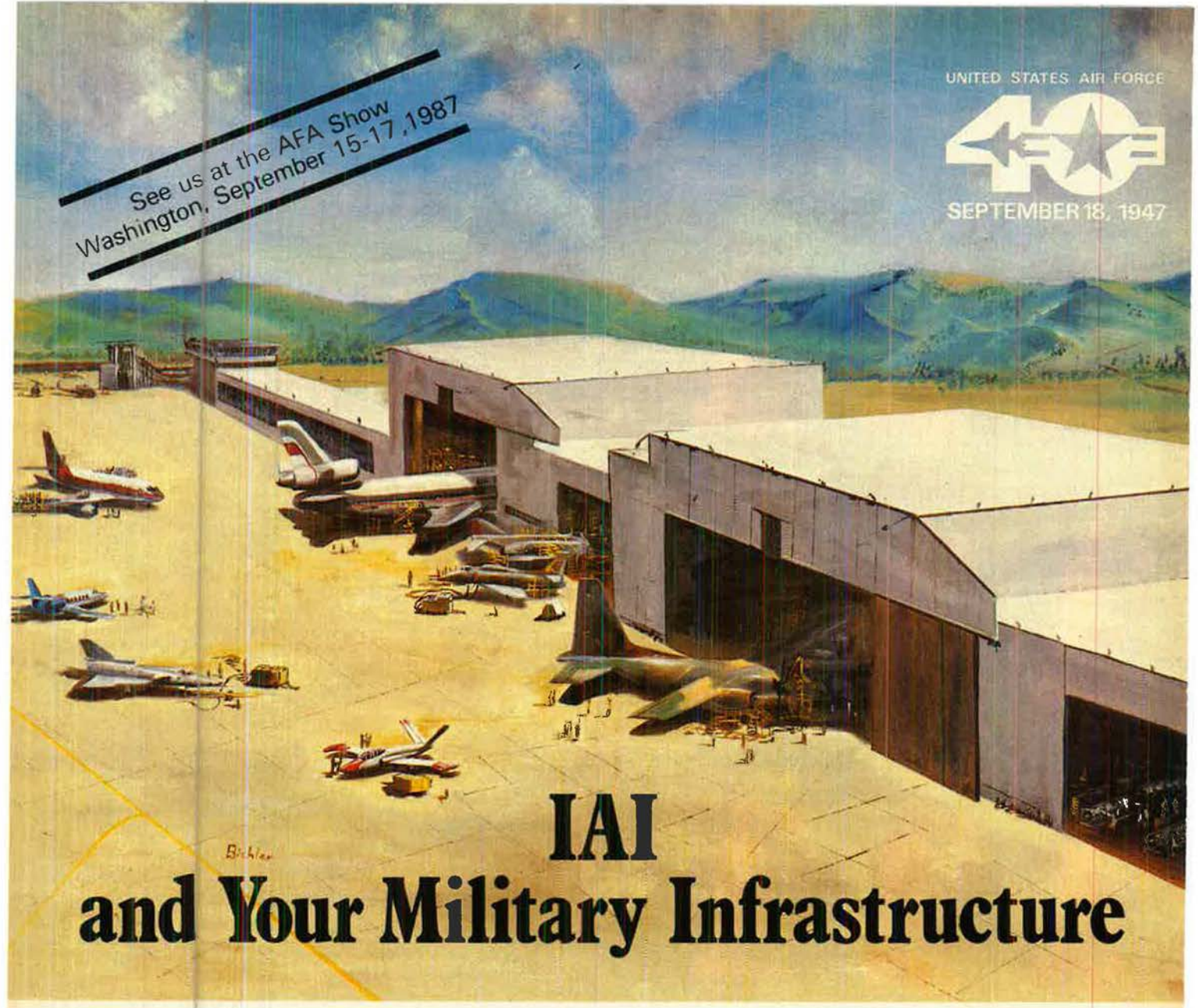

IAI and Your Military Infrastructure

From an original oil painting for Israel Aircraft Industries by Barry Bichler

15:45 Production Control Work Status Report

Marketing Mgr to Div Mgr: **Customer confirms approval of our proposal to upgrade all of his F-4 aircraft. Depot maintenance and avionics retrofit in process on 4 A-4 aircraft.**

Flight Test to Div Mgr: **Last of 12 Mirage completed flight test at 10:00.**

A/C Overhaul to Div Mgr: **In process C-130 D-check proceeding O.T. 707 special mission conversion to be in hangar at 24:00.**

Engine Plant to Div Mgr: **3 J-79's and 4 J-52's in process. 5 T-56's in inspection. 3 J-52's, 2 F-100's, 1 Atar, 2 PT6's and 5 Allison 250's in test cells. F-110 crew chief training accomplished.**

Accessories Plant to Div Mgr: **5 F-100 fuel control systems, 28 digital avionics packages and 17 hydraulic systems in process.**

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the triangular runways directly below. Our "thank you" to the CAP pilot was a salute and a wing wag. Oh, how I wish he had landed so that we could have established a lifelong friendship. He was an "angel of mercy."

The field gas truck dispensed 785 gallons into our 800-gallon-capacity tanks, and we gratefully prepared for our return trip to San Bernardino, Calif.

The CAP can justifiably claim that they prevented the destruction of a C-47 and its valuable cargo of jet turbine assemblies and saved the lives of seven military personnel.

Newton A. Jones
Nobleboro, Me.

STOL C-5?

I am curious about the photograph on page 30 of the July 1987 issue depicting the C-5 onloading a CH-46 helicopter at MCAS Tustin, Calif. My basis for concern is that Runway 6-24 (the *only* one) at "NTK" is a mere 2,996 feet in length!

I know that the C-5 is truly an amazing aircraft, but short-field performance on runways less than 3,000 feet long is phenomenal indeed! Perhaps the caption should have given the location as nearby MCAS El Toro, since only helicopters operate out of MCAS Tustin.

Mickey Bednar
Newport Beach, Calif.

• *The caption should have referred to MCAS El Toro, as reader Bednar surmises. We regret the error.*—THE EDITORS

An Honorable Officer

I am writing in reference to the two complaints voiced in the June 1987 "Airmail" column concerning a picture of Col. Raymond J. Bartholomew that appeared in the April 1987 issue.

Since I was present when the picture was taken, I believe that I can clarify the situation and offer further information that will explain the picture more clearly.

The morning that Colonel Bartholomew's eagles were pinned on, all element commanders (British, French, and Soviet) were invited, along with any of their personnel who cared to come. Needless to say, all the US controllers were also present to congratulate Colonel Bartholomew.

The ceremony was standard, with Colonel Bartholomew's wife pinning on one eagle and the senior-ranking USAF officer in Berlin pinning on the other in the presence of a USAF photographer.

After the ceremony was over, the Soviet chief controller (the element commander) presented Colonel Bartholomew with a pair of Soviet colonel boards as a gift. Someone in the room—and it was *not* Colonel Bartholomew—thought that it would be a great idea to show everyone in the room how they looked. So the two officers in the now infamous picture held the shoulderboards on Colonel Bartholomew's shoulders. Of course, the photographer did not miss the opportunity to take the picture!

I would like to point out that the shoulderboards were never "pinned on," as stated erroneously in the caption. They were momentarily held in place by the officers to either side of Colonel Bartholomew. This can be seen clearly by looking closely at the picture. The only rank actually pinned to Colonel Bartholomew's blouse was a standard set of USAF eagles.

Colonel Bartholomew was never consulted about the release of the picture and has, in fact, quietly suffered much grief over the picture.

The implications by both Col. Lawrence J. Cahill and Lt. Col. J. Philip Ruhlman in their June 1987 "Airmail" letters are erroneous and unwarranted. Colonel Bartholomew is a fine and honorable officer who has given many years of faithful service to our nation in both war and peace.

None of us stationed in Berlin has any illusions about Soviet intentions, capabilities, or long-term goals. We are doing our best to represent America proudly and faithfully here.

Maj. Paul J. Cameron, USAF
Berlin, Germany

Tail Code Quandary

I recently flipped through the May 1987 Air Force Almanac issue, and when I looked through the listing of tail markings on page 90, there was nothing for "HS." Now, there are obviously so many tail markings that one can easily be missed, but you guys were pretty thorough.

In December at Maxwell AFB, Ala., an F-15 and F-16 were on static display. The F-15 was from the 33d TFW at Eglin (EG), and the F-16 was from the 309th TFS at "HS." I hadn't seen that marking before, so I guessed it was from Homestead AFB, Fla.

I'd like to know the wing it was from. Can you help?

Matt Lindquist
Upper Marlboro, Md.

• *The 31st TTW based at Homestead AFB, Fla., of which the 309th is a part, has changed its tail code from the "ZF" listed in the May 1987 issue to "HS."*—THE EDITORS

CAS to the Army?

The United States Air Force should give up the close air support role and assign the responsibility to the Army. If USAF wants to design a new aircraft for the interdiction role, that's one thing, but the cost and complexity for a dual-role CAS aircraft are too much to ask.

For the NATO Central Region, the Army should have a thousand or so simple aircraft like the "AD," flown by flying sergeants with an "A&E" license. These aircraft would be supported by tanker trucks carrying aviation gas, ammunition, and spare parts.

The AD-type aircraft would be a tank killer capable of landing on dirt roads, highways, and grass strips. No inline engine, no turboprop, just a hefty radial.

I flew with the 8th Wing in Korea and participated as an enlisted man in some very effective "wargaming" from grass and dirt strips in Japan after World War II.

If the Russians make their move, there will be little time for concrete runways and complexity.

John J. Simpson
Inglewood, Calif.

AIRMAIL

1961st Communications Group

We are in the process of trying to assemble a comprehensive history of the 1961st Communications Group from its origin in 1948 to the present.

The unit has held several designations through the years: 141st Airways and Air Communications Service Squadron (MATS) and the 1961st Airways and Air Communications Service Squadron (later group). It had several detachments that we are particularly interested in: Det. 1, 1961st AACS Squadron, Henderson Field, Guadalcanal (1948–49); Det. 1, Hq. 1961st Communications Group, Don Muang Airport, Thailand (1961–62); Det. 5, Hq. 1961st Communications Group, RAAF Laverton, Australia (1962–65); and Det. 5, Hq. 1961st Communications Group, Mactan Isle Airfield, the Philippines (1965–67).

We are looking for photographs of the group's personnel, equipment, and facilities. We would like the photographs to be labeled with time, personnel, equipment, and facility if possible. Also if possible, we would like to know the name of the photographer so that he or she can be recognized. The photographs will be copied and returned. We would also appreciate any documentation, both official and unofficial, that would lend flavor to our proposed history room as well as to a possible historical publication on the proud heritage of the 1961st.

Please send any items to the address below.

Col. John L. Woodward, Jr., USAF
Commander
1961st Communications Group
APO San Francisco 96274-6345

AFRTS Memorial

The Armed Forces Radio and Television Service recently moved from Hollywood to its new broadcast facility in Sun Valley, Calif. The commander has agreed to allocate a special area in the facility to be used for a memorial to those AFRTS members who have made the supreme sacrifice. A special committee comprised

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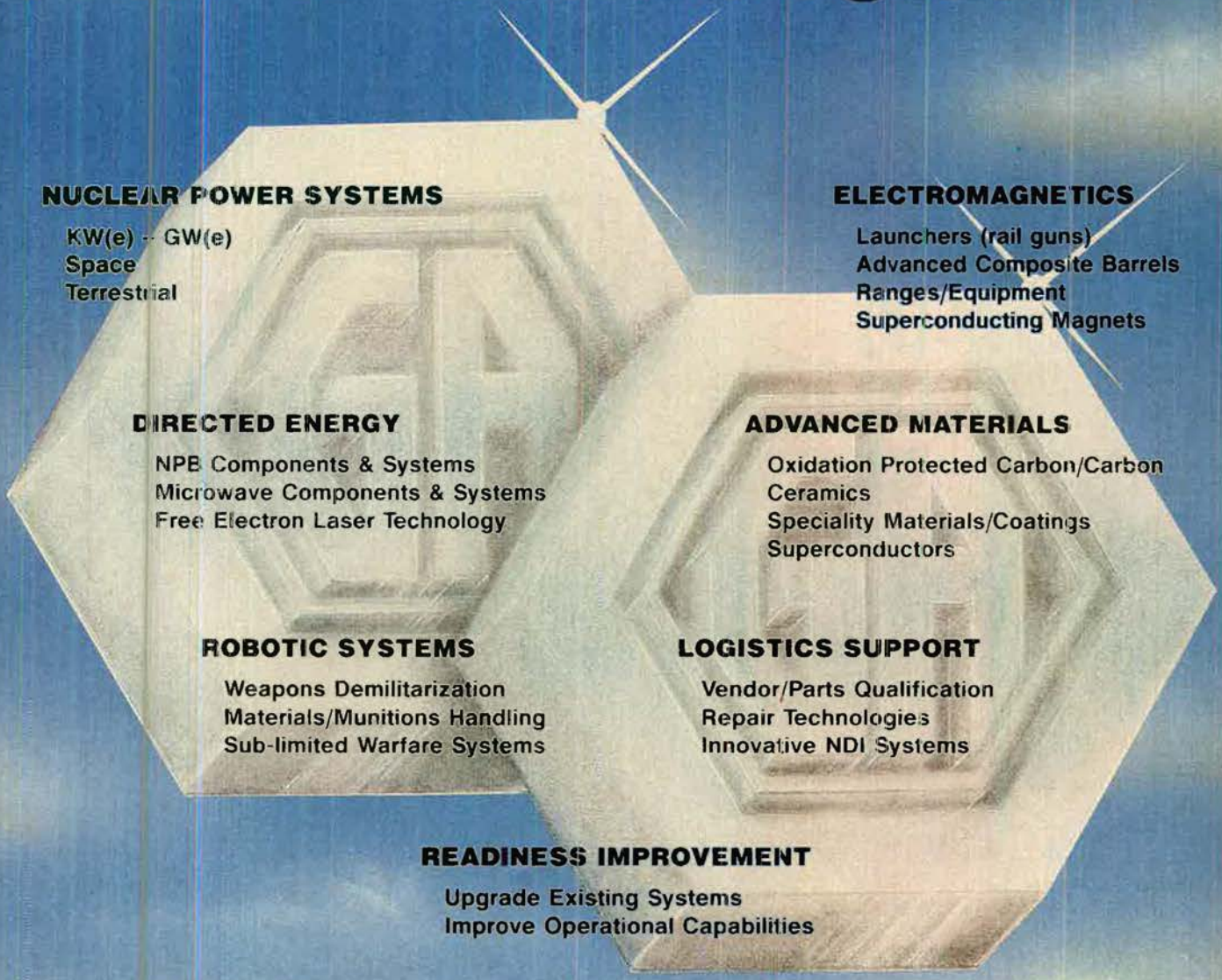

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of members of the Armed Forces Broadcast Association, Los Angeles Chapter, has been formed to design and complete the memorial.

We are soliciting assistance in finding the name, rank and military branch, unit of assignment and address, position of assignment at time of death, circumstances surrounding the death, hometown, high school, college, marital status, names of spouse and children if any, and all other pertinent information available on those who have made the supreme sacrifice while serving with AFRTS.

We would very much appreciate hearing from readers who may be able to help us. Please contact the address below.

Art Sharpe
AFRTS-BC Memorial Project Committee
10888 La Tuna Canyon Rd.
Sun Valley, Calif. 91352-2098
Phone: (818) 504-1243
AUTOVON: 727-1760/898-1460

Escape From Yugoslavia

As part of my research for a book on the August 1944 rescue efforts in Yugoslavia, I would greatly appreciate hearing from any of the aircrew members involved. Most of them were in hiding with the Chetniks after the Ploesti raids in August 1943 and June and July 1944.

This was a Fifteenth Air Force operation, and some of the men rescued were from the 99th Bomb Group based at Bari, Italy. The Air Force/OSS rescue mission was headed by Capt. George Musulin, who died earlier this year in Virginia. An estimated 400 crew members were brought out in August and subsequently in a remarkable and most successful effort.

I would welcome personal stories, names, leads—any data related to the project. I am especially interested in obtaining information about the action that centered around the Pranjane airstrip southwest of Belgrade.

Charles M. Holloway
P. O. Box 497
Williamsburg, Va. 23185

Balloon Reconnaissance

I am a writer researching a book on balloon reconnaissance. I would like to hear from any Air Force personnel who were involved in the WS-461 L program. This was an Air Force balloon reconnaissance program that used a Navy aircraft carrier in the Bering Sea as the launch platform.

Test flights of the WS-461 L balloon were made in the summer of 1957. The only operational missions flown were in July 1958. In particular, I would like to discover the name of the carrier that was used as the launch platform.

Curtis Peebles
1164 E. Madison Ave.
El Cajon, Calif. 92021

F-4 Air Defense Training

I am currently writing a history of the F-4 air defense training programs conducted at Tyndall AFB, Fla. (1974–82), Homestead AFB, Fla. (1982–85), and Kingsley Field, Ore. (1983 to the present).

As part of the research involved with this effort, I'd like to contact any individuals who were associated with these programs as students, instructors, or other staff members. I'm very interested in seeing any "school-

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house" pictures, including formal class or staff photos and informal shots (particularly if there's a story involved), as well as any photos of the aircraft flown in support of these programs.

John Deur
P. O. Box 80991
Chamblee, Ga. 30366

Pilot Navigators

As a former navigator and current pilot, I am attempting to contact and organize a group of those individuals who have been awarded both navigator and pilot ratings. Since both sets of wings cannot be worn, I have designed a patch that reflects both of these ratings.

Anyone interested in joining and organizing this group is invited to contact me at the address below.

William C. Gladish
R. R. 3, Box 119
Petersburg, Ind. 47567

DB-17 Drone Controllers

I am currently conducting research into the operations of DB-17 aircraft during the 1950s. The DB-17s were operated as drone controllers (of QB-17s) at Eglin AFB, Fla., and Roswell, N. M.

Any operational details, anecdotes, and especially photos of any operations involving these aircraft would be extremely useful to me. Any photos will be promptly copied and returned, and all information and photos will be appropriately credited.

Scott A. Thompson
1418 Windgate Dr.
Manteca, Calif. 95336
Phone: (209) 239-3553

Roll Call

I am trying to locate former Lt. Alfred W. Brown, who was the copilot on our crew in 1944 and 1945 in the 483d Bomb Group, Fifteenth Air Force, stationed near Foggia, Italy. This crew was led by Capt. William D. McMillan.

We have located all the other members of our crew and are planning a crew reunion in October 1987. All of us would appreciate hearing from anyone who could put us in touch with this "lost sheep."

Robert G. Love
313 50th St., S. W.
Everett, Wash. 98203
Phone: (206) 252-4975

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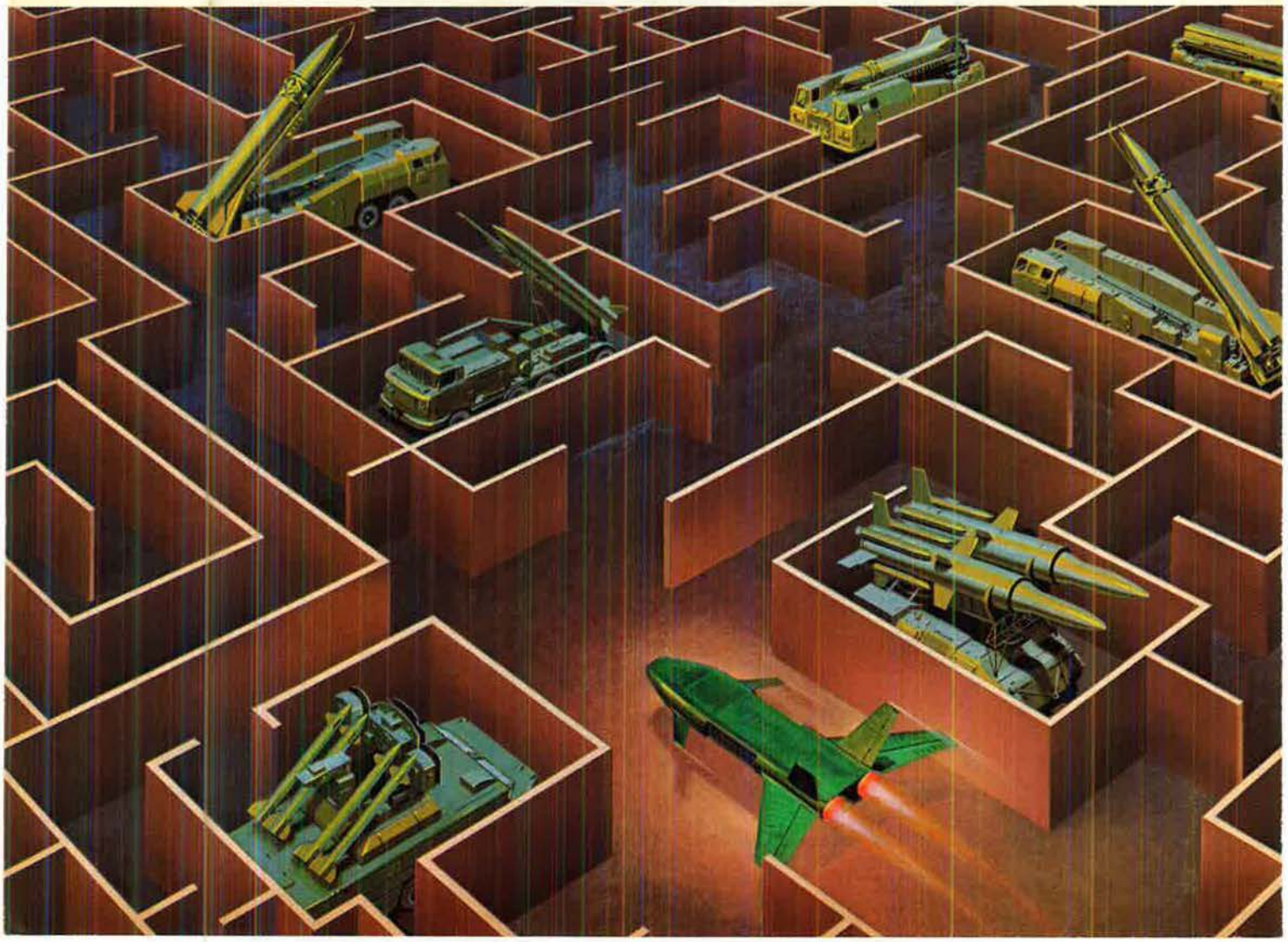


AIRMAIL

I am trying to locate a man by the name of Jack Bowen. He may also have gone by the name of Jim. He was a USAF enlisted airman stationed at Robins AFB, Ga., during 1961 and 1962. He was about age nineteen or twenty at that time.

Jack Bowen is a family member, and it is imperative that I locate him. If anyone knows how I might get in touch with him, please contact me at the address below.

Ruth Ann Roberts
P. O. Box 410
Warner Robins, Ga.
31099-0410
Phone: (912) 923-8021

I am looking for anyone who can provide any information about Sgt. Joseph E. Junk. He left Savannah, Ga., in late 1945 or early 1946 for an overseas assignment.

Please contact me at the address below.

M. L. Ferraro
1415 N. 4th St.
Jacksonville Beach, Fla.
32250
Phone: (904) 241-2689

Collectors' Corner

I am attempting to put together a collection of patches from bomb wings and squadrons that flew B-47s, B-57s, B-66s, and B-58s. From all the material that I've been able to find and read, there were only twelve bomb squadrons that flew the B-57, six bomb squadrons that flew B-66s, six bomb squadrons that flew the B-58, and approximately ninety-five squadrons that flew the B-47.

I would like to solicit help from anyone who may have and who would be willing to part with patches from any of these units. I would also appreciate knowing when and where you served with the unit. Any help will be greatly appreciated.

Dick Kiertzner
2535 Cambridge Dr.
Florissant, Mo. 63033
Phone: (314) 838-2527

I recently spent two weeks in India with a briefing team from the US Army Command and General Staff College. While at Western Air Command headquarters in Delhi, I met an Indian Air Force group captain who had attended F-86 training at Nellis AFB, Nev., in the early 1960s. He asked if I could find a patch from his F-86 unit.

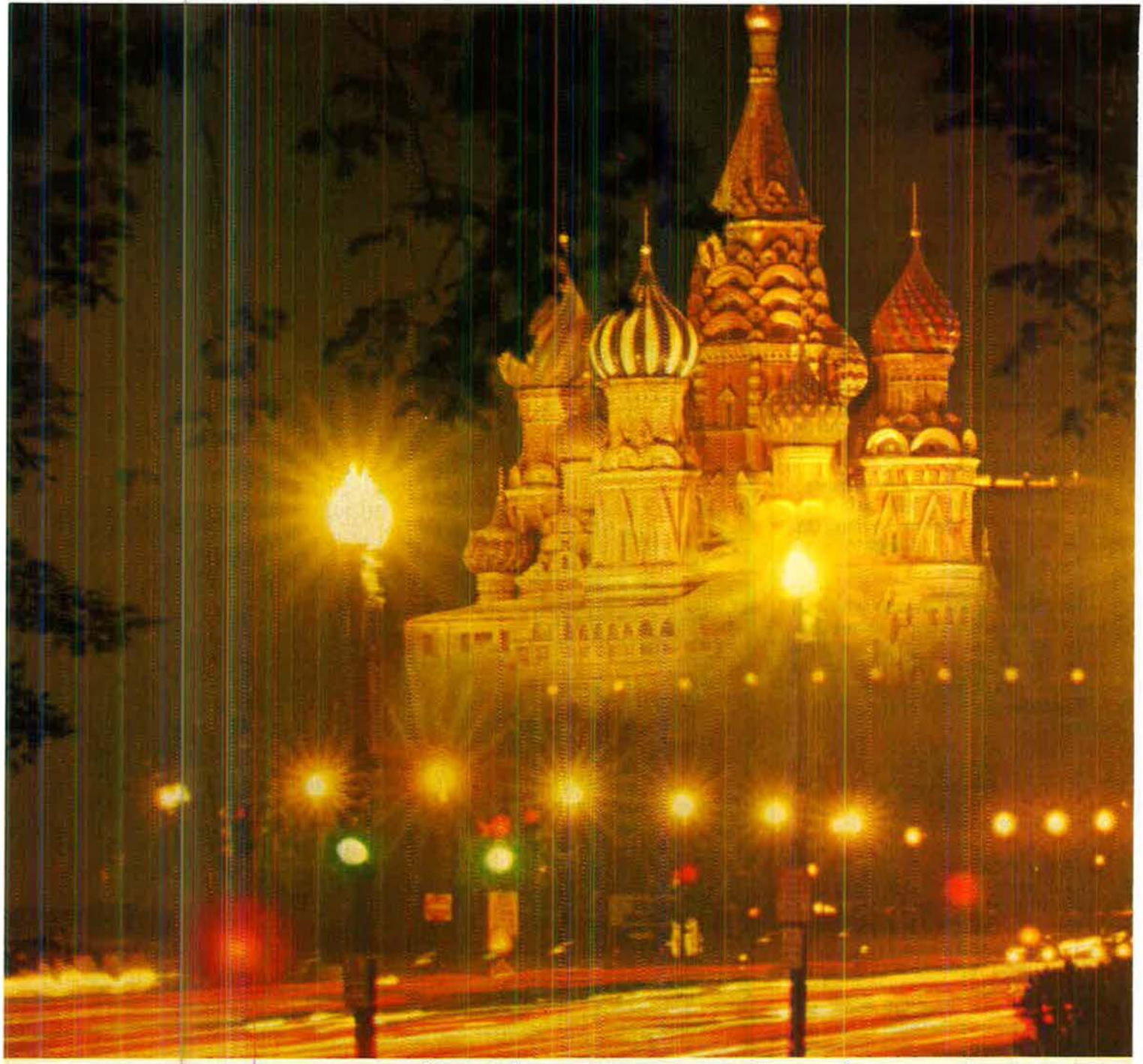
If any readers have a patch from the 4521st Combat Crew Training Squadron that they could bear to part with, I will forward it to this Indian group captain through our embassy. Please send the patch to me at the address below.

Senior Air Force Representative
Attn: Maj. Dan Leaf, USAF
USACGSC (Bell Hall, Room 139)
Fort Leavenworth, Kan.
66027-6900

The Chuck Yeager Fan Club is looking for Air Force items for our collection. We are looking for patches, badges, wings, and photographs. If anyone has any photos of General Yeager from during any part of his military career, we would appreciate receiving them. We are also looking for a present-day pilot's helmet.

Please send any items to the address below.

The Chuck Yeager Fan Club
315 West Henry St.
Linden, N. J. 07036



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IN FOCUS...

The Glasnost Watch

By Edgar Ulsamer, SENIOR EDITOR (POLICY & TECHNOLOGY)

Carlucci says that while enormous internal changes are taking place in the USSR, they are not yet reflected in Soviet policies of greatest concern to the West. He feels the US should "wait and see."

Washington, D. C., Aug. 5

Based on the "information I have seen," White House National Security Advisor Frank C. Carlucci is hesitant to treat internal and external Soviet reforms encapsulated by the word "glasnost" as a "genuine" and long-term move toward openness and reconciliation with the West. He acknowledged in a recent breakfast meeting with defense writers that Soviet leader Mikhail Gorbachev's widely touted glasnost might be nothing more than another cyclical gambit designed to "move us toward complacency."

While he stressed in response to questions by this writer that "there are enormous internal changes taking place in the Soviet Union" and that Gorbachev appears fully committed to modernization, the White House official cautioned at the same time that "that has occurred before. More people were released from jail under Khrushchev than have been released under Gorbachev."

Those internal changes that have been put into effect by Gorbachev, Mr. Carlucci cautioned, are not being reflected in Soviet policy, at least not in two areas of great concern to this country: "regional issues and human rights." The war in Afghanistan is one of the key regional issues that remains troublesome: "The Soviets now have more troops in Afghanistan than they had [during the tenure of President Jimmy] Carter—some 30,000 more troops."

Calling attention to recent "hardline" positions concerning that war taken by the Soviet leader, the White House National Security Advisor noted that "the Soviets are making noises about getting out [of Afghanistan], but we see no signs that they are really engaged in a serious effort to do so." Equally conspicuous is the absence of "any serious effort to bring about the withdrawal of Cuban troops from Angola."

Citing particular aspects of unabated Soviet aggressiveness, he recommended the US take a "wait-and-see" attitude with regard to the meaning of glasnost. In this context, Mr. Carlucci called attention to a recent major arms shipment by the Soviets to Nicaragua. Also, Soviet activities with regard to the Persian Gulf crisis "have not been helpful." Among these deleterious Soviet measures, he explained, was the ploy of recommending that all ships not belonging to regional powers be kept out of the Gulf—after the USSR arbitrarily had declared itself to be one of the regional powers of the Gulf area.

"In that part of the world," he added, the Soviets also engage in the somewhat risky diplomacy of cultivating Iran without relinquishing their ties with Iraq. "There is no question about a major [Soviet] campaign to increase their presence in the Middle East." The campaign, he underscored, proceeds in well-orchestrated fashion along military, diplomatic, economic, and propagandistic lines.

While he reiterated that some "prominent" people have been released from prison under Gorbachev's glasnost policy, the White House official pointed out "that compared to what the requirements are and what could be done," these amount to only token actions. Until there is evidence of an enduring Soviet commitment to a more "flexible" policy, the West, he suggested, is entitled to a "certain degree of skepticism."

Turning to the pending bilateral US/USSR INF (long-range and short-range intermediate nuclear forces) accord, the White House official acknowledged that from the US point of view, its purpose is "principally" to set a historic "precedent by eliminating a group of weapon systems [in order to] create a psychology of movement" toward strategic arms reductions. He acknowledged that the pending INF accord causes the US to give up weapon systems in Europe—Pershing IIs and ground-launched cruise missiles (GLCMs)—that are capable in a strategic sense of covering key parts of the Soviet target set in European Russia, whereas the Soviet INFs pose no equivalent strategic nuclear threat to the US proper.

As a consequence, the pending INF accord tends to skew an existing imbalance even further in favor of the USSR. Pentagon analyses affirm that the US hard-target capability residing in all available ballistic missiles and strategic bombers is only about half of what would be required to cover the strategic target set of the USSR under plausible scenarios. Conversely, the Soviet Union's strategic arsenal has about twice the firepower needed to cope with all strategic targets in this country.

Acknowledging that under the presently envisioned terms of the INF accord the US "obviously would be giving up systems that could hit the Soviet Union," the National Security Advisor explained that "we don't think that results in any significant military insufficiency."

Mr. Carlucci also reported that the Soviets could readily use their new mobile SS-25 ICBMs—and field them at an accelerating rate—to cover targets in NATO Europe that are now assigned to Soviet INFs, mainly SS-20s. The latter category of MIRVed long-range nuclear theater weapons apparently will be banned *in toto* by the pending INF accord. There is evidence that the SS-25 ICBMs are being "made in the same plant as the SS-20s," thus pointing up the paramountcy of the on-site-inspection provisions of the pending INF agreement, Mr. Carlucci stressed.

On balance, the White House official suggested that the INF accord

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IN FOCUS...

would nevertheless turn out to be advantageous because the number of Soviet SS-20s has been "growing like rabbits." Their elimination would benefit NATO and, hence, the US, which is a member of the alliance.

Verification and on-site-inspection procedures are clearly among the most ticklish aspects of the pending accord, Mr. Carlucci pointed out. The prospect of Soviet inspectors perambulating through US production facilities is dividing the US intelligence community and also posing questions in the "minds of some of our allies," he added. Among the more stringent on-site-inspection plans under consideration are two-hour-notice "challenge inspections" and the stationing of six 100-member teams of "inspectors" in the other power's territory.

Under this plan, the inspectors would have the right to gain short-notice access to any facility that could be suspected of producing weapon systems covered by the INF accord. Senate Democrats are allegedly considering the possibility of blocking ratification of the pending INF agreement for a variety of reasons that includes military disadvantages and intrusive inspection provisions.

Mr. Carlucci, when asked about these concerns, asserted that "it is premature to make a judgment about whether the inspection [measures] would be too intrusive or not adequate. The President is committed to the most effective verification that can be achieved." He explained that the two-hour-notice "challenge inspection" provision may or may not come to pass and that it is being contested within the US intelligence community. Elements of that community, he explained, favor "some exemptions" to the challenge inspection procedures now under consideration.

Explaining that SALT II was "relatively easy to verify by [the largely space-based sensor systems lumped together under the designation of national technical means, or] NTM," Mr. Carlucci reported that experts from various branches of government were in the midst of examining the adequacy of these devices and techniques with regard to INFs.

If both the INF accord and a future START (strategic arms reduction talks) agreement are signed—unless in the case of the latter "we can ban mobile missiles—we are going to have to deal with mobile missiles that are much harder to verify." One of the fundamental problems with regard to an INF accord is that "we don't know how many hidden missiles" the Soviets might have in reserve.

The White House's National Security Advisor suggested that in order to verify an INF accord adequately, the US will "have to have more NTM" and "more than NTM," meaning cooperative inspection arrangements. He added, however, "As I understand it, the DCI [Director of Central Intelligence] position is [that] the current program that we have budgeted would be sufficient [eventually to meet] the verification requirements imposed on the NTM."

This sufficiency, he pointed out, is based on acceptable probability bands. Additional verification capabilities could be attained by some "big shiny upgrades" of the NTM that might not necessarily represent cost-effective investments, he added. The White House official declined to discuss an alleged US proposal to ban the encryption of missile flight data

pertinent to an INF accord on grounds that "we have not yet seen the final" language of the accord.

Mr. Carlucci did acknowledge that the Administration is counting on START rather than an INF accord to eliminate the possibility of Soviet "breakout." As he put it, "We see no reason to stop with INF and clap our hands and say, 'Whoopee! Everything is done.' " Pointing out that the strategic systems are probably the most threatening weapons, he emphasized that the Administration is determined to follow through on the "agreement in principle" to reduce them by fifty percent that was reached at the summit meeting in Iceland last fall.

So far as the seventy-two Pershing IA missiles—manned by West German forces but whose nuclear warheads are under US control—are concerned, Mr. Carlucci stressed that the Administration treats these weapons as "cooperative weapons" outside of the scope of INF negotiations.

A number of changes in how the NSC functions were made when Mr. Carlucci took over as the President's National Security Advisor at the beginning of this year in the wake of the "Irangate" turmoil, he reported. Central here was a directive issued by the President that the NSC will neither "implement" nor "run" covert programs. This past practice, he suggested, created unavoidable conflicts of interest for the NSC, whose fundamental function is to serve as the "keeper of the system."

The NSC, along with other elements of the executive branch of government, has been working on revisions of the procedures governing covert US actions and has put into effect several changes, "such as 'zero-based review' of covert actions," Mr. Carlucci announced. The President "chaired and sat through [the meeting] as we reviewed every covert action program and terminated some." Lastly, in another departure from past practices, all Presidential intelligence findings "will be in writing" and will be briefed to pertinent congressional committees.

Packard Commission Revisited

One year after the White House Blue Ribbon Commission on Defense Management—popularly known as the Packard Commission—presented its hallmark recommendations, the group reconvened for a final assessment of their impact on Pentagon procedures. The "report card," in the form of a public letter to the President by the group's chairman, David Packard, gave the Pentagon's implementation of the recommendations passing grades in some areas, but flunked it in others.

Among the group's negative findings were acquisition-policy decisions contributing decisively to "the poor relations between the Department of Defense and industry [that] in time could seriously weaken the defense industrial base." The Commission's progress review also found that the Pentagon's tendency to increase "contractors' risks—for example, by using firm, fixed-price contracts for development of systems—while at the same time reducing their ability to deal with this risk by changes in progress payments and other policies will lead to reduced contractor investments in capital equipment and reduced Independent Research and Development."

Criticism by the Commission reached a scathing crescendo in the assertion that "we are seeing today the same sort of acquisition-policy mistakes that characterized the enthusiasm for total package procurement in the 1960s—mistakes that produced the bitter contract claims disputes, contract restructuring, and bailout charges of the 1970s."

Air Force Secretary Edward C. Al-

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dridge, Jr., in a recent discussion with defense writers, strongly seconded these concerns of the Packard Commission. "We are," he suggested "on the road to destroying our industrial base." He called for an "across-the-board" reassessment of defense acquisition policies with an eye on letting contractors make "profits that are consistent with the risks" that are entailed in high-tech programs.

Almost universally, he complained, "we have removed the incentives for defense industry to take the risks necessary to [advance] technology [to the degree needed] to support future weapon systems." A number of measures—such as profit margin standards, progress payment procedures, and the trend toward more cost sharing—that by themselves look like good ideas "have the overall effect of reducing the incentive for contractors to invest in defense and take those risks necessary to move technology forward," Secretary Aldridge warned.

The motivation behind these extreme acquisition standards, he said, is largely based on the spurious perception that the defense industry reaps higher profit margins than industry in general when in fact the opposite is true. Anybody doubting the veracity of this assertion "should ask around Wall Street. . . . They will tell you [that] defense profits lag behind the general margins," Secretary Aldridge suggested.

While painting a generally gloomy picture, the Packard Commission's latest assessment called attention to "one important, positive trend in the field of defense-industry relations—[to wit], significant efforts by industry and the Defense Department in the fields of industry self-governance and voluntary disclosure."

Moreover, the Packard Commission charged that Congress's habit of funding defense programs in an erratic fashion is "beginning to pose serious problems for our long-term national security." Pointing out that for the last three years the actual congressional appropriations for defense have been significantly less than the amount in the budget forecast made by Congress the previous year, the Commission reiterated its original finding that "more defense can be provided per dollar appropriated within a stable program, sustained and predictable over several years." Opposition in Congress to "adequate and stable levels of funding our defense" has denied that stability.

The Packard Commission roundly faulted the Defense Department on grounds that the Under Secretary of Defense for Acquisition "has not been given adequate authority." The letter to the President charged that the Department promulgated policies that "severely undercut the role of contracting officers and the ability of managers to direct programs successfully."

Compounding the problem is the fact that "auditors have been given responsibilities outside their competence," the Commission asserted. In addition, these auditors have been provided with a "separate chain of command in a way that, in effect, makes them rivals of contracting officers, [thereby] undercutting the acquisition plan we set forth to you—a plan that was based on strong program officers capable of effective management."

This problem "results both from legislation that gives authority for audit policy to the Inspector General instead of the Under Secretary of Defense for Acquisition and from Defense Department implementation that assigns to defense auditors contractual responsibilities previously held by the contracting officer," according to the Packard Commission.

Pointing out that even the best acquisition procedures and reforms will fail if the able managers who are needed to make them work can't be attracted to government service, the Commission stressed the importance of reforms that make it possible for managers "with experience in, and understanding of, the relevant industries to serve in acquisition-related jobs in government." But the letter notes that "current divestiture rules and their tax consequences and revolving-door legislation virtually prohibit such service for most people who have the relevant types of industrial experience."

IN FOCUS...

Washington Observations

★ As an integral element of the Administration's formal overall national security strategy, President Reagan approved this summer specific policies governing US actions with regard to "low-intensity conflict." The cornerstone of the US LIC strategy "is to act to prevent the onset of violence." In line with this emphasis on deterrence, the new guidelines mandate "steps to discourage Soviet and other state-sponsored adventurism and increase the costs to those who use proxies or terrorist and subversive forces to exploit instability in the Third World." Policy coordination for LIC is being assigned to a "Board for Low-Intensity Conflict, chaired at the National Security Council."

This new organization was mandated by Congress last year by an amendment to the National Security Act of 1947. Among the provisions of the White House National Security Decision Directive (NSDD) is support of resistance movements "seeking freedom or self-determination that are acting in opposition to regimes inimical to US interests." This support is to be provided in "political, informational, economic, and military" form on a selective basis. The overall tenor of the LIC strategy is to counter Soviet-sponsored destabilization of the Third World by "measures to strengthen selected nations facing internal and external threats to their independence and stability."

The new LIC Board will be headed by the National Security Advisor, include representatives from such agencies as the State and Defense Departments as well as the Central Intelligence Agency, and confine its activities to policy coordination, "without any operational responsibilities." Among the Board's tasks is development of indicators of low-intensity conflict trends as well as formulation of policies governing US responses to evolving LIC situations.

★ The Chairman of the House Armed Services Committee, Rep. Les Aspin (D-Wis.), reportedly requested that the White House furnish his committee copies of all NSDDs (national security decision directives), probably the most sensitive documents of the executive branch. Indications at this time are that the White House will refuse this request.

★ Administration officials reject charges that the pending INF accord contains intrinsic blemishes by pointing out that the Pershing IIs and GLCMs the US would give up are basically "sitting ducks." They contend that these systems are hardened to only five psi (pounds of overpressure per square inch) and in effect are "not mobile" because of constraints imposed by the NATO host countries.

★ Air Force Secretary Aldridge recently disclosed that the Air Force last year had a net loss in the number of pilots. The service lost 375 more active-duty pilots than it produced in 1986. The cost of producing a combat-ready pilot is about $6 million. ■

CAPITOL HILL

By Brian Green, AFA DIRECTOR OF LEGISLATIVE RESEARCH

Washington, D. C., July 29

Budget Actions

The defense authorization bill remains on hold because of opposition in the Senate to language approved by the Senate Armed Services Committee that could restrict testing of Strategic Defense Initiative technologies. The committee-approved bill gives either chamber of Congress the right to veto any move by the White House toward the adoption of the "broad" interpretation of the ABM Treaty. The "broad" interpretation would permit much more testing and development than the "narrow" interpretation. The informal "conference" between the House Armed Services Committee and Senate Armed Services Committee Democrats intended to provide guidance to the Appropriations Committees has not yet finished. Some of the issues still dividing the "conferees": MX, the Small ICBM, and SDI funding.

Although "everything is up in the air," according to one staffer, the defense subcommittees of the House and Senate Appropriations Committees are not likely to start marking up their respective versions of the defense appropriations bill prior to September. Lack of an authorization bill and the impending August 8 summer recess are hampering subcommittee efforts.

Gramm-Rudman-Hollings II?

Two efforts to restore automatic budget cuts that would take effect should Congress fail to approve a budget that meets deficit targets have, at least temporarily, been defeated. The automatic cuts—a central provision of the Gramm-Rudman-Hollings (GRH) balanced-budget law (named for its original sponsors, Sens. Phil Gramm [R-Tex.], Warren Rudman [R-N. H.], and Ernest Hollings [D-S. C.]) that mandates progressively lower annual deficits—could lead to potentially disastrous reductions in the defense budget. Amendments to revise GRH were attached to a Senate debt-ceiling bill.

According to the Congressional Budget Office (CBO), the FY '88 budget now under consideration would miss the GRH-mandated target. If Congress approves a constitutional sequestration procedure, defense accounts would be required to bear half the cuts required to reach the deficit goal. That could result in a fourteen percent across-the-board reduction in the $289 billion CBO "baseline" defense budget.

The automatic mechanism in GRH to trigger cuts was declared unconstitutional last year. Sen. Pete Domenici (R-N. M.), the ranking Republican on the Budget Committee, and Senator Gramm introduced an amendment that seeks to avoid the constitutional problems and would also allow Congress to adjust the deficit estimates that would trigger the automatic cuts. Those estimates are now provided by the CBO and the Office of Management and Budget. A procedural motion to permit the amendment to come to a vote failed by thirteen votes.

Senator Domenici also intends to introduce an amendment that allows some flexibility in apportioning the DoD cuts. The President would be permitted to exempt military personnel accounts from automatic cuts or to reduce them at a lower rate and to adjust program cuts within uniform reductions of broad accounts.

Sen. Lawton Chiles (D-Fla.), Chairman of the Budget Committee, submitted an amendment that would require a maximum $36 billion annual reduction of the deficit, permit DoD to exempt military personnel from the automatic cuts, and also try to avoid constitutional problems. It was defeated by a vote of 71–25.

Negotiations in the Senate continue on the GRH fixes.

USAF on the B-1B

The General Accounting Office, the investigative arm of Congress, issued a report critical of spare-parts shortages, lower-than-expected reliability, higher costs, and lower-than-expected alert rates for the B-1B.

Spare-parts shortages result in part from the exigencies of concurrent development and production as well as the normal shakedown of a new airplane, according to the Air Force. Spares requirements were estimated two years before the B-1B was flying, and current supplies of spares are sensitive to estimates made then under those uncertain conditions and the demands of still-open production lines building the last B-1s. Spare-parts shortages have not reduced training sorties.

B-1B program director Maj. Gen. Elbert Harbour noted at a recent press conference that, by using parts from the production line, all B-1Bs could be ready in two or three days.

The toughest challenge, the electronic countermeasures system, will be fully capable in early 1990, according to General Harbour, and already has substantial capability against deployed and soon-to-be deployed Soviet threats. Concerning the B-1B's unrefueled range, which critics say is too short, the General says, "The B-1B has the capability to go very . . . deep into the territory [of the Soviet Union], having refueled very far back. . . ." When the stability enhancement system is operational, the B-1B ought to be able to fly "from the Potomac to the Golden Gate Bridge" at low altitude and high speed without refueling.

DoD Restrictions Dropped

Language that could have restricted DoD use of the Space Station *(see also "Capitol Hill," August '87 issue)* has been dropped from the House version of the NASA authorization bill. The language prohibited use of the Space Station "by or on behalf of any department or agency for the purpose of conducting . . . operational testing . . . or deployment of any offensive or defensive weapon or weapon system if in contravention of US laws or treaty obligations."

Rep. Norman Mineta (D-Calif.) sponsored the amendment on the House floor to delete the provision. Representative Mineta originally sponsored slightly different, but much more restrictive, language, and he objected to easing the limits on DoD. ■

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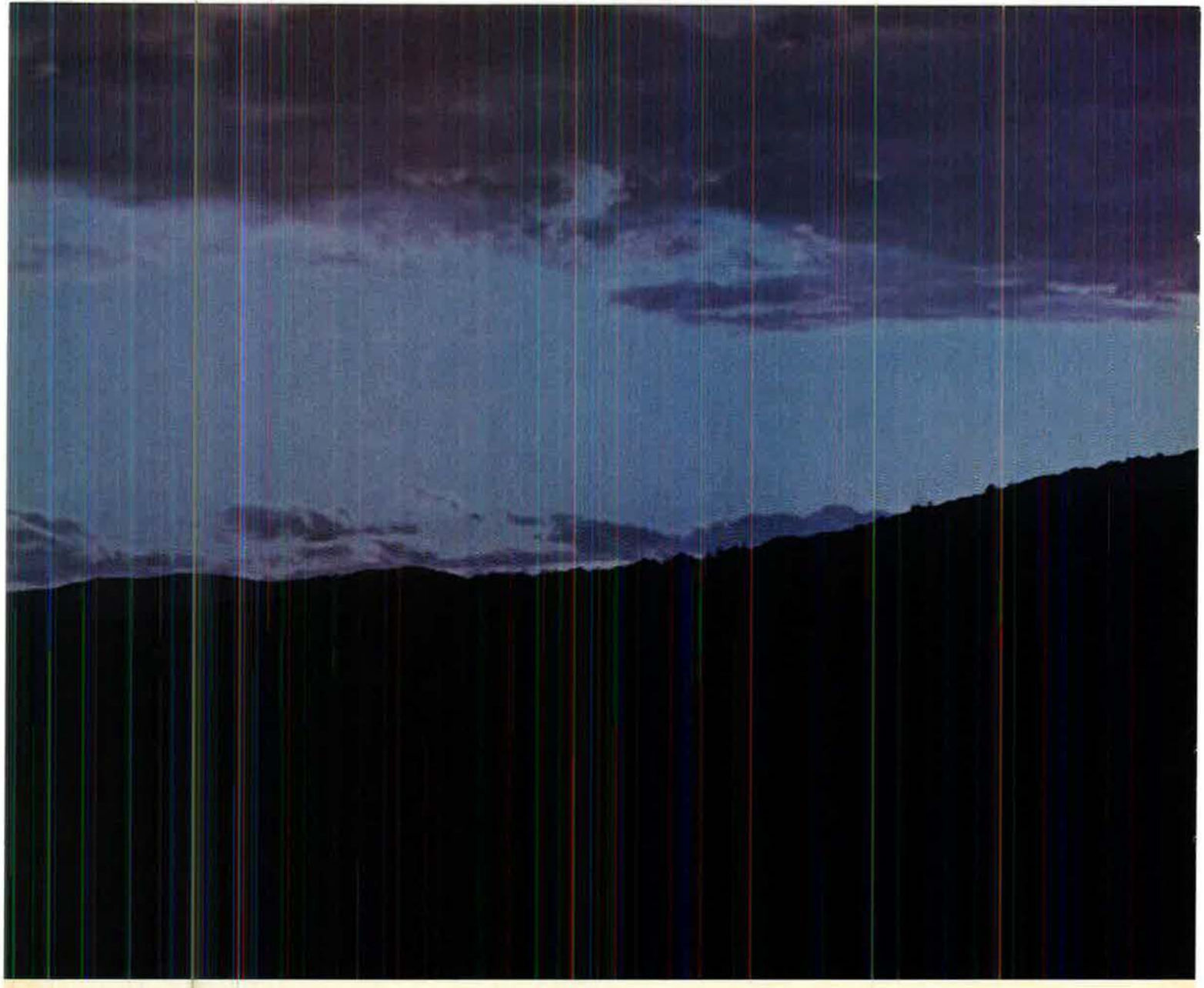

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is no exception. It's another example of why we say, at Raytheon, quality starts with fundamentals.

Raytheon Company, Government Marketing, 141 Spring Street, Lexington, MA 02173.

An A-10 aircraft launches a Raytheon-produced IR Maverick missile.

Raytheon

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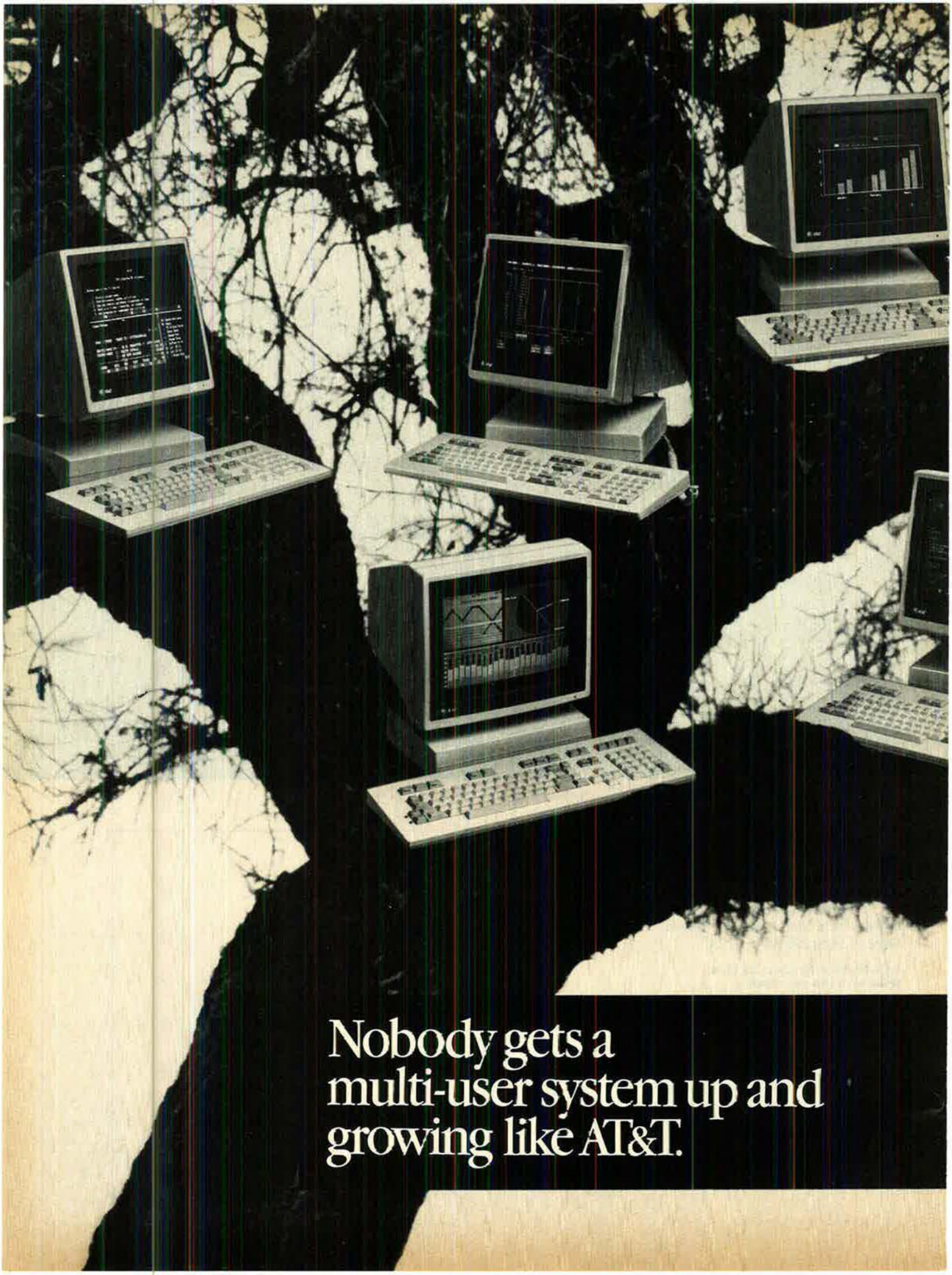

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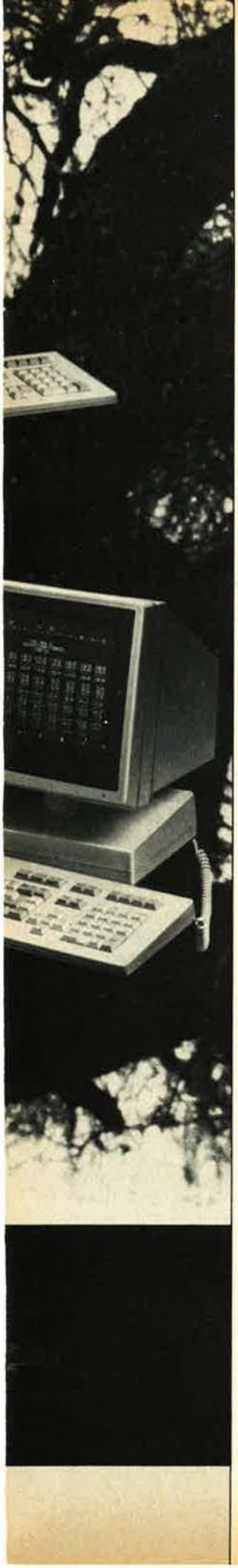

Efficient information networking demands an expertise in systems integration. And nobody knows more about integration than AT&T.

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AEROSPACE WORLD

. . . PEOPLE . . . PLACES . . . EVENTS . . .

By Jeffrey P. Rhodes, AERONAUTICS EDITOR

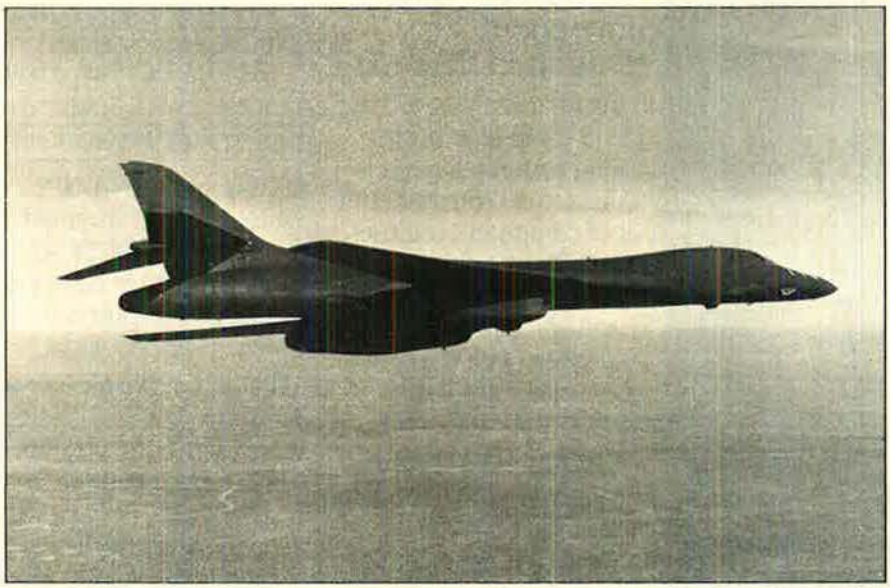
Washington, D. C., Aug. 3 ★ As a counterpoint to the arguments of critics who have charged that the Rockwell B-1B is slow and can't lift a heavy payload, a B-1B on an acceptance flight off the Pacific coast on July 4 unofficially broke four established world records for speed, distance, and payload. The plane also unofficially established fourteen new records on the flight.

The records were set in two classes (total gross weight of 440,000 pounds and open class), at distances of 620 and 1,240 miles (1,000 and 2,000 kilometers), and payload weights ranging from zero to 66,000 pounds in 11,000-pound increments (zero to 30,000 kilograms in 5,000-kilogram increments).

The record attempt was witnessed by officials from the National Aeronautic Association (NAA), the official sanctioning body for aviation record attempts in the US. The NAA is the US representative of the Fédération Aéronautique Internationale (FAI), the international aviation authority, which will certify the records.

The B-1B, the fifty-eighth production aircraft, took off at 11:30 a.m. from the Rockwell plant in Palmdale, Calif., with a payload of 66,140 pounds of water (or the equivalent weight of twenty-four short-range attack missiles and three rotary launchers) for a gross weight of 399,093 pounds. The plane flew a 500-mile closed course on the Western Test Range near Vandenberg AFB, Calif., and traversed the 620-mile distance at an average speed of 678.48 mph and the 1,240-mile distance at an average speed of 669.52 mph. The flight took one hour, fifty-one minutes, and forty-three seconds. The B-1B was flown over the course at an altitude of 500 feet, popping up at intervals so that it could be tracked on radar.

Two of the records broken by the B-1 flight had been held by a modified Soviet Bounder bomber (the 103M), which flew at 639 mph for 620 miles at payload weights of 33,000 and 55,000 pounds in 1959. Two other records that were broken were held by an Air Force C-135 transport that flew 616 mph for 1,240 miles with 33,000- and 55,000-pound payloads in 1962.



A Rockwell International B-1B on an acceptance flight recently unofficially broke four world records and established fourteen class marks on a closed course near Vandenberg AFB, Calif. Nearly sixty of the planned 100 strategic bombers have been delivered. This B-1B is on a test flight over Edwards AFB, Calif.

Gen. Ira C. Eaker, USAF (Ret.), a pioneer airman, WW II commander of the US air forces in Europe, and a driving force in the establishment of USAF as a separate service, died August 6 at age 91, after a long illness. We'll run an appreciation of his life in next month's issue.

Crew for the record-breaking flight was Lt. Col. Robert A. Chamberlain (aircraft commander), Capt. Michael E. Waters (copilot), Maj. Richard K. Fisher (offensive systems officer), and Capt. Nathan E. Gray (defensive systems officer).

In other B-1 news, the first launch of an AGM-69 SRAM was successfully carried out from an operational B-1B on June 3 at the Tonopah Test Range in Nevada. The B-1, based at Dyess AFB, Tex., was manned by a crew from the Air Force Operational Test and Evaluation Center (AFOTEC) test team under the command of Lt. Col. Larry Jordan.

The bomber took off at 5:00 a.m., flew 1,200 miles at low altitude to the test range, and released its missile. En route, the crew evaluated the aircraft's performance, the inertial navigational system's accuracy, and missile programmability. The plane returned to Dyess shortly before 1:00 p.m.

"Without the Osprey, the hostages might still have been with the hijackers."

"First word of the hijacking set a fast chain of events into motion . . .

"Although the airport was many miles away, the Air Force CV-22s slipped up on them quickly, quietly. In fact, we were on top of them before they could react. The Ospreys gave us clandestine precision and surgical accuracy. There was not one casualty among the hostages.

"Maybe, just maybe, this kind of response will send terrorists a message: Using innocent people for your purposes just won't work any more."

It's possible. This Department of the Navy program is producing an aircraft that streaks forward at turboprop speeds, providing unmatched rapid-response capability at very long ranges. Yet, it takes off, hovers and maneuvers like a helicopter.

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And it will rewrite mission profiles like no other aircraft in the world, ushering in a new era in special operations aviation.

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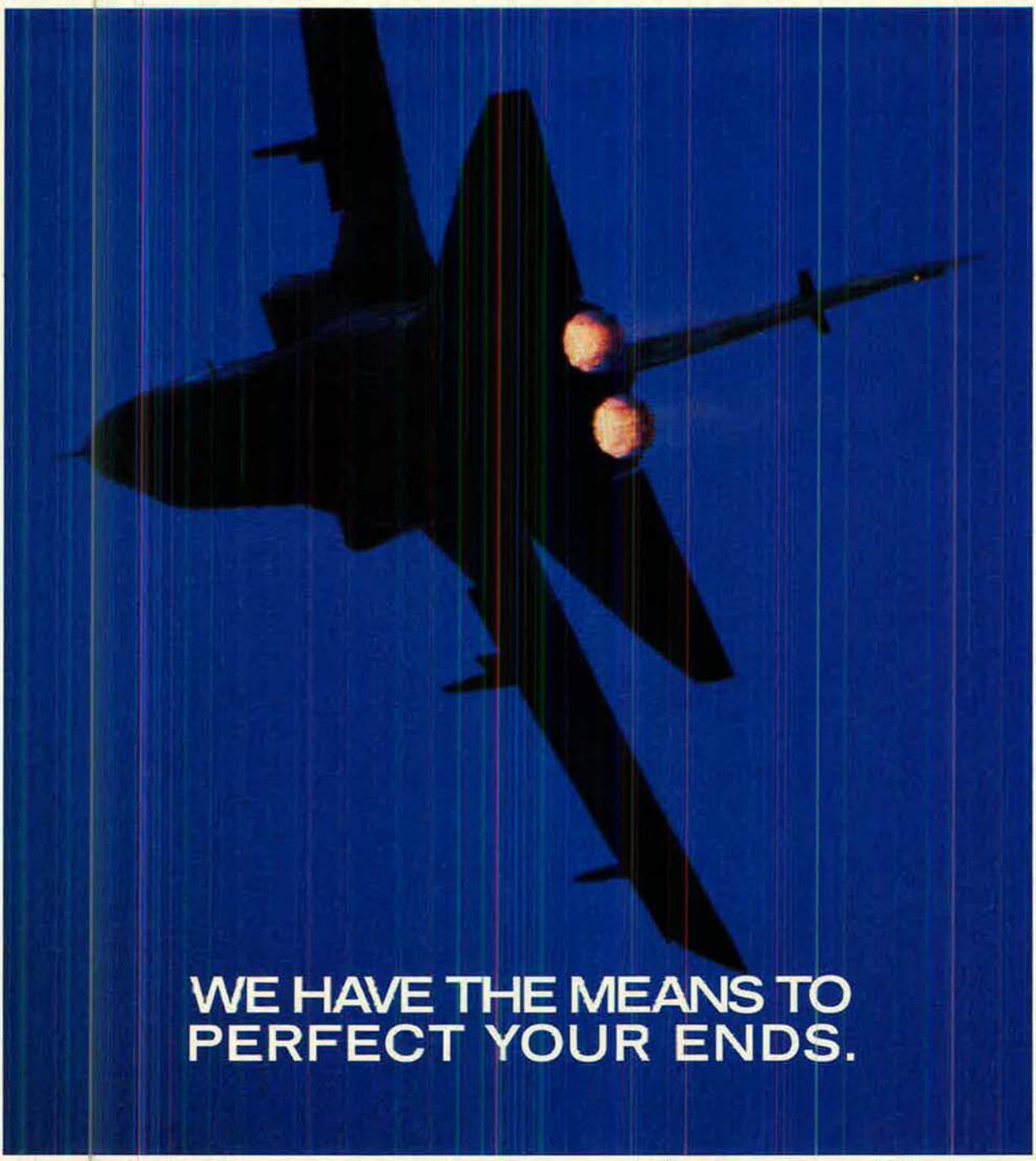

Lucas provides the main engine controls and thrust reverser actuation for the Tornado. Which is hardly surprising, as virtually all the world's most advanced aircraft and missiles depend on Lucas technology. For details contact: Lucas Aerospace Ltd, Brueton House, New Road, Solihull, West Midlands, B91 3TX, England. Tel: 021-704 5171. Telex: 335334. Operating Companies in Australia, Canada, France, UK, USA and W. Germany.

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AEROSPACE WORLD

★ After six months of study, Rear Adm. Richard H. Truly, NASA Associate Administrator for Space Flight, announced in late June that the replacement Space Shuttle Orbiter will be built in Palmdale, Calif., rather than at Vandenberg AFB, Calif. The Palmdale site was chosen primarily because of cost and scheduling factors.

Vandenberg was being considered as the assembly point for the new Orbiter because of facilities on base that could have been modified for construction of the new vehicle. Future operational uses of the Vandenberg complex were also considered during the study.

The assessment, made with USAF assistance, evaluated such factors as facility status, modifications that would be required, manpower allocations, availability of facilities, and cost. The operational Shuttle fleet—which now consists of *Discovery, Atlantis,* and *Columbia*—was built at the Rockwell International plant in Palmdale in the late 1970s and early '80s. The Shuttle test-bed, *Enterprise,* was also built there.

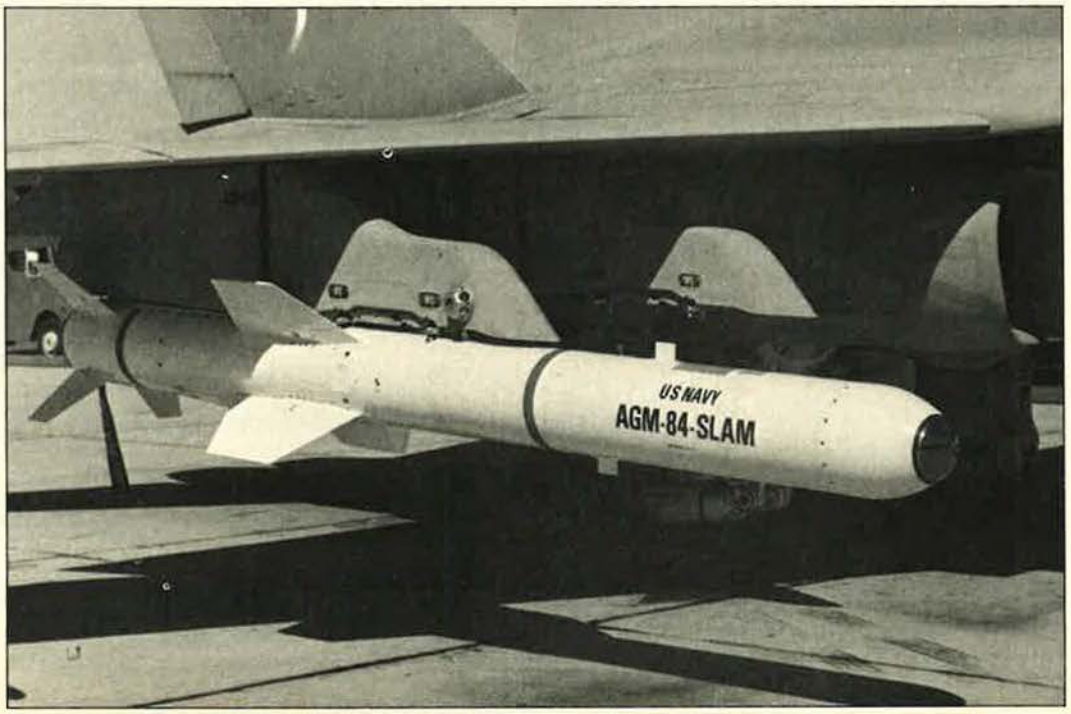
NASA Administrator Dr. James C. Fletcher recently announced that the new Orbiter, which will replace *Challenger,* will be named by schoolchildren. The students will submit names, and NASA will make the final selection.

The name-the-Shuttle contest will be held during the 1988–89 school year and will be open to schools in all fifty states, US territories, Department of State overseas schools, and schools run by the Bureau of Indian Affairs. The NASA Headquarters Educational Affairs Division will be responsible for the formation and management of the program. Details of the application process are expected to be released next spring.

In other Space Shuttle news, Dr. Fletcher also announced that when Shuttle flights resume next summer, the Orbiters will be equipped with an escape hatch. This announcement came in the manned spaceflight recovery effort status report mandated by the Rogers Commission (which investigated the *Challenger* disaster) last year.

The jettisonable hatch is the first step in developing a complete escape system for the Shuttles. Several systems, including ejection seats, rocket-powered extraction of seated astronauts, and bottom bailout are being evaluated. The complete system is ex-

Lockheed electronic equipment mechanic Scot Vann tightens a wiring bundle on a solar-rechargable satellite battery. Three of these batteries can provide all the electricity needed to operate a satellite. It takes two weeks to build one of these power packs in the company's Sunnyvale, Calif., plant.



McDonnell Douglas was recently awarded a contract by the Navy for the integration and testing of the Standoff Land Attack Missile (SLAM) variant of the Harpoon missile. The SLAM, which will enable carrier-based aircraft to attack fixed targets from long range, combines the seeker from an AGM-65D Imaging Infrared (IIR) Maverick, a Walleye data link, and a Global Positioning System receiver on a Harpoon airframe. This photo shows the missile during initial fit checks under the wing of an F/A-18 at the Naval Weapons Center, China Lake, Calif.

pected to be in place by the mid-1990s.

The spacelaunch recovery effort continues to make progress. A test to demonstrate the performance capacity of the Space Shuttle Main Engines (SSMEs) beyond what is required under normal launch conditions was successfully carried out in late June.

The test, conducted by a crew from Rockwell's Rocketdyne division, involved a 1,000-second ground firing of SSME No. 2106. The firing, conducted at NASA's National Space Technology Laboratories in Bay St. Louis, Miss., is the longest SSME test on record. Before this latest test, SSME No. 2106 had been fired thirty-six times for a cumulative total of 14,861 seconds.

Shuttle flights are scheduled to resume in June 1988, with the Orbiter *Discovery* slated to be the first to go up.

★ Things are "hot" in the jet engine community, with both General Electric and Pratt & Whitney reporting some recent developments.

General Electric's F110-GE-129 engine has recently completed 180 hours of performance and operability testing at the company's facility in Evendale, Ohio. The engine, being developed under the Air Force's Increased Performance Engine (IPE) program, has produced more than 29,000 pounds of thrust. The digital electronic engine control (DEEC) has also operated smoothly. Under combat and low-altitude operating conditions, the F110-GE-129 engine will have an increase in thrust of up to twenty percent over current production F110-GE-100 engines.

The first -129 engine is now undergoing altitude performance testing at Evendale and will then be disassembled and inspected. It will be rebuilt and will be used for flight testing early next year. The third -129 en-

AEROSPACE WORLD

INDEX TO ADVERTISERS

In honor of the 750th anniversary of the city of Berlin and next summer's fortieth anniversary of the Berlin Airlift, this mural will be presented by the US Air Force to the city in ceremonies planned for mid-September. The eight-foot-by-sixteen-foot mural was commissioned by ITT and painted by ITT Avionics Division's graphic illustrator, Dick Kramer. The mural was first presented to President Reagan through the Air Force Art Program during his mid-June visit to Berlin's Templehof Airport.

The C-5 Aircrew set the standard

United Trains Aircrews and Guarantees Its Product — Proficient C-5 Crew Members.

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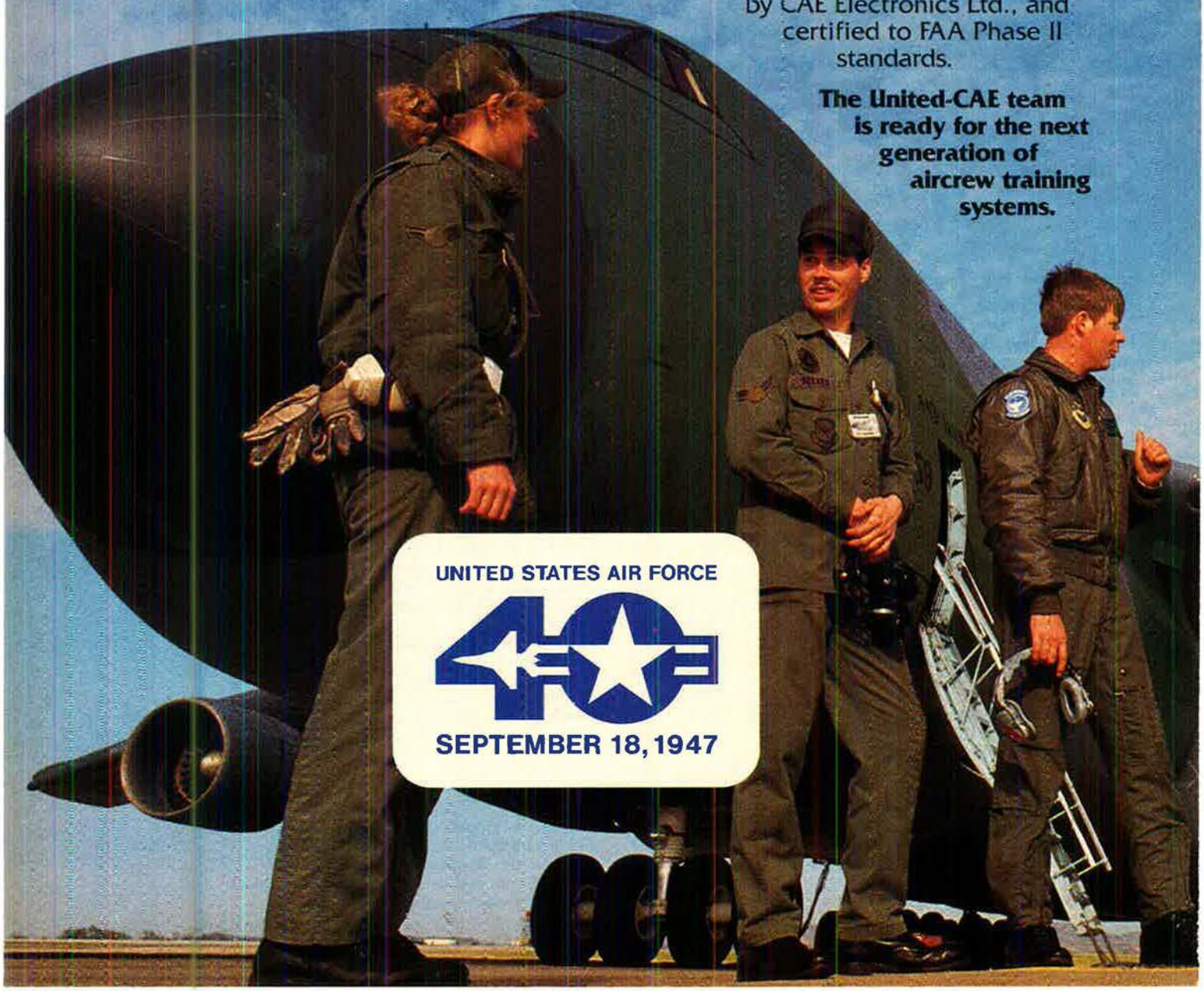
The training system utilizes computer-assisted instruction and other high tech training aids, including six high-fidelity flight simulators, developed and produced by CAE Electronics Ltd., and certified to FAA Phase II standards.

The United-CAE team is ready for the next generation of aircrew training systems.



Training System has for Air Force training.

C-5 students at self-paced computer-assisted instruction terminals.

C-5B weapon system trainer developed by CAE Electronics Ltd.

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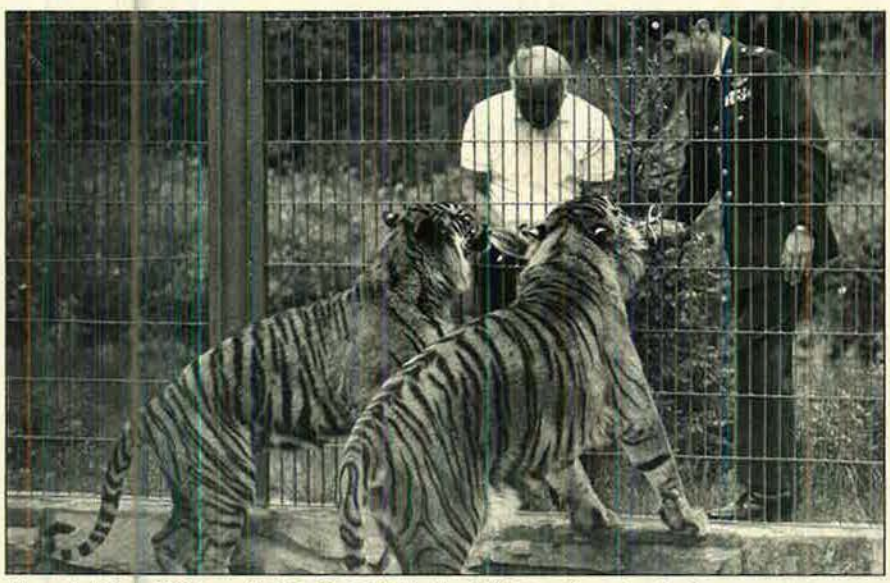
gine has been delivered to the Arnold Engineering Development Center (AEDC) at Arnold AFS, Tenn., for Air Force engine qualification data. The second and fourth engines will be used for durability testing.

The F110-GE-129 has also recently been check-fitted into both an F-16C and an F-15E. The engine needed only a minor electrical-cable modification to fit into the F-16C, and it fit perfectly into the F-15E. Flight testing with the first -129 engine in an F-16C will begin this fall at Edwards AFB, Calif., while flight testing in the F-15E will begin in 1989.

AEROSPACE WORLD



Stars (left) and Stripes (right), the 53d Tactical Fighter Squadron's tiger mascots, get the purrfect present for their birthday, a ribbon-bedecked hunk of meat, from Lt. Col. Henry Fiuara, Commander of the 53d TFS, and Hans Wallpott, owner of the Eifel Zoo in Luemebach, West Germany, where the big cats are stationed. The 53d, part of the 36th Tactical Fighter Wing at Bitburg AB, donated the tigers to the zoo three years ago. The tigers were named by the children of 53d TFS pilots.

GE also delivered the first production F110-GE-400 engine to the Navy in late June for use in the F-14A Plus aircraft. In all, 133 -400 engines have been ordered by the Navy, with options for 109 more powerplants. These engines will be used in the F-14A Plus and in the F-14D now under development. The -400 engine, a version of the -100 engine, gives the Tomcat up to thirty-five percent more thrust than the F-14A's TF30 engines.

CFM International, a joint venture company between GE and SNECMA of France, delivered the 500th F108-CF-100 engine to the Air Force on June 30. The F108 engines are the major part of the KC-135R modernization effort. As of June 1, eighty-two of the 198 KC-135s on contract for re-engining and modification had been delivered to the Air Force.

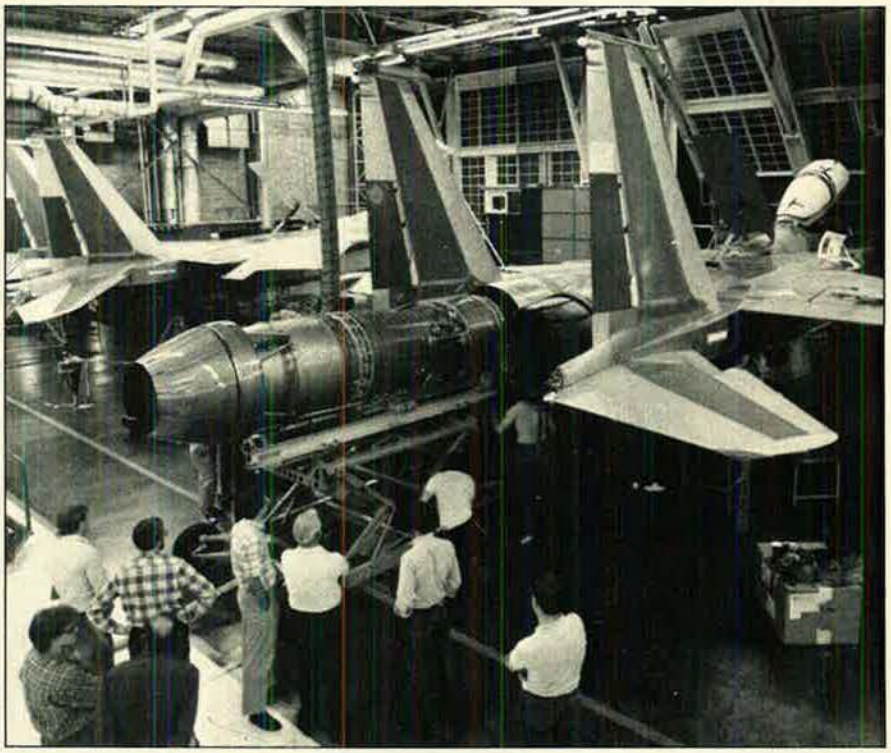
In Pratt & Whitney news, the company's F100-PW-220E engine completed altitude testing at AEDC in early July. The -220E is an upgrade program for the F100-PW-100 and -200 engines and includes state-of-the-art hot section parts, a DEEC, a new fuel pump, and a new engine diagnostic unit. The -220E program brings the -100 and -200 engines up to -220 standards. Flight testing of a -220E-powered F-16 is scheduled to begin in September at Edwards.

And finally, P&W's family of JT8D turbofan engines hit the 300,000,000-hour mark in early June. That plateau is equivalent to 34,225 years of jet travel. The JT8D powers some 4,400 commercial aircraft, including all Boeing 727s, McDonnell Douglas DC-9s and MD-80s, along with a large number of Boeing 737 aircraft. The Air Force uses the JT8D engines in its C-9, C-22, and T-43 aircraft.

The JT8D first went into service in 1964, and the engine family is expected to pass the 400,000,000-hour mark in 1992. A JT8D-powered aircraft takes off somewhere in the world every five seconds.

★ It was a bad week at White Sands for the AIM-120A Advanced Medium-Range Air-to-Air Missile (AMRAAM) program. Two of the missiles missed their targets over the New Mexico test range within the space of seven days.

In the test conducted on June 5, a Beech MQM-107 Streaker drone was



The General Electric F110-GE-129 Increased Performance Engine (IPE) was recently check-fitted into an F-15E at the McDonnell Douglas plant in St. Louis, Mo. The engine was installed without a hitch. Flight-testing of the engine in an F-15E will begin in 1989, and Tactical Air Command is scheduled to start receiving F-15Es powered by IPEs in 1991.

Edgar Ulsamer, shown here serving as moderator at one of the many AFA symposia he helped plan and conduct, is perhaps better known to readers of this magazine for the quality and quantity of his writing during the last twenty-two years. He retired August 31.

Senior Editor Edgar Ulsamer Announces Retirement

Senior Editor Edgar Ulsamer, the most prolific writer in the history of this magazine and widely regarded as the best defense reporter in Washington, retires August 31. We on the staff will miss him a great deal, and so will the many readers who have followed his amazing output over the years.

His by-line first appeared in AIR FORCE Magazine in July 1965 on an article entitled "The Coming Revolution in Aeronautics." It was a longish report, loaded with information, and it provided a glimmer of what lay ahead. Ulsamer quickly earned the respect and trust of top policymakers. His exceptional ability to find information and get it right—along with the relentless drive that has always been his trademark—soon made his writing the definitive published word on such subjects as systems and technology, the defense budget, the Pentagon and Congress, strategy, arms control, and military aerospace. Since 1978, he has written a column, "In Focus," in addition to his feature articles. His AIR FORCE Magazine reports have won ten journalistic awards over the years.

Ulsamer fled his native Austria when Hitler came to power, and during World War II, he was a parachute agent for the Office of Strategic Services (OSS). Captured by the Gestapo, he was sentenced to death, but escaped from a prison convoy, swam the Danube, and made his way to Allied lines. He was a European correspondent for UPI after the war. Coming to the United States, he worked first for Honeywell and then for the Washington *Star* before joining the Air Force Association staff.

Edgar seldom took an entire weekend away from work. He wrote some of his best columns while on holiday leave when he was free from office distractions. At various points in the 1970s, he carried the staff writing work load virtually by himself, pounding out up to 10,000 words of copy and several articles each month.

Ulsamer labored amid heaps of paper that covered his desk, windowsills, and any other available surface. He camped constantly on the telephone, and his manuscripts—especially when amended in his inimitable handwriting—were a sight to behold. But whatever he lacked in neatness, he more than made up for with productivity and insight. Ulsamer's writing style is functional. He knows how to turn a phrase when he wants to, but his great strength is his reporting. What he gave his readers was information—in substantial volume and industrial strength. His articles were substantial fare, and those truly interested in defense matters looked to Ulsamer's report as the account they could rely on above all others.

In addition to his heavy work load for the magazine, Ulsamer was also AFA Assistant Executive Director for Policy and Communications. In that role, he organized national symposia, supervised dealings with the news media, and assisted the Association's elected leaders and the Executive Director in the formulation of policy.

Readers have not seen the last of Ulsamer just yet. He continued to take on work as retirement approached, so his articles and columns will appear in the next few issues. He has also agreed to do an article for us now and then in 1988.

Edgar, we hope to have a fair amount of you in these pages in the years ahead. You are too good a reporter—and too good a friend—to part company with completely.

—JOHN T. CORRELL

AEROSPACE WORLD

selected for the first time as the target. The drone's radar image was believed to be the smallest image that the AMRAAM's seeker could see, but postflight analysis indicated that the image in actual flight conditions was much smaller than predicted. The low-flying Streaker's signature was at such wide variance with the AIM-120's "designed-for capability" that the shot was ruled a "no test." The AMRAAM was fired from an F-15.

The June 12 test was designed to evaluate missile performance in a short-range, beam-aspect, look-down launch against a low-altitude target. An F-15, flying at Mach 0.9 at 1,000 feet, fired the nearly twelve-foot-long missile at a QF-100 drone that was flying at Mach 0.95 at 500 feet above ground level.

The missile acquired and tracked the target, but the AIM-120 went out of control approximately one second before intercept. Test engineers believe the missile lost a control surface at the point where the AMRAAM encountered its highest velocity, pressure, and acceleration. A section of the missile was recovered and was found to be missing a fin, seemingly confirming the hypothesis. Investigation into the miss is still under way, though.

The month of June was not kind to the AIM-120 development program. A miss and a "no test" were recorded in roughly the same time period last year. The AMRAAM scoreboard now reads thirty successes in thirty-six attempts, for an .833 average. Two shots have been ruled "no tests."

On a happier note, the Defense Acquisition Board has decided to go ahead with low-rate initial production of the 335-pound missiles. Lot 1 production calls for 180 missiles, with Hughes, the missile's prime contractor, to build 105 AMRAAMs, and Raytheon, the second-source manufacturer, to produce the remainder. Contracts for Lot 1 are expected to be let and the option for Lot 2 production picked up by fall. Plans call for Lot 2 production to be 630 missiles. Head-to-head competition between Hughes and Raytheon is expected to come in 1989, when Lot 3 production contracts are expected to be given out.

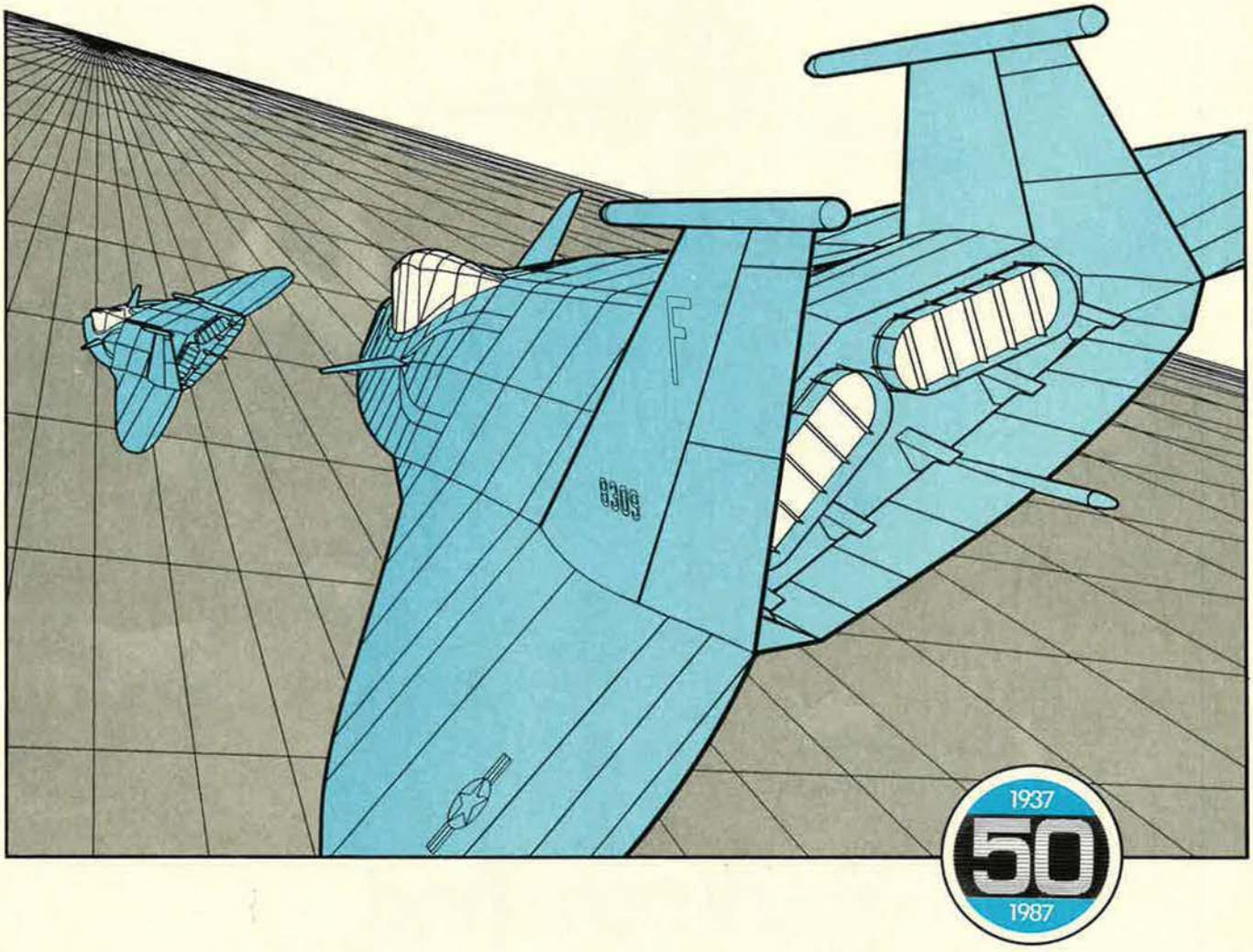
★ There will soon be some new "enforcers" on the Air Force's Special Operations turf. Rockwell International's North American Aircraft Operations division was awarded a $155.3 million contract on July 2 to develop a new generation of AC-130 gunship.

The contract covers the modification work to bring one aircraft up to the new AC-130U standard. Options are included in the deal for five AC-130Us in FY '88 and six more gunships in FY '89. The twelve Lockheed C-130Hs to be modified for the gunship program will be new airframes. Total value of the modification program could exceed $500 million.

The first C-130H to be modified will be delivered to Rockwell early next year, and the first AC-130U will roll out in 1990. After ten months of testing at the Air Force Flight Test Center at Edwards AFB, Calif., the AC-130U will be delivered in late 1991 to the 1st Special Operations Wing at Hurlburt Field, Fla. All of the aircraft are expected to be delivered by 1992.

The new gunships will be equipped with 105-mm, 40-mm, and 25-mm guns, and new fire-control sensors will permit night/adverse weather op-

We Salute The United States Air Force



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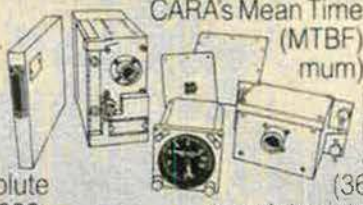

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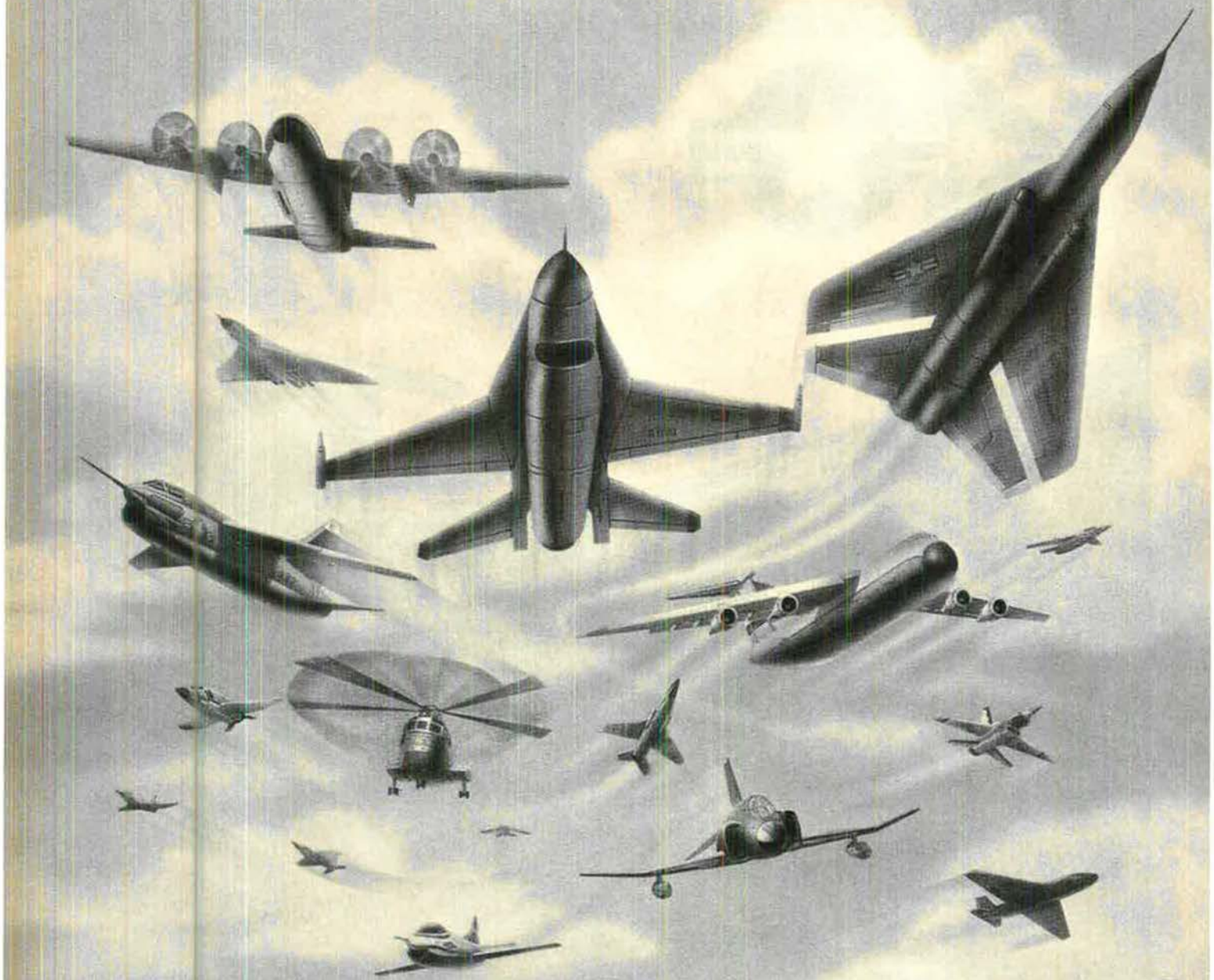

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erations. The new aircraft will also be fitted with an improved electronic countermeasures capability and provisions for in-flight refueling.

The modified C-130Hs will replace ten aging and increasingly unsupportable AC-130A Spectres flown by the Air Force Reserve's 711th Special Operations Squadron. The ten AC-130Hs flown by the 1st SOW will be retained.

Air Force Systems Command's Aeronautical Systems Division at Wright-Patterson AFB, Ohio, is managing the AC-130U program.

★ **APPOINTED**—Smithsonian Secretary Robert McCormick Adams announced on June 24 that Cornell University astrophysicist **Martin O. Harwit** has been appointed as the **new director of the Smithsonian Institution's National Air and Space Museum.** Born in Prague, Czechoslovakia, in 1931, Dr. Harwit received his doctorate in physics from the Massachusetts Institute of Technology in 1960. An author and inventor, Dr. Harwit established research groups in the 1960s that built the first rocket-borne telescopes capable of sensing infrared radiation from distant cosmic sources. Since 1985, Dr. Harwit has served as chairman of the National Aeronautics and Space Administration's Astrophysics Management Working Group. He is also a member of NASA's Space and Earth Science Advisory Committee, the American Physical Society, and the American Institute of Physics. He is the fourth permanent director in the Museum's history.

AEROSPACE WORLD

★ **AWARDS**—The **Thomas D. White USAF Space Trophy** for 1986 **was presented to Maj. Gen. Donald J. Kutyna,** the current Vice Commander of Air Force Systems Command's Space Division, in ceremonies June 9. General Kutyna was cited for his service while director of space systems and command control communications in the Office of the Air Force Deputy Chief of Staff for Research, Development, and Acquisition and also for his contributions to the Rogers Commission, which investigated the *Challenger* Space Shuttle disaster last year. The award, established in 1961, is presented annually by the National Geographic Society to a member of the Air Force, military or civilian, who has made the year's most significant contribution to progress in aerospace.

★ **MILESTONES**—The first McDonnell Douglas KC-10 tanker that entered the Air Force inventory in 1981 is also **the first Extender to record more than 5,000 hours of flight time.** The KC-10 (serial number 79-0434), assigned to the 2d Bomb Wing at Barksdale AFB, La., reached the plateau while refueling a C-141B transport over Oklahoma on June 18. Douglas Aircraft Co., which builds the aircraft

It was a family affair on May 27 when 2d Lt. Bret A. Crenwelge (second from right) was administered the oath as an Air Force officer. Lieutenant Crenwelge was given the oath by his father, retired Lt. Col. Joe Crenwelge (left), and had his gold bars pinned on by his brothers, Capt. Kevin D. (second from left) and Capt. Wayne E. Crenwelge (right). Bret's diploma is the third Air Force Academy sheepskin to be hung in the Crenwelge home. The newly minted lieutenant is now in pilot training at Reese AFB, Tex.

AEROSPACE WORLD

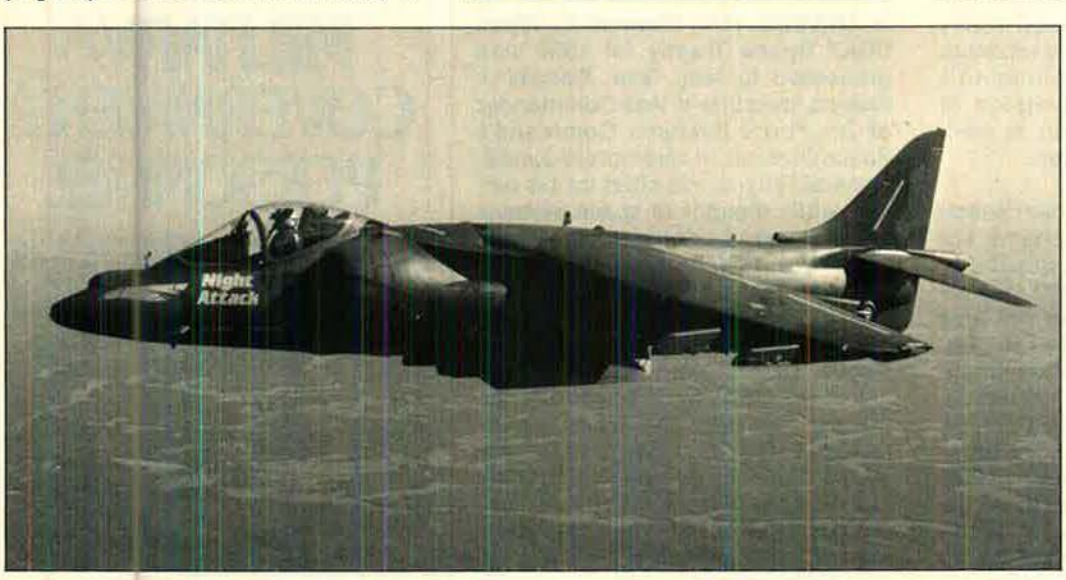
in Long Beach, Calif., has delivered fifty-five of the sixty aircraft on order for the Air Force. The Extender fleet has successfully completed 99.6 percent of its missions.

In late June, **Texas Instruments delivered the 2,000th AGM-88A HARM** (High-Speed Antiradiation Missile) to the US military. In use with both the Navy and the Air Force, the radar-suppression missile first achieved initial operational capability in 1984 and is currently being delivered at a rate of approximately 150 per month. TI was also recently awarded a $556 million contract by the Naval Air Systems Command for the production of 2,575 HARMs for FY '87. The AGM-88 is currently operational on the Navy's A-7E, F/A-18, and EA-6B aircraft, along with the Air Force's F-4G. The nearly fourteen-foot-long missile is also being integrated into the Air Force's F-16 and the Navy's A-6E fleets. West Germany's complement of Tornado aircraft is also being equipped for operations with HARMs.

The **first Harrier II GR Mk 5 was delivered to the Royal Air Force** during July 1 ceremonies at British Aerospace's Dunsfold Flight Development Centre near London. The GR Mk 5, a twin to the AV-8B of the US Marine Corps, is a joint effort between British Aerospace and McDonnell Douglas. BAe serves as prime contractor for the RAF Harriers, while McDonnell Douglas acts as the prime for the AV-8Bs.

The **first AV-8B modified for night attack made its first flight** a week ahead of the GR Mk 5 from the McDonnell Aircraft Co. plant in St. Louis, Mo. The new equipment, which will be standard on production AV-8Bs beginning in 1989, includes a forward-looking infrared sensor, a color digital moving-map display, electroluminescent cockpit lighting, and the integration of night-vision goggles.

The **Royal Australian Air Force recently passed** a safety milestone of astounding proportions—**400,000 accident-free flight hours** with its Lock-



The first AV-8B Harrier II modified for night attack made its first flight in late June. The airplane, built by McDonnell Douglas with British Aerospace as prime subcontractor, features a forward-looking infrared sensor, a color digital moving map, and night vision goggles for the pilot.

SENIOR STAFF CHANGES

RETIREMENTS: B/G Robert C. **Beyer,** Jr.; B/G Lee A. **Denson,** Jr.; L/G Philip C. **Gast;** L/G Forrest S. **McCartney;** B/G Raymond V. **McMillan;** B/G Richard J. **Toner.**

CHANGES: B/G James G. Andrus, from Cmd. Dir., NORAD Combat Ops. Staff (J-31), Cheyenne Mountain Complex, Colo., to Dir., NORAD Planning Staff, Peterson AFB, Colo., replacing retiring B/G Donald R. Delauter . . . **B/G Stuart R. Boyd,** from Cmdr., Int'l Log. Ctr., and Ass't for Int'l Log., Hq. AFLC, Wright-Patterson AFB, Ohio, to Cmdt., AFIT, and Cmdt., Defense Institute of Security Systems Mgmt., AU, Wright-Patterson AFB, Ohio, replacing retired B/G Richard J. Toner . . . **B/G E. Daniel Cherry,** from DCS/Plans, Hq. PACAF, Hickam AFB, Hawaii, to Cmdr., USAF Recruiting Service, and DCS/Recruiting, Hq. ATC, Randolph AFB, Tex., replacing B/G William J. Porter . . . **B/G John A. Corder,** from Dir., Electronic Combat, OSAF, Washington, D. C., to Cmdr., 65th AD, and Vice Cmdr., 17th AF, USAFE, Sembach AB, Germany, replacing B/G Philip M. Drew . . . **B/G Philip M. Drew,** from Cmdr., 65th AD, and Vice Cmdr., 17th AF, USAFE, Sembach AB, Germany, to Spec. Ass't to the Cmdr., 17th AF, USAFE, Sembach AB, Germany.

L/G Harry A. Goodall, from Dep. CINC, Hq. USREDCOM, and Vice Dir., Joint Deployment Agency, MacDill AFB, Fla., to Dep. CINC, US Spec. Ops. Command, MacDill AFB, Fla. . . . **M/G John E. Griffith,** from Cmdr., Defense Fuel Supply Ctr., Defense Log. Agency, Cameron Station, Alexandria, Va., to Dir., J-3/4, Hq. USTRANSCOM, Scott AFB, Ill. . . . **B/G Richard E. Hawley,** from Vice Cmdr., 7th AF, PACAF, Osan AB, Korea, to DCS/Plans, Hq. PACAF, Hickam AFB, Hawaii, replacing B/G E. Daniel Cherry . . . **B/G Peter D. Hayes,** from IG, Hq. PACAF, Hickam AFB, Hawaii, to Vice Cmdr., 7th AF, PACAF, Osan AB, Korea, replacing B/G Richard E. Hawley . . . **B/G James J. LeCleir,** from Cmdr., 834th ALD, MAC, and DCS/Airlift, Hq. PACAF, Hickam AFB, Hawaii, to Dir., P&P, USSOUTHCOM, Quarry Heights, Panama.

B/G Noah E. Loy, from Dep. Dir., Electronic Combat, OSAF, Washington, D. C., to Dir., Electronic Combat, OSAF, Washington, D. C., replacing B/G John A. Corder . . . **B/G Charles J. Searock, Jr.,** from Vice Cmdr., Oklahoma City ALC, AFLC, Tinker AFB, Okla., to DCS/Log , Hq. SAC, Offutt AFB, Neb., replacing M/G John J. Doran, Jr. . . . **B/G Ronald C. Spivey,** from Cmdr., Int'l Joint Warfare Ctr., Hq. USREDCOM, MacDill AFB, Fla., to Cmdr., Int'l Log. Ctr., and Ass't for Int'l Log., Hq. AFLC, Wright-Patterson AFB, Ohio, replacing B/G Stuart R. Boyd.

SENIOR ENLISTED ADVISOR CHANGES: CMSgt. Dennis D. Corbiser, to SEA, Hq. AFTAC, Patrick AFB, Fla., replacing retired CMSgt. John T. Horsch . . . **CMSgt. Walter D. McLain,** to SEA, Hq. AFCC, Scott AFB, Ill., replacing retired CMSgt. Jeremiah T. Hayes. ■

heed C-130 Hercules fleet. Australia, first nation besides the US to fly the C-130, first put its C-130A models to use in 1958 and has flown its C-130s since then without a mishap. The current Australian C-130 force, based at RAAF Richmond near Sydney in New South Wales, consists of a dozen each of the E and H models.

★ **NEWS NOTES**—US Space Command reports that **in 1986, four out of every five missile launches were Soviet in origin.** The command confirmed 598 missile launches last year, and of that total, 491 launches were Soviet. The US accounted for sixty-nine of the remaining 107 launches. USSPACECOM uses the constellation of infrared detection satellites making up the Satellite Early Warning System (SEWS) in conjunction with the ground-based radar network of the Ballistic Missile Early Warning System (BMEWS) and the four Pave Paws radar sites to detect the launches.

The **Air Force Drug Testing Laboratory** at Brooks AFB, Tex., has recently **added cocaine to the list of drugs it can detect and confirm through in-house urinalysis testing.** Previously, urine samples suspected of containing cocaine had to be forwarded to a civilian laboratory for confirmation testing, which added up to thirty days to the process. AFDTL was certified to perform the two-part process of radioimmunoassay and gas chromatography/mass spectrometry to test for cocaine. AFDTL analyzes approximately 250,000 specimens a year for drug use.

After many hours of studying computers and computer programs, **Maj. Michael Chalifoux developed a way to program conventional B-52 mission flight plans on a personal computer.** With this new program, mainframe computers are no longer tied up to do mission planning, and faster deployment to distant locations is possible because the PC can be carried aboard the B-52. Major Chalifoux's program has already yielded a savings of $1.04 million to the Air Force and a check for $8,021 to him as a one-time reward for his initiative. Major Chalifoux is currently manager of the Advanced Cruise Missile B-1 Integration Project for the Strategic Systems Combined Test Force at Edwards AFB, Calif.

★ **DIED—Charles Stark Draper,** developer of the gyroscopic guidance systems that made intercontinental ballistic missiles possible as well as the navigation system that allowed the Apollo astronauts to get to the moon and back, died July 25 in Cambridge, Mass. He was eighty-five.

A long-time professor of aeronautics and astronautics at the Massachusetts Institute of Technology, he founded MIT's Instrument Laboratory in 1939. The group's first project was the Mk 14 gyroscopic gunsight for the Navy, and this gave antiaircraft guns the ability to track incoming airplanes accurately and regardless of the ship's motion. Later, the Instrument Laboratory developed guidance systems for aircraft and Polaris, Poseidon, and Trident missiles and their launching submarines.

Key components for the Atlas and Titan missiles were also developed in Dr. Draper's laboratory. The lab was chosen to develop the Apollo guidance system in 1961. The Instrument Laboratory became independent of MIT in 1973 and was renamed the Charles Stark Draper Laboratory.

Dr. Draper, a member of both the International Inventors and International Space Halls of Fame, is survived by his wife, Ivy, three sons, a daughter, and six grandchildren. ■

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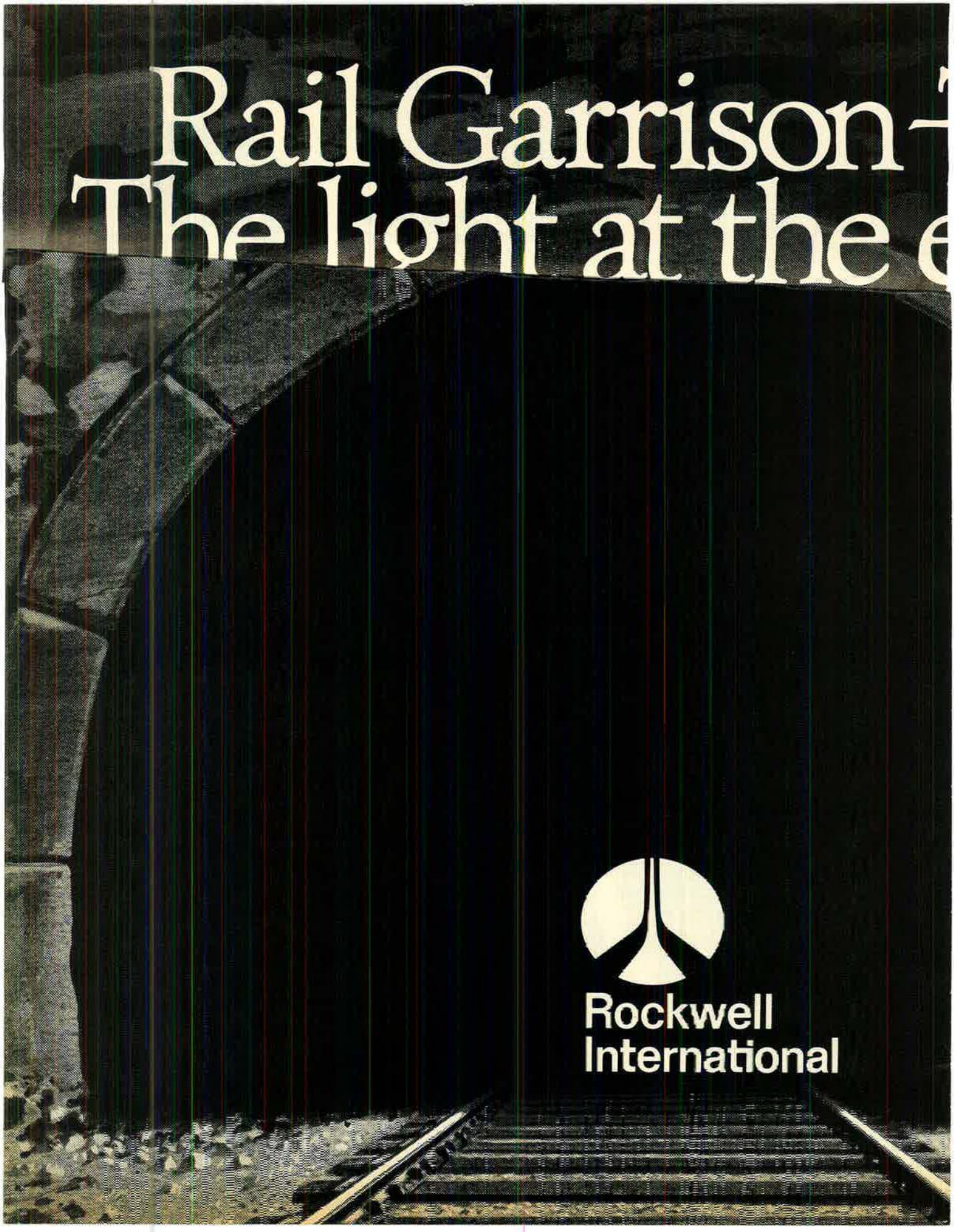
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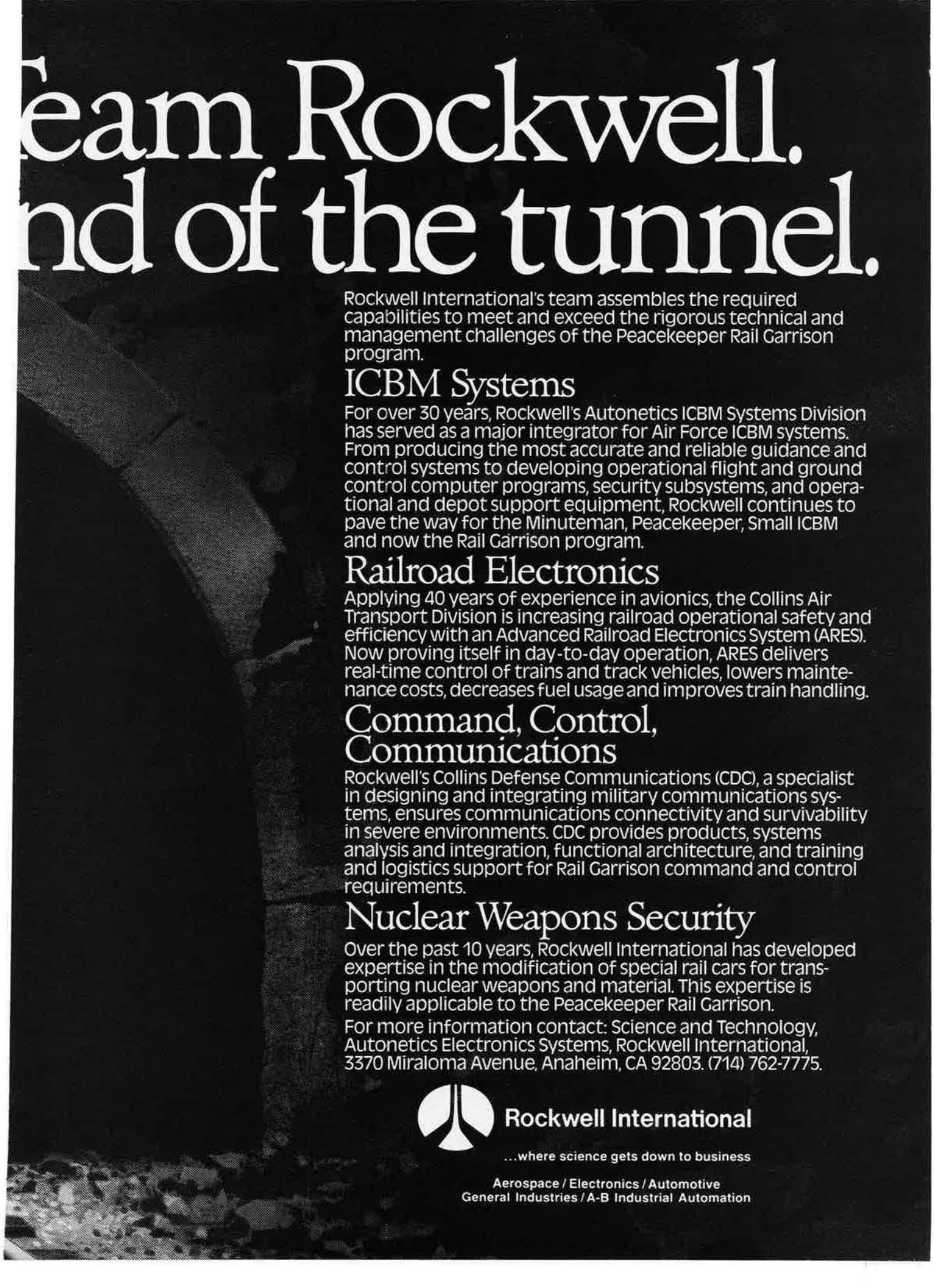

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For more information contact: Science and Technology, Autonetics Electronics Systems, Rockwell International, 3370 Miraloma Avenue, Anaheim, CA 92803. (714) 762-7775.

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The First

An AIR FORCE Magazine Photo Feature

Mitchell Marks the Target

The cover story for the September 1947 issue of AIR FORCE Magazine called it "the day Billy Mitchell dreamed of." The Air Force was about to achieve its independence from the Army. Its establishment as a separate military service, which took place September 18, was the objective for which Brig. Gen. William E. Mitchell had conducted a crusade and then became a martyr in the 1920s.

As a combat commander in World War I, Mitchell had employed formations of as many as 200 aircraft for saturation bombing. He was convinced that overhaul of the US defense structure was essential and that airpower should have an independent role within that structure. He used the term "Air Force" as early as 1921, and his bold actions as assistant chief of the Air Service from 1921 to 1925 displeased his superiors in the Army. Mitchell's airmen astounded the Navy by sinking the supposedly unsinkable battleship *Ostfriesland* in a 1921 demonstration.

Blocked by the traditionalists, Mitchell lashed out in public at the high command of the Army and Navy. He used his 1925 court-martial as another forum to press his views. Suspended from rank and military duty, Mitchell resigned from the Army and continued his fight as a civilian.

THE STARTING TEAM

The new Air Force looked ahead with hope and uncertainty. Order No. 1 transferred Army Air Forces personnel to the Department of the Air Force. Postwar demobilization had reduced the air arm from 2,253,000 people on V-J Day to 303,000 in mid-1947. World War II uniforms were still in use, as seen in this photo of "typical personnel"—a mechanic, a flight nurse, a pilot, and a stenographer—from USAF's first year of independence.

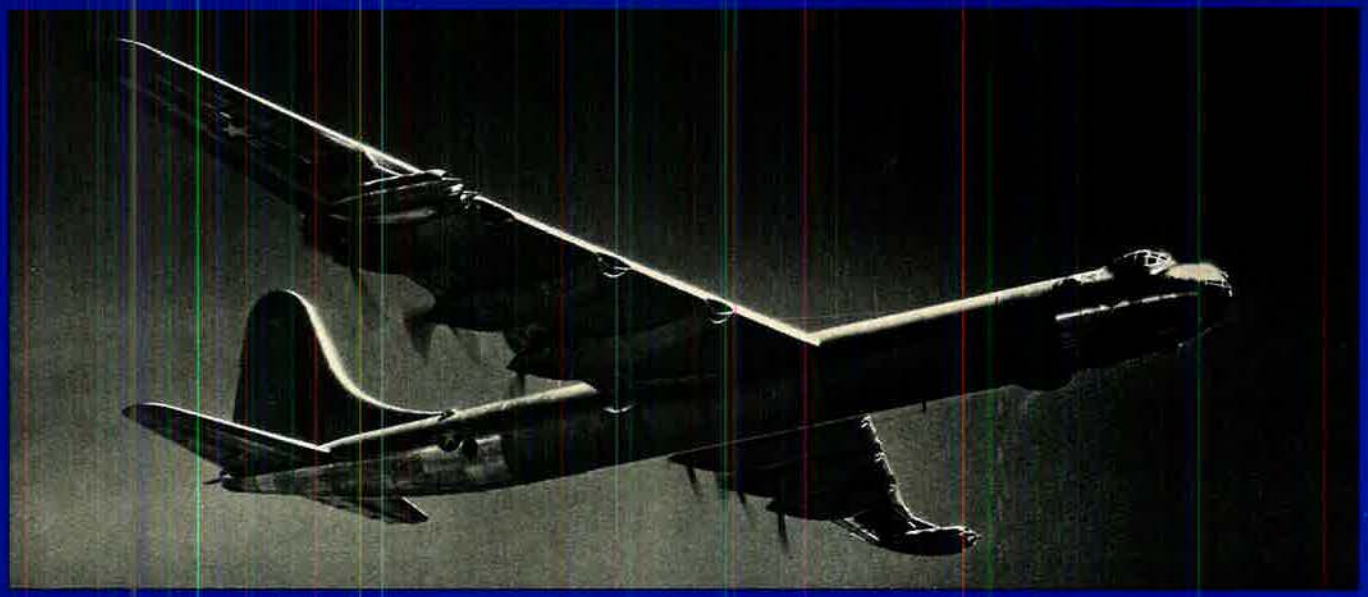
SOUND BARRIER

On October 14, 1947, then-Capt. Charles E. "Chuck" Yeager became the first man to fly faster than the speed of sound. His vehicle was the rocket-powered Bell XS-1, later better known as the X-1. He's shown here with the follow-on Bell X-1A, in which on December 12, 1953, he became the first man to fly more than Mach 2.

Forty Years

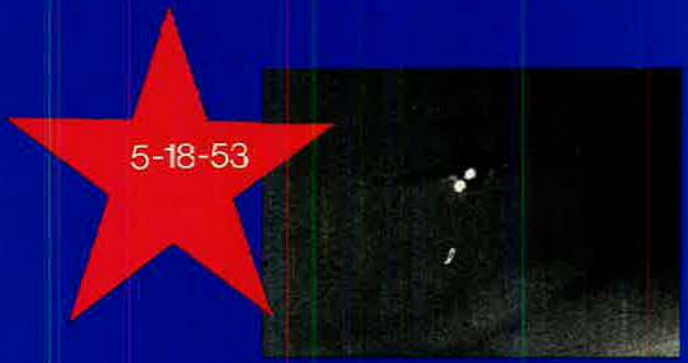
Representing the then and now of USAF's first forty years are these members of the ANG's 113th Tactical Fighter Wing, Andrews AFB, Md. Bearing a striking resemblance to Steve Canyon is Maj. Ellis Nottingham, employed by Honeywell in civilian life. He's also a member of AFA's Board of Directors. Here, he's being strapped in by Charles V. McClay, a full-time Air Guard staff sergeant and F-4D crew chief. Sergeant McClay's uniform is courtesy of the Confederate Air Force Museum.

—Photo by Paul Kennedy



THE BIG STICK

The giant B-36 intercontinental bomber—with a wingspan of 230 feet and a length of 162 feet—entered service in 1948. It said "global airpower" in a big way. Toward the end of the year, a B-36 from Fort Worth, Tex., flew nonstop to Hawaii and back without refueling.



THE BERLIN AIRLIFT

The Russians threw a ground blockade around Berlin in 1948. For fifteen months, USAF, British, and French airlifters kept the city of 2,000,000 alive with food and fuel. They flew in more than 2,000,000 tons of supplies, and in 1949, Soviet authorities gave up the attempt to sever Berlin from the West.

FORCE FOR THE HOTSPOTS

The Composite Air Strike Force concept of the 1950s was the granddaddy of today's joint-service power-projection strategies. Here, Air Force C-124s deliver US troops to Lebanon in 1958 in response to insurgency in the Middle East. CASF included all elements of a modern tactical air force and was prepared for extended deployment.

BIRTH OF THE BLUES

The Air Force began to take on its distinctive look in 1949 with the introduction of blue uniforms, modeled here by Cpl. Claude Ridings and MSgt. Edward Ancas. This magazine reported in March 1951 that "USAF officers may wear WW II type uniforms until July 1952, at which time the new blues will be mandatory."

THE KOREAN WAR

In the skies over Korea, jets fought jets for the first time in history. The fiercest combat was between American F-86 Sabres and MiG-15s, and the prime battle area was MiG Alley in northwestern Korea, between the Chongchon and Yalu Rivers.

SABRE SUPERIORITY

Air Force fighter-interceptor pilots established clear air superiority in Korea. They downed 839 MiG-15s, with another 154 probably destroyed and 919 damaged. All but thirty-nine of the MiG kills were by F-86 Sabres—against a loss of only fifty-eight Sabres.

SKYWATCH

In the early 1950s, the US was mightily concerned about the precarious state of continental air defenses. Ground Observer Corps volunteers, like these women in New Jersey, maintained a round-the-clock skywatch. By the late 1950s, USAF could address the problem in a better way. The Distant Early Warning (DEW) Line of radars had been built, the Semi-Automatic Ground Environment (SAGE) electronic air defense system was in place, and the supersonic F-102 interceptor was operational.

SHOWING THEIR TANS

Everyday summer wear for much of the first forty years was the khaki "505" uniform. It came in several configurations and included a bush jacket as well as both long and short pants. This 1955 photo from MacDill AFB, Fla., helps explain why the shorts and pith helmet combination never really caught on.

INTO THE AGE OF MISSILES

One of the most significant changes of the first forty years was the emergence of the intercontinental ballistic missile. Gen. B. A. Schriever headed Air Force Systems Command during the intense development period of the early 1960s. The most enduring of the ICBMs has been Minuteman, which was first flight-tested in February 1961 and continues in service today.

Forty Dates From the First Forty Years

- **September 18, 1947.** USAF established as a separate service, with Stuart Symington as first Secretary. Gen. Carl Spaatz, Commanding General of the AAF, becomes first Chief of Staff September 26.
- **October 14, 1947.** First faster-than-sound flight by Capt. Charles E. Yeager in the rocket-powered Bell XS-1 (later redesignated X-1).
- **June 26, 1948–September 30, 1949.** Berlin Airlift.
- **March 2, 1949.** *Lucky Lady II,* a SAC B-50, completes the first nonstop flight around the world.
- **July 1, 1949.** The Air Force becomes the first service to announce an end to racial segregation.
- **November 8, 1950.** 1st Lt. Russell J. Brown, flying an F-80 Shooting Star, downs a North Korean MiG-15 in history's first all-jet aerial combat.
- **February 1, 1952.** The Air Force becomes the second government agency to acquire a general-purpose computer (a UNIVAC I).
- **April 15, 1952.** YB-52 prototype bomber makes its maiden flight.
- **April 1, 1954.** President Eisenhower signs legislation creating the Air Force Academy.
- **December 17, 1957.** First successful launch and flight of the Atlas ICBM.
- **September 1, 1958.** New enlisted supergrade, senior master sergeant (E-8), created; E-9 (chief master sergeant) grade created December 1, 1959.
- **August 7, 1959.** First intercontinental relay of voice message by satellite. (The voice was that of Maj. Robert G. Mathis, later USAF Vice Chief of Staff.)
- **February 3, 1961.** Strategic Air Command's Airborne Command Post begins operations.
- **July 17, 1962.** Maj. Robert White pilots the X-15 on the first spaceflight of a manned aircraft.
- **October 14, 1962.** An Air Force reconnaissance flight proves the existence of Russian missiles in Cuba.
- **July 10, 1965.** Two F-4Cs down two MiG-17s in the first USAF air-to-air victories of the Vietnam War.
- **January 2, 1967.** USAF fighters, in a MiG Sweep mission, down seven North Vietnamese MiG-21s.
- **June 1, 1967.** Two HH-3Es complete the first nonstop transatlantic helicopter flight.
- **July 1, 1969.** Air Force service numbers are replaced by Social Security account numbers for military personnel.
- **December 17, 1969.** The Air Force terminates Project Blue Book, its program to investigate Unidentified Flying Objects (UFOs).
- **March 15, 1970.** Overseas portion of the Automatic Voice Network (AUTOVON) is completed, making it possible to call any US military installation in the world without leaving your desk.
- **August 21, 1970.** Defense Secretary Melvin Laird announces the "Total Force" policy, leading to much greater reliance by the services on Guard and Reserve units.
- **April 1, 1972.** The Community College of the Air Force is established.
- **April 27, 1972.** Four USAF aircraft, using Paveway I "smart" bombs, knock down the Thanh Hoa bridge. Previously, 871 conventional sorties had resulted in only superficial damage to the bridge.
- **December 18, 1972.** Operation Linebacker II—the eleven-day bombing of Hanoi and Haiphong—begins. Massive air strikes drive North Vietnam back to the peace talks.
- **February 12, 1973.** Project Homecoming, the return of 591 American POWs from North Vietnam, begins.
- **July 1, 1973.** Authorization for the military draft ends.
- **November 14, 1973.** Airlift to Israel ends. In a thirty-two-day operation during the Yom Kippur War, MAC airlifted 22,395 tons of supplies.
- **December 23, 1974.** Maiden flight of the first prototype of the B-1A variable-geometry bomber.
- **November 29, 1975.** The first Red Flag exercise at Nellis AFB, Nev., is undertaken, beginning a new era of highly realistic training for combat aircrews.
- **July 27–28, 1976.** An SR-71 sets three absolute world flight records: altitude in horizontal flight (85,068.997 feet), speed over a straight course (2,193.16 mph), and speed over a closed course (2,092.294 mph). The records still stand.
- **February 22, 1978.** The first Air Force satellite in the Navstar Global Positioning System is successfully launched and placed into orbit.
- **May 20, 1978.** The 5,000th McDonnell Douglas F-4 Phantom II built is delivered.
- **March 12–14, 1980.** Two B-52s fly nonstop around the world in forty-three and a half hours, covering 21,256 statute miles, averaging 488 mph, and carrying out sea-surveillance/reconnaissance missions.
- **October 2, 1981.** President Reagan reinstitutes the B-1 program that had been canceled by the Carter Administration in 1977.
- **May 9, 1983.** An all-woman C-141 crew from the 18th Military Airlift Squadron, McGuire AFB, N. J., becomes USAF's first all-woman crew to fly a round-trip mission across the Atlantic.
- **May 22, 1984.** The Chiefs of Staff of the Army and the Air Force sign a memorandum of agreement titled "Joint Force Development Process," also known as "The 31 Initiatives."
- **September 13, 1985.** First F-15 antisatellite (ASAT) test involving live fire at a target in space is successful.
- **October 25–November 2, 1985.** USAF units take part in joint operations against Cubans and Marxists in Grenada.
- **April 15, 1986.** F-111s based in Britain conduct air strikes against Libya in response to state-sponsored terrorism.

Faces From the First Forty

Lt. Gen. Benjamin O. Davis, USAF's first black general.

The world's first jet ace was Capt. James Jabara, during the Korean War.

First USAF officer to become JCS Chairman was Gen. Nathan F. Twining.

Paul W. Airey became the first Chief Master Sergeant of the Air Force on April 3, 1967. He traveled more than 500,000 miles in the job.

Lt. Gen. Benjamin O. Davis, first black general officer in the Air Force (and son of the first black general officer in the Army).

Capt. Charles B. DeBellevue, F-4 weapon systems officer and top US Vietnam War ace. His six victories came between May and September 1972.

Maj. Bernard F. Fisher, A-1E Skyraider pilot and first Air Force officer awarded the Medal of Honor in the Vietnam War.

Capt. Virgil I. Grissom, first USAF astronaut into space. He attained an altitude of 118 miles on the second Mercury mission, July 21, 1961.

Lt. Gail S. Halvorsen, the "candy bomber," dropped candy and chewing gum by handkerchief parachutes to German children during the Berlin Airlift.

Jeanne M. Holm was the Air Force's first woman general officer. She put on the stars of a brigadier general on July 16, 1971.

Capt. James Jabara became the world's first jet ace on May 20, 1951, shooting down his fifth and sixth North Korean MiGs.

Gen. Daniel (Chappie) James, Jr., first black officer to achieve four-star rank. He was a combat leader in Southeast Asia.

Gen. Curtis E. LeMay and his cigar personified Strategic Air Command and the Air Force in the 1950s and 1960s.

A1C John L. Levitow, loadmaster on an AC-47 gunship and the only USAF enlisted man to receive the Medal of Honor in the Vietnam War.

Capt. Joseph McConnell, Jr., leading USAF jet ace of the Korean War with sixteen victories.

Col. Robin Olds, leader of the MiG Sweep and the first USAF ace with victories in both World War II (twelve) and Vietnam (four).

Robinson Risner, Korean fighter ace and leader among the American POWs in Vietnam. He spent seven and a half years in Hanoi's prisons.

Capt. Richard S. (Steve) Ritchie became USAF's first Vietnam ace on August 28, 1972. All five of his kills were MiG-21s.

Lt. Col. John Paul Stapp, flight surgeon, rode rocket sleds at awesome speeds to learn if safe ejection was possible in supersonic flight.

Gen. Nathan F. Twining, first USAF officer to become Chairman of the Joint Chiefs of Staff, assuming that position on August 15, 1957.

USAF's first Chief Master Sergeant of the Air Force was Paul W. Airey.

Jeanne M. Holm became USAF's first woman general officer.

Maj. Bernard F. Fisher was the first USAF man to win the Medal of Honor in Vietnam.

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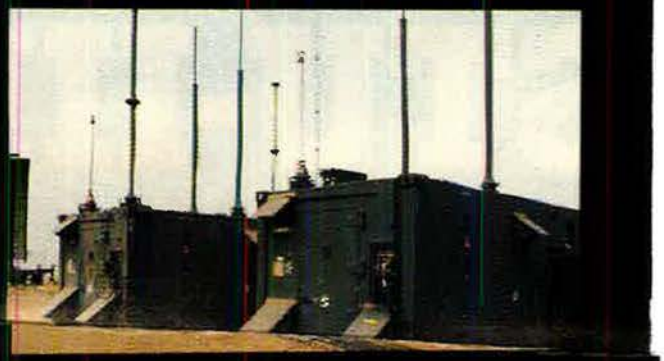

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WAR IN VIETNAM

The long-running war in Southeast Asia encompassed numerous missions for the Air Force: close air support in South Vietnam, interdiction of the Ho Chi Minh Trail, support of friendly forces in Laos, and operations in "Route Pack Six"—the heavily defended heartland of North Vietnam. The bravery and professionalism of the combat forces were often obscured by the unpopularity of the war in the United States.

GETTING BACK ALIVE

Everybody's favorite heroes were the rescue helicopter crews who went into the thick of action to bring out downed airmen. Air Force losses in the war included 2,118 killed and 3,460 wounded, but excellent aeromedical evacuation helped keep deaths from battle wounds below one percent. A battle casualty's chance of recovery was 4.5 times better in Vietnam than in World War II.

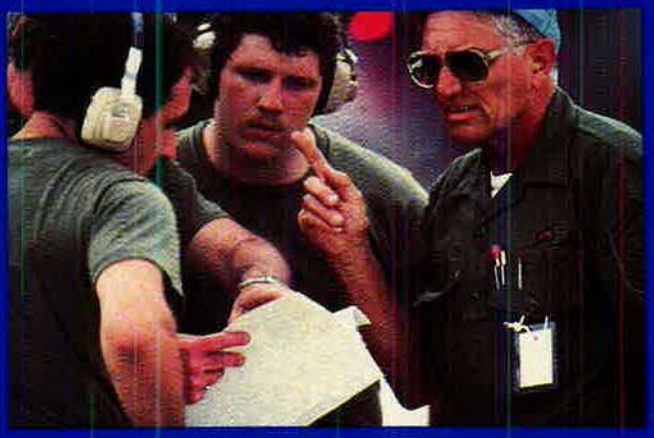
PROJECT HOMECOMING

The Military Airlift Command began bringing the POWs out of North Vietnam on February 12, 1973. First stop on the way home was Clark AB in the Philippines, where medical care and a rousing reception awaited. The POWs wanted word about their families, then food. They ate twenty-four gallons of ice cream the first night.

Photo by A1C Tracy L. Daniels

THE HEMORRHAGE OF TALENT

The late 1970s brought military pay caps and defense budget cuts as the nation chose to spend its resources in other areas instead. In 1979, all of the services fell short of their recruiting goals, and skilled manpower was leaving the military in droves. Rebuilding began with the defense recovery program of the 1980s, but it took years to accomplish.



THE BARRIERS FALL

Today, 12.1 percent of Air Force personnel are women. Every officer career field and all but four enlisted specialties are open to them. It was news in 1969, though, when Air Force ROTC began accepting women. In 1971, Susan Orkins of Ohio State was the first woman cadet commander of an AFROTC cadet wing. Women were admitted to the Air Force Academy and pilot training in 1976.

RADAR'S WORST ENEMY.

Nothing in the air matches the EF-111A's tactical jamming capabilities. With systems developed by the United States Air Force and Grumman, it can detect, identify and disrupt the enemy's electronic air defenses. The EF-111A can operate miles from enemy territory as a standoff jammer, or accompany our strike forces and nullify hostile radar deep behind the lines. As it showed during foreign operations last year, the EF-111A is a reliable and versatile weapon that increases our ability to defend forces and deter aggression. Grumman Aircraft Systems Division, Bethpage, Long Island, NY 11714.

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TI's 1750A computer will integrate and process data from multiple sensors. Its modular hardware design incorporates VHSIC components, high-density power supplies and advanced components packaging. This advanced computer features the first single VHSIC chip use of a MIL-STD-1750A Instruction Set Architecture certified without exception by SEAFAC.

The VHSIC 1750A computer can be configured to satisfy specific system requirements. The current module family consists of a MIL-STD-1750A Data Processing Module (DPM), MIL-STD-1553B Bus Interface Module, system maintenance and high-density power supply modules, all packaged in a common SEM-E form factor. The configuration illustrated, with three VHSIC 1750A processor modules, will provide processing throughput of 5 to 7 MIPS (DAIS mix); over 1.7 million words of memory; and two-level maintenance. Input power is 3-phase, 400-Hz, 110-volt AC.

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"REARMING AMERICA"

A visible symbol of the defense recovery program was resurrection of the B-1 bomber, which had been canceled by the Carter Administration. The first B-1B was delivered to SAC in June 1985. Strategic modernization also includes the ATB "Stealth" bomber, the LGM-118A Peacekeeper missile, and the Small ICBM, known popularly as "Midgetman."

FIGHTING FIT

Budget realities have made the Air Force trim its goal of forty fighter and attack wings back to thirty-seven, but the fighting qualities of the tactical forces have never been better. In Europe, F-16s are posting 87.5 percent readiness rates and F-15s 79.3 percent. Mission-capable rates are up twelve percent since the beginning of the decade.

The Air Force and AFA honor the twelve Outstanding Airmen of the Year.

The Distinguished Dozen

TSgt. Sterling R. Abney

BY COLLEEN A. BOLLARD, STAFF EDITOR

ONE of the most eagerly sought items at the Air Force Association's National Convention is a ticket to the Outstanding Airmen of the Year tribute.

No wonder. When the lights dim, the spotlight shines on twelve airmen who are palpable proof that today's enlisted force is more capable than ever. This year's selectees won't disappoint. They are go-getters, troubleshooters, and mission-oriented leaders who know how to get results.

The Air Force chose its top twelve airmen from a list of ninety-two nominees from the major commands, the separate operating agencies, and the direct reporting units. The airmen were selected on the basis of job performance or leadership shown in their primary duties, significant self-improvement, leadership in social, cultural, or religious activities, recognition awards, and demonstrated ability as articulate and positive representatives of the Air Force.

Since the recognition program began in 1956, 483 airmen have been named to the list of 486 Outstanding Airmen. Three airmen have earned the distinction twice. Two of the select few later served as Chief Master Sergeant of the Air Force, and others have become senior enlisted advisors for major commands and separate operating agencies.

The twelve, who are entitled to wear the Outstanding Airmen of the Year ribbon with the Bronze Service Star device, will shoulder added responsibility in the months ahead. As members of AFA's Enlisted Council for the next year, one of their duties will be to ensure that the concerns of enlisted people are brought to the attention of AFA leadership.

The Air Force claims that people are its most important asset. Here's testimony to that proclamation.

• **TSgt. Sterling R. Abney** is Chief of Protocol, USAF Senior NCO Academy, Gunter AFS, Ala. Only the most polished professional could support the Academy in the flawless manner that Sergeant Abney does. Last year, he was responsible for more than 4,500 distinguished guests, speakers, and visitors to the Academy, and he received, coordinated, and dispatched more than 7,200 invitations. He also received the Alabama Governor's Award as the Outstanding Air Force Enlisted Representative for 1987. In November 1986, he was promoted to technical sergeant through the Stripes for Exceptional Performers (STEP) program.

Sergeant Abney is currently enrolled in the Community College of the Air Force, and he is nearing completion of degrees in political science and business management from Troy State University. He also taught sixty hours as an adjunct instructor for the 3800th Air Base Wing NCO Leadership School.

Donating his time to several local social agencies, he helps the elderly and teaches abused and neglected children how to drive. He is an ac-

tive member of the NCO Academy Graduates Association, the Air Force Sergeants Association, and the Maxwell-Gunter Speakers Bureau. Sergeant Abney, twenty-seven, is a native of Quincy, Fla. He and his wife Cindy have two children.

A1C Debra J. Anderson

• **A1C Debra J. Anderson** is a C-141 Assistant Crew Chief, Flightline Branch, 602d Organizational Maintenance Squadron, Travis AFB, Calif. While on the flightline, Airman Anderson detected a potentially hazardous hydraulic leak near a hot brake on an air evacuation aircraft. Her quick action made possible the orderly evacuation of thirty-four patients and crew members. Last year, she was selected as the Travis AFB Outstanding Airman of the Year.

Currently, Airman Anderson is working toward a bachelor's degree in sociology. She has already completed twenty credits toward an associate degree in aircraft technology from the Community College of the Air Force.

As the 1986 community coordinator for the Travis AFB/Solano County Christmas Wish program, she helped to purchase and deliver Christmas gifts for more than 300 abused children. Her efforts for abused children led the AFA General Robert F. Travis Chapter to honor Airman Anderson with the AFA Meritorious Service Award. In 1986, she was chosen as the Volunteer of the Year by the Solano County Community Council for her community service. Airman Anderson, twenty-two, is a native of Grafton, Wis.

• **MSgt. James H. Daniels** is a Flight Chief, 384th Organizational Maintenance Squadron, McConnell AFB, Kan. Sergeant Daniels led the ground team that displayed the KC-135 and the B-1B at the 1986 DoD Joint Services Open House at Andrews AFB, Md., where he expertly briefed congressmen, foreign ambassadors, and other dignitaries on the KC-135's and B-1B's systems. During a Bold Tiger surge exercise, his crews launched a record-breaking 101 KC-135 sorties in three days, all on time. In September 1985, he was promoted to master sergeant under the STEP program.

A graduate of both the NCO Leadership School and the Senior NCO Academy Correspondence Course, Sergeant Daniels earned an associate degree in aircraft technology from the Community College of

MSgt. James H. Daniels

the Air Force. He is presently working on a bachelor's degree in industrial management as a senior at Kansas Newman College.

As a volunteer for the West Texas Rehabilitation Center, he helped raise nearly $1 million for the handicapped. He has served as a scoutmaster, a Little League umpire, a Sunday school superintendent, and a city council representative for the local elementary school. Sergeant Daniels, thirty-two, was born in Prentiss, Miss. He and his wife Debra have three children and are expecting a fourth child in December.

• **MSgt. Debra L. Garza** is the Noncommissioned Officer in Charge, Military Working Dog (MWD) Section, 379th Security Police Squadron, Wurtsmith AFB, Mich. Sergeant Garza planned and organized more than forty MWD demonstrations before some 20,000 people during 1986. She demonstrated quick thinking and solid professionalism during several bomb threats, and under her leadership, the explosives-detection team achieved top results. She was promoted to her current grade under the STEP program in December 1986.

MSgt. Debra L. Garza

In addition, Sergeant Garza's implementation of the Social Actions narcotics-detection briefing for new personnel was credited with the reduction of illegal drug use on Wurtsmith AFB. She has twice been selected Law Enforcement NCO of the Year.

Sergeant Garza earned an associate degree in criminal justice.

A Sunday school teacher at the base chapel, she also volunteers her time to the local Big Sisters of America program. In 1986, the Oscoda/Au Sable Chamber of Commerce named her the Military Citizen of the Year. Sergeant Garza, twenty-nine, a native of Kansas City, Mo., is married to SSgt. Ramiro Garza.

TSgt. Frank J. Hall III

• **TSgt. Frank J. Hall III** is NCOIC, Detachment 25, 5th Weather Wing, Panama. Sergeant Hall supported the US Army's 193d Infantry Brigade on several Central and South American deployments and exercises. Working with the task force Janus, he lent his weather expertise to Operation Blast Furnace, a multinational effort to eradicate cocaine production in Bolivia. His accurate forecasting prompted the rescheduling of fuel supply missions to remote operating bases before weather forced the closing of those air routes. In February 1987,

he was promoted to technical sergeant under the STEP program.

In 1986, Sergeant Hall and two other members of his unit pulled fifteen injured children and a bus driver from the wreckage of a Panamanian school bus and provided first aid. For his participation in the Nevada de Ruie, Colombia, volcano relief operation, the US Army presented him with an Army Achievement Medal.

A graduate of both the NCO Leadership School and NCO Academy Correspondence Course, he has also successfully completed the grueling Army Jungle Operation Training Course. Currently, Sergeant Hall is working toward an associate degree in applied science from the Community College of the Air Force.

In his spare time, he serves as a troop committee member for USA Girl Scouts Panama. Sergeant Hall, twenty-seven, hails from Milton, Fla. He and his wife Carla have three children.

MSgt. Raymond S. Harris

• **MSgt. Raymond S. Harris** is a Senior Flight Instructor, Aerial Refueling, and Chief, Alert Management Division, 340th Air Refueling Wing, Altus AFB, Okla. Sergeant Harris is credited with greatly improving the proficiency of the most inexperienced boom operators in the command while motivating 100 percent of his troops to reenlist. He spearheaded a $600,000 renovation project for the Alert Management Division facility and a $135,000 expansion to the family visitation center. In June 1986, he was promoted to master sergeant under the STEP program.

Currently enrolled in the Senior NCO Academy, Sergeant Harris is also nearing completion of an associate degree in resource management from the Community College of the Air Force. He was a distinguished graduate and winner of the Military Training Award at the NCO Leadership School.

Sergeant Harris led the wing's hard work with the Oklahoma Department of Human Services, forming numerous volunteer groups to refurbish the homes of elderly citizens. He also received the Oklahoma Governor's Commendation and a Citation of Honor from the state legislature for humanitarian work. Sergeant Harris, thirty-one, is a native of Hancock, Mich. He and his wife Renee have three children.

MSgt. Diane Lomas

• **MSgt. Diane Lomas** is a Quality Assurance Evaluator, 7022d Air Base Squadron, Pirinclik AS, Turkey. When Sergeant Lomas initiated a remodeling and rewarehousing of the entire supply account, she merited an "outstanding" rating from USAFE Logistics Staff Assistance Team. By establishing a recognition program for base US and Turkish civilian employees, she helped to increase morale, job satisfaction, and productivity. In addition, she revamped the excess property program, saving $10,000 on one transaction alone.

A graduate of the Senior NCO Academy, Sergeant Lomas received a master's degree in public administration from Golden Gate University, graduating with a perfect 4.0 average. She has received many academic honors, including the Tactical Air Command Academic Achievement Award.

Sergeant Lomas established a local alcohol awareness and rehabilitation program that significantly reduced base-wide alcohol-related incidents. As the chairman of the base orphanage committee, she raised more than $1,700 for underprivileged children. Sergeant Lomas, a thirty-six-year-old native of Wetumpka, Ala., is married to MSgt. Gerald J. Lomas.

Sgt. Laurent R. McDonald

• **Sgt. Laurent R. McDonald** is a Fire Protection Specialist, 51st Civil Engineering Squadron, Osan AB, Republic of Korea. During a 700,000-gallon JP-4 fire, Sergeant McDonald used his own protective clothing to shield a man from the searing fire, carried him 300 yards to medical aid, and then reentered the fireball in search of more survivors. When further rescue operations became impossible, he helped battle the blaze for sixteen hours until the fire was finally under control. For his heroism, he was awarded the Airman's Medal.

After finishing technical training school with a 96.7 average, Sergeant McDonald completed a Federal Aviation Agency Crash Fire Rescue course. He is a distinguished graduate of the NCO Preparatory Course and is currently enrolled in the Community College of the Air Force.

A leader in the Military Affiliate Radio System at Osan, he contributes to base fund-raising drives and participates in numerous radio clubs. Sergeant McDonald, twenty-two, is from Southbridge, Mass.

SMSgt. David L. Pennoyer

• **SMSgt. David L. Pennoyer** is a Space Defense Systems Acquisition Logistics Superintendent, Deputy for Acquisition Logistics, Hq. Space Division, Los Angeles AFS, Calif. In antisatellite acquisition, Sergeant Pennoyer's innovations slashed procurement expenditures

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Having completed all phases of Professional Military Education, Sergeant Pennoyer is now working toward an associate degree in electronics and a bachelor's degree in business from the Community College of the Air Force.

He served as both the president of the Los Angeles AFS Top-3 Association and the Protestant Chapel Council, as a representative to the local elementary school advisory council, and as an assistant youth baseball coach. Sergeant Pennoyer, forty-three, is a native of Norwalk, Conn. He and his wife Laura have two children.

SSgt. Daniel R. Santos

• **SSgt. Daniel R. Santos** is an Aircraft Maintenance Specialist, 2951st Combat Logistics Support Squadron, McClellan AFB, Calif. Having discovered a serious precooler inlet duct problem with the A-10 aircraft's environmental control system, Sergeant Santos developed repair procedures that are expected to save more than $30,000 annually. His discovery of a significant price difference in two similar exhaust port assemblies on the A-10 led to a per-unit saving of more than $400. This action is expected to save more than $240,000 for the entire A-10 fleet.

Sergeant Santos is studying for an associate degree in aircraft maintenance technology from the Community College of the Air Force and a bachelor's degree in aircraft maintenance management from Embry-Riddle Aeronautical University. He is a graduate of the NCO Leadership School, where he also won the Commandant's Award.

Outside of work, he is an active volunteer with the USAF Junior Reserve Officer Training Corps, the Sacramento, Calif., Receiving Home for Abused Children, and the Loaves and Fishes program, which feeds the needy. Sergeant Santos, twenty-nine, was born in Vicenza, Italy. He and his wife Janet have one child.

TSgt. Samuel Whalum, Jr.

• **TSgt. Samuel Whalum, Jr.,** is a Test Measurement and Diagnostic Equipment Area Supervisor, 39th Consolidated Aircraft Maintenance Squadron, Incirlik AB, Turkey. Without any existing technical data, Sergeant Whalum made priority repairs on a one-of-a-kind munitions bomb test set that were critical to mission accomplishment during a NATO tactical evaluation. By repairing a malfunctioning radio receiver test set, he saved the Air Force more than $20,000. In addition, his suggestion to modify the design of a pulse generator circuit will save more than $175,000 and is presently being evaluated for Air Force-wide implementation. He also wrote the technical training block for the B-1B advanced electronics calibration program, which Air Training Command implemented in October 1986.

In 1985, Sergeant Whalum graduated *summa cum laude* from Colorado Technical College with a bachelor's degree in electronic engineering. Recently, he has been accepted for graduate study at East Texas State University.

A panel member on the Black History Committee, Sergeant Whalum also coordinates Martin Luther King, Jr., commemorative activities. He tutored high school students in mathematics and English and chaired the Library Summer Reading program. Sergeant Whalum, thirty-three, is a native of Columbia, Miss. He and his wife Jacqueline have one child.

MSgt. Thomas W. Wharton

• **MSgt. Thomas W. Wharton** is an Aircraft Maintenance Flight Chief, 58th Aircraft Generation Squadron, Luke AFB, Ariz. Sergeant Wharton trained and supervised thirty-nine people and maintained thirteen F-16 aircraft valued at more than $210 million. He kept his flight's F-16s in such good shape that one was chosen to represent USAF at the 1986 Canadian International Air Show. Twelfth Air Force Commander Lt. Gen. Charles J. Cunningham, Jr., selected another F-16 from the flight for checkout and flew it extensively. Since January 1987, Sergeant Wharton has been the NCOIC with the Twelfth Air Force Demonstration Team that exhibits the newly operational F-16C throughout the continental US and Canada.

In 1986, TAC Commander Gen. Robert D. Russ presented Sergeant Wharton an Air Force Achievement Medal for extinguishing a jet fuel starter engine fire.

A graduate of the Senior NCO Academy Correspondence Course, Sergeant Wharton is also pursuing an associate degree in aviation technology from the Community College of the Air Force. In 1981, he was an honor graduate and winner of the Instructor Ability Award at the NCO Leadership School.

For one week each summer, Sergeant Wharton works with underprivileged children at a camp in Utah. He is an assistant youth soccer coach and a volunteer parent for local Boy Scout campouts. Sergeant Wharton, thirty-six, is a native of Brooklyn, N. Y. He and his wife SSgt. Cherokee Wharton have four children. ■

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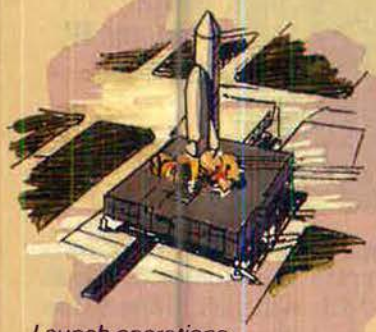

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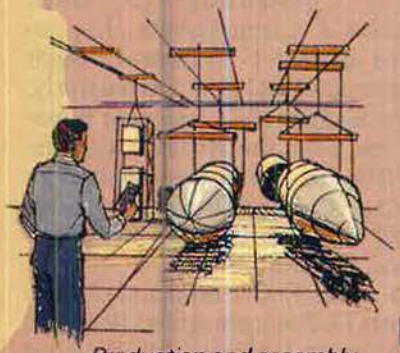

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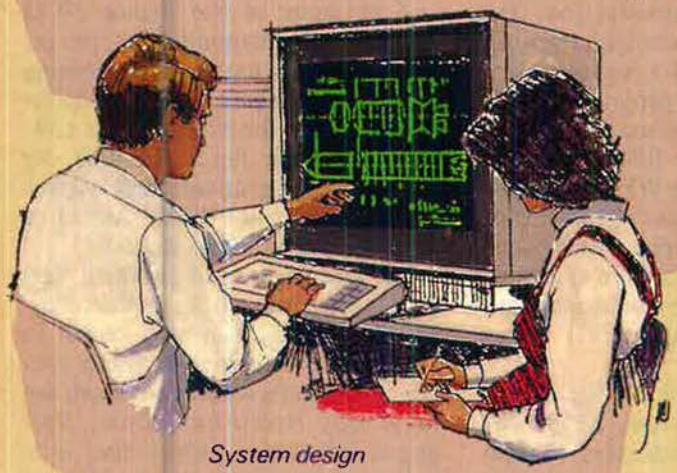

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AFA awards honor the year's top crews in tactical, strategic bomber, missile, reconnaissance, and airlift missions.

The Five Best Crews in the Force

BY MAJ. RANDAL E. MORGER, USAF

Capt. Jay H. Lindell's business card could read "Have Bomb, Will Deliver." He developed the first F-111 employment guide for the GBU-15 glide bomb, and he spearheaded his squadron's test of the weapon at medium altitudes. Winner of this year's Chennault Award, given to the Air Force's top tactician, he is with the 48th Tactical Fighter Wing based at RAF Lakenheath, United Kingdom.

THE flying and fighting aspects of the Air Force mission are embodied in its aircraft and missile crews. Consequently, selection as one of the top five crews in the entire force is a professional honor of special significance.

The AFA National Convention this month will recognize the year's top crews—selected by the Air Force and based on achievements in 1986—with presentation of the Lt. Gen. Claire Lee Chennault Award for the outstanding aerial warfare tactician, the Gen. Curtis E. LeMay Award for the top strategic aircrew, the Gen. Jerome F. O'Malley Award for USAF's best reconnaissance crew, the Gen. Thomas S. Power Award for best strategic combat missile crew, and the Lt. Gen. William H. Tunner Award for the best aircrew in MAC.

The Chennault Award

As the Soviet military continues to close the quality gap in its fighter aircraft, the role of USAF's aerial warfare tacticians is becoming more important than ever. So it must be heady stuff to be singled out by the Air Force Chief of Staff as "first

A shining example of teamwork is Crew S-30, comprised of Capt. Charles H. McGuirk (right) and Capt. (now Maj.) Edward B. De Iulio from the 380th Bomb Wing at Plattsburgh AFB, N. Y. Together for a little over a year, this crew was named as the Gen. Curtis E. LeMay Strategic Aircrew Award winner.

among a very select group of fighter pilots." Gen. Larry D. Welch used that phrase to describe Capt. Jay H. Lindell, F-111F flight commander and instructor aircraft commander at the 48th TFW, RAF Lakenheath, UK, in announcing his selection for the Chennault Award.

A distinguished graduate of the F-111 Fighter Weapons Instructor Course (FWIC), Captain Lindell served as the weapons and tactics officer for the 493d Tactical Fighter Squadron. He developed the first F-111 employment guide for the GBU-15, a 2,000-pound TV-guided precision glide bomb. He also spearheaded the squadron's test of that weapon at medium altitudes during a Red Flag deployment and was credited for the aircrews' remarkable delivery accuracy—fourteen direct hits in fifteen attempts. Said his former squadron commander, Lt. Col. Arnold L. Franklin, Jr., "Jay's authorship of the GBU-15 tactics guide alone has had a major impact on the Air Force."

The Captain is also a top-notch teacher of such complex systems as Pave Tack, USAF's day/night/all-weather target acquisition and delivery system. "He can go fly with a guy, immediately analyze what he's doing wrong, and explain it in such a way that the next time he'll do it exactly right," Colonel Franklin said. USAFE inspectors concurred with the Colonel, noting in a management efficiency inspection that Captain Lindell's weapons program was the best they'd ever seen.

Captain Lindell is a great stick-and-rudder man as well, according to Lakenheath officials, who called him "our undisputed wing Top Gun." He delivered the first GBU-15 at low altitude from an F-111F and "literally destroyed the target with an inert weapon," they noted. He also led his squadron to a bombing competition victory over an F-16 unit, another first for the F-111 force.

VIPs who visit the wing often find Captain Lindell manning the F-111 on display, ready to provide an enthusiastic and articulate rundown of the aircraft systems and mission, or in the air leading a weapons employment demonstration. Commendations on his abilities have come to the 493d TFS from a variety of sources—the President, the Prince of Wales, and top NATO officials among them.

In the tight competition for the Chennault Award, one word was used to separate Captain Lindell from the other nominees. The word is "superstar."

The LeMay Award

To the aircrews who man the bombers of Strategic Air Command, the LeMay Award is special. Recipients are called the "Best of the Best," and Crew S-30 of the 380th Bomb Wing, Plattsburgh AFB, N. Y., lives up to that billing. The select FB-111A combat crew was composed of Capt. Charles H. McGuirk, instructor pilot, and Capt. (now Maj.) Edward B. De Iulio, instructor radar navigator.

Gen. John T. Chain, SAC's Commander in Chief, wrote that Crew S-30 "demonstrated superior airmanship and performance across a broad spectrum of activity." Among the crew's accomplishments:

- Pacing the 380th BMW to capture SAC's Meyer Trophy, the top award in the "fast mover" bomber category, at Bomb Comp '86. Their bombing performance in three day-and-night sorties was the best in Eighth Air Force and included two "shacks" (perfect scores).
- Achieving continuous top ratings in wing standardization/evaluation tests and perfect scores on Emergency Action Plan (EAP) and Emergency War Orders (EWO) examinations.
- Leading the bomb wing in checking out its conventional bombing capability and then instructing other combat crews in those new weapons delivery procedures.
- Playing the "bad guys" at Tactical Air Command exercises, giving TAC F-15 and F-106 pilots valuable training against low-level supersonic threats.
- Two consecutive selections as squadron "Crew of the Quarter."

Individual efforts were equally impressive. Captain McGuirk, for example, picked up "Outstanding Graduate" honors at the FB-111A flight instructor course, an outstanding instructor checkride performance, and outstanding Inspector General ratings as squadron safety officer. He later became a squadron flight commander.

Major De Iulio was the wing's "top gun" during a SAC Operational Readiness Inspection (ORI), got an IG "outstanding" for his squadron self-inspection program, produced an avionics troubleshooting guide that helped the wing post the best bombing performance in five years, and was named an "Outstanding Young Man of America." Promoted to major below-the-zone, he became the 528th Bombardment

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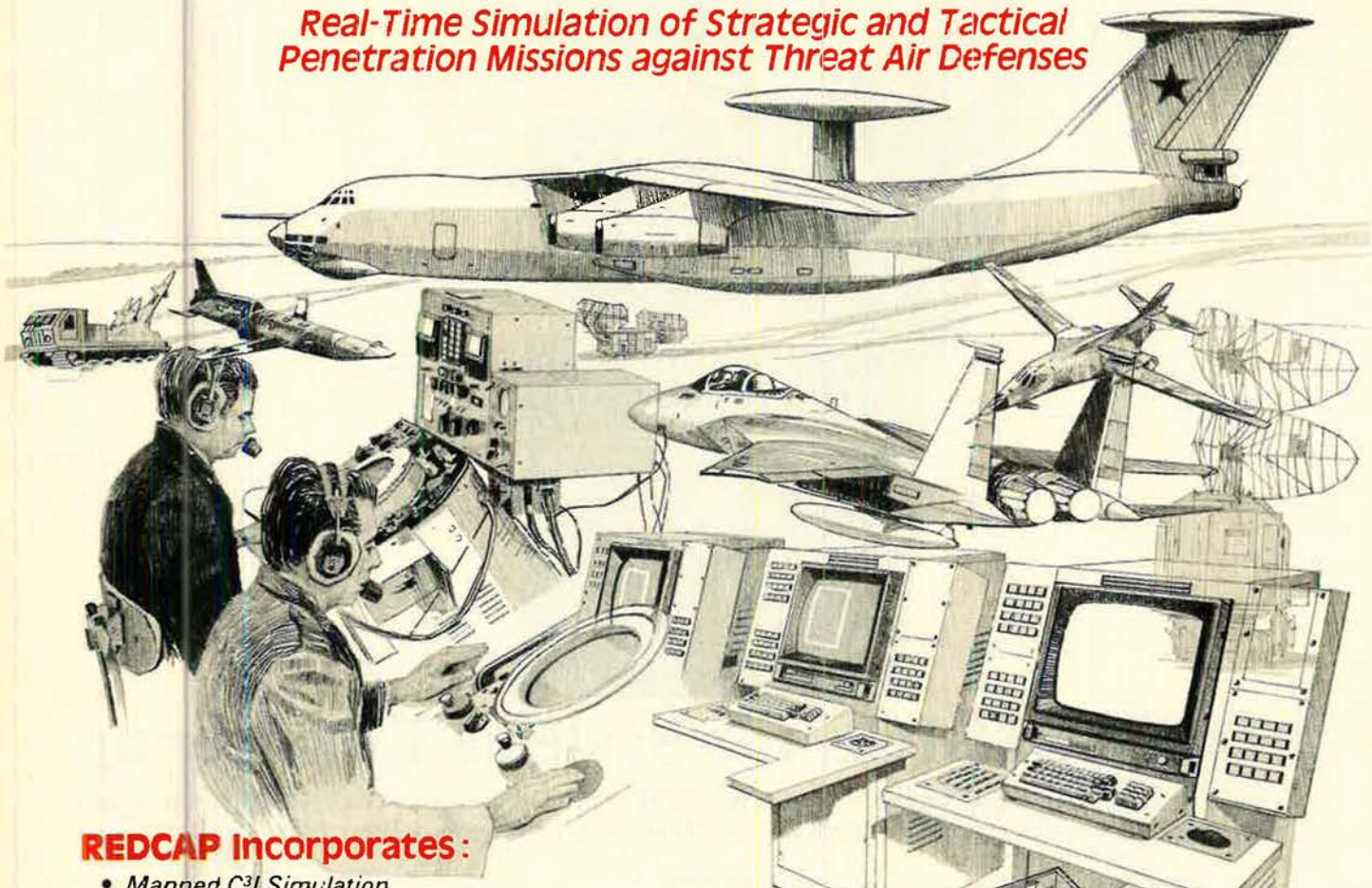

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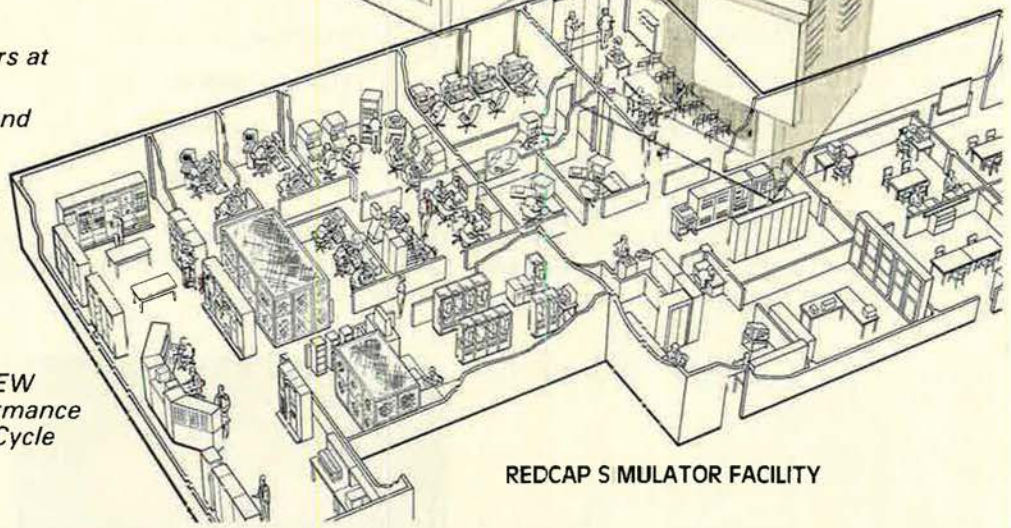

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Squadron's assistant operations officer.

Off-duty, both officers coached youth baseball and spoke before community and college groups about Plattsburgh's mission.

Major De Iulio believes Crew S-30 was selected for the LeMay Award "because of sustained performance over the course of the entire year. Chuck and I didn't just strive to excel in one or two areas. We tried to be a well-rounded team."

Major De Iulio has since received an assignment to SAC's 31st Test and Evaluation Squadron at Edwards AFB, Calif. Captain McGuirk is now at Dyess AFB, Tex., for B-1 pilot training, with a follow-on assignment to Ellsworth AFB, S. D. Although Crew S-30 was together little more than a year, he recalled, "It was never any work; all we had was fun. But I like to think we contributed something to the squadron and the wing while we were doing it."

The O'Malley Award

In wartime, the Air National Guard would deliver more than half the Air Force's tactical reconnaissance capability. Two men from the 124th Tactical Reconnaissance Group, Idaho Air National Guard, set the standard for the entire recce force in 1986 with their selection to receive the O'Malley Award. Maj. Patrick M. O'Rorke and Maj. Jay T. Stevenson became the first Guard members to be honored as the outstanding reconnaissance crew—and the second tactical aircrew to win in the three years that the award has been given.

This RF-4C team is no stranger in or near the winner's circle. Since Majors O'Rorke and Stevenson began flying together occasionally in 1981, they've competed in three major reconnaissance meets. At the Air National Guard's Photo Finish 1981, they were runners-up to the best aircrew and barely missed again at another Photo Finish competition in 1985, taking second place to the best day/night crew. "There's a lot of skill involved in these flying competitions," Major O'Rorke said. "Of course, there's a lot of luck, too."

The Boise aircrew's luck and skill coalesced last November when they won the top aircrew award at the Air Force-sponsored international Reconnaissance Air Meet '86 at Bergstrom AFB, Tex. In three missions as the lead flight—Major O'Rorke as pilot and then-Captain Stevenson as weapon systems officer—the crew posted a nearly flawless score of 1,343 out of a possible 1,350 points. They also backed up another Idaho aircrew as wing element on three additional flights, helping their teammates avoid a host of airborne fighter aggressors and simulated ground threats to their unarmed aircraft.

For the first time, the Gen. Jerome F. O'Malley Award for the best reconnaissance crew went to Air National Guardsmen—Maj. Patrick M. O'Rorke (left) and Maj. Jay T. Stevenson (right). This Idaho ANG crew won the top aircrew honors at Reconnaissance Air Meet '86 while flying an RF-4 for the 124th Tactical Reconnaissance Group.

Their performance in RAM '86 against other active and reserve reconnaissance crews from the US military and Australia underlines the strength of the Air Guard. Their military careers have been exclusively with the 124th TRG, and aside from pilot and navigator training, flying time has been solely in the RF-4. "We know the aircraft's capabilities," Major Stevenson said, "and we work extremely well together at a personal level." The two majors fly as a pair whenever the schedule permits. Off-duty, they hunt and fish together.

They also attribute their win at Bergstrom to the other Idaho Guard members supporting them. As Major O'Rorke put it, "Having a good wingman had a lot to do with it." Major Stevenson noted that the unit's aircraft "went down to Texas Code One [all systems operational], flew twice a day every day, and came home Code One." He added, "It comes down to accountability and dependability of your teammates, including maintenance. When you have that, it's hard to go wrong."

Since the 124th TRG is the parent unit for all ANG reconnaissance aircrew training, the two officers' everyday duties have an impact well beyond the boundaries of Gowen Field at Boise. A graduate of TAC's Fighter Weapons Instructor Course, Major O'Rorke is the group's weapons and tactics officer. He's lauded by his commander for innovative training programs that "have kept the unit at the forefront of tactical reconnaissance."

Major Stevenson is an instructor for the training flight and a standardization/evaluation flight examiner. Additionally, as the group airspace manager, he is credited by Air Guard officials with maintaining "perhaps the finest military operations area and low-level route structure in the country."

The Power Award

When Minuteman III missileers Wayne Dale and Ben Shuman showed up at Vandenberg AFB, Calif., for SAC's "Olympic Arena" in May 1986, there may have been a few silent snickers from other mis-

sile teams assembled there. Dale, then a first lieutenant, had been a combat crew commander for only seven months. Lieutenant Shuman, his deputy, was still a "brown bar" with just over a year of operational experience. It was surely a grave tactical error by the 91st Strategic Missile Wing, Minot AFB, N. D., to put such inexperience on the line in the command's annual missile combat competition.

Of course, experience is more than a measure of years spent "down in the hole."

"We were willing to work hard," said the now-promoted Captain Dale. Crew S-201 took sixty "trainer rides" in a Minuteman III Launch Control Center (LCC) simulator to prepare for the competition, he said, and "we hung in there together through a lot of long hours."

Captain Dale had competed as a deputy commander at the 1984 Olympic Arena and knew how well he and Lieutenant Shuman would have to perform to win. Each competing crew takes two LCC "rides" during the meet, and each two-hour test has two parts. The first stresses knowledge of the missile system and regulations, troubleshooting procedures, security, code handling, and emergency procedures. Part two calls for the crew to simulate carrying out its Emergency War Orders. Each ride is worth 300 points.

Concentrating on the basics, Crew S-201 scored a total of 578 points—among the highest scores achieved in the meet's nineteen-year history. They beat fifteen other competing crews, the elite among nearly 600 combat missile crews SAC-wide, including the last Titan II competitors. On the basis of the Olympic Arena competition, Crew S-201 was the best in SAC.

That virtually ensured the crew's nomination for the Power Award as the outstanding missile crew. During the rest of the year, though, the two racked up additional achievements—a string of perfect scores on wing EWO tests and code-handler examinations, multiple "highly qualified" ratings on standardization evaluations, and consistent selections for the 91st SMW honor roll.

Officials also cited their major contributions to the rest of the crew force as instructors in the wing's Operations Training Division. When the ORI hit Minot in December, every missile crew passed the IG team's critical mission tests—a first for the wing in six years.

Community service activities, like Captain Dale's presidency of a missileers' booster club and Lieutenant Shuman's involvement in the Company Grade Officers' Council, fleshed out their credentials for nomination.

Col. Thomas C. Mulligan, Deputy Chief of Staff for Missiles at SAC's Fifteenth Air Force, summarized the crew's performance as one of "total commitment to excellence, professionalism, and devotion to duty."

Crew S-201 has now split up. Captain Dale became the wing's senior instructor commander and is now the head EWO instructor for Minot's 180 missile crew members. "I'm proud we won the award," he commented. "I'd want people to think of it as a reflection of how really proud we all are here [at Minot] of our jobs, the wing, and the community."

Lieutenant Shuman made first lieutenant a year ago and has upgraded to combat crew commander. He regards his selection for the Power Award as "repaying the wing staff for their confidence in someone so young. I'm glad I could prove their trust." Lieutenant Shuman is scheduled to join the 91st SMW's Standardization/Evaluation Division as a stan/eval officer.

Age does not determine skill—just ask these lieutenants who won SAC's 1986 "Olympic Arena" missile competition. First Lt. (now Capt.) David W. Dale (standing) and 2d Lt. (now 1st Lt.) John B. Shuman from the 91st Strategic Missile Wing at Minot AFB, N. D., are the winners of the Gen. Thomas S. Power Strategic Missile Crew Award.

The Tunner Award

"I was home fixing dinner when the command post called," Lt. Col. Leslie E. Smith remembers. Forty-five minutes later, the C-141B aircraft commander and instructor pilot was being briefed in the 437th Military Airlift Wing commander's office at Charleston AFB, S. C. An hour after that, he and nine other crew members were StarLifter-bound for Haiti.

The US government twice in 1986 assisted transitions of power in foreign nations by transporting unpopular leaders away from the scene. Most observers agree that those actions averted potentially widespread violence and possible jeopardy to US strategic interests. In each instance, Military Airlift Command was the instrument chosen to accomplish the sensitive task.

By February 6, 1986, Haitian dictator Jean-Claude Duvalier recognized he could no longer weather the rising turmoil in his island nation. Mere hours after his acceptance of the US-French formula for safe conduct to exile, the MAC

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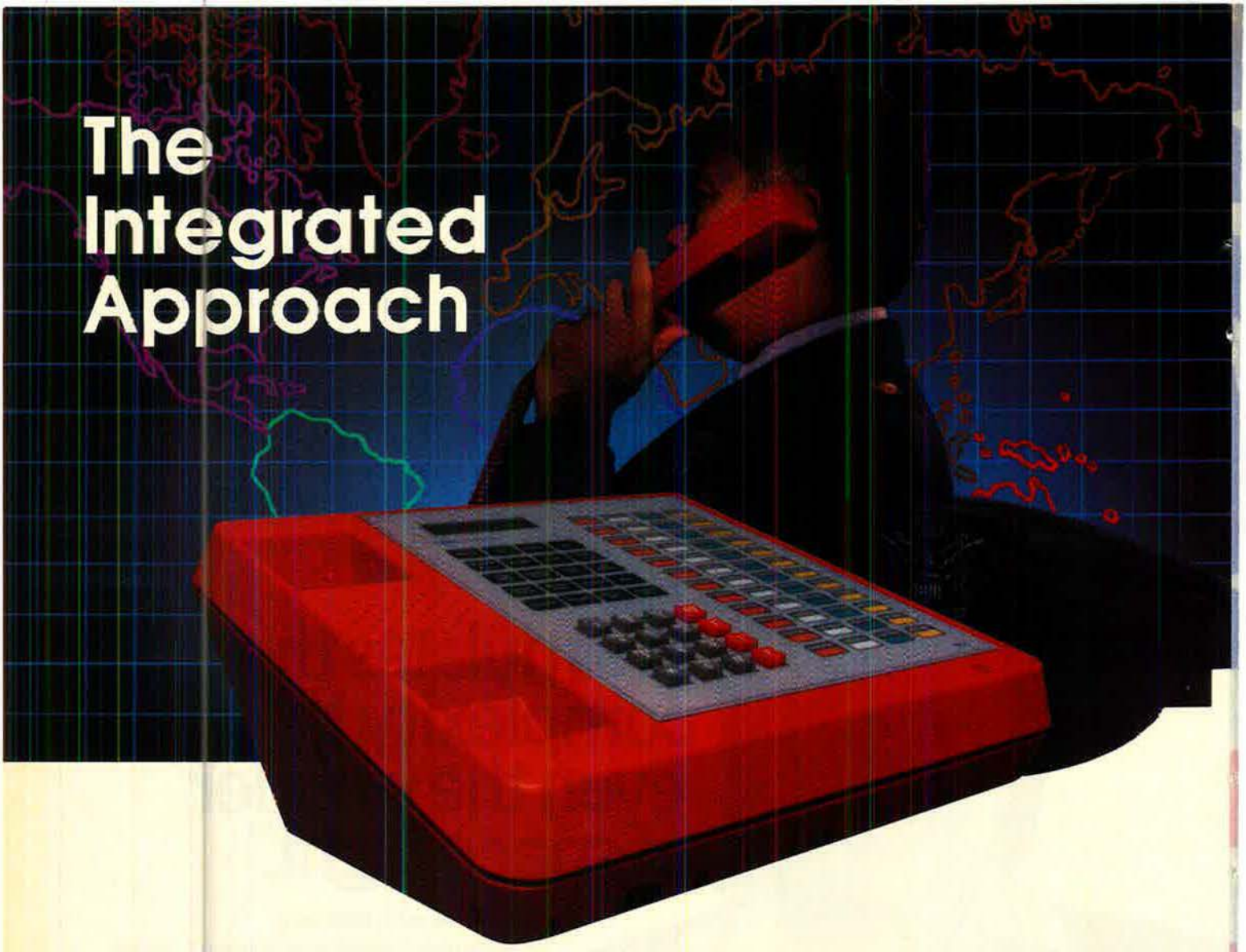

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C-141 from Charleston was leveled out at 33,000 feet over the Caribbean. "We weren't sure what the situation would be when we landed at Port-au-Prince," Colonel Smith said, "so we ran through every contingency we could think of and tried to prepare for it."

The first problem was that "Baby Doc" wasn't quite ready to leave. Constant changes to the flight schedule were being radioed in. It was well after midnight on February 7 before the crew got clearance to use the capital city's airport. Flying an airborne radar approach and wearing night-vision goggles in the event airport lights were out, the flight crew set down the StarLifter at Port-au-Prince—meeting their constantly revised arrival time "to the second," according to MAC officials.

However, President Duvalier and his retinue were still absent. Engines running, the C-141 stayed on the runway. After a half hour, the crew got permission to taxi to the terminal, where dozens of men armed with automatic rifles, probably members of Duvalier's Tontons Macoutes, the secret police force, surrounded the aircraft. Colonel Smith kept the engines running.

Loadmaster TSgt. (then-SSgt.) Michael Schine characterized the remaining hour-long wait as "a little tense." Baggage trucks arrived; their cargo filled most of the rear half of the transport. The C-141 had burned nearly 9,000 pounds of fuel on the ground when the Duvalier motorcade arrived. Sergeant Schine and fellow loadmaster MSgt. Charles A. Sharp quickly seated the twenty-seven arriving passengers. With a midfield, blacked-out takeoff and a tactical departure to avoid mountains, Colonel Smith got the C-141 out of Haiti fast.

There were more complications. The ground delays had scrubbed an aerial refueling, necessitating a stop at an en route base for gas. Then, during the transatlantic leg, the crew was advised the drop-off destination had been changed to Grenoble, France. Lacking the instrument approach plates for that airport, the navigators constructed an approach from information gleaned via satellite communications. After offloading the deposed president in France, a balky starter required a little judicious "malletizing" by flight engineer MSgt. John A. Maslankowski in order to restart the number-three engine. When the weary crew finally ended the mission at Rhein-Main AB, Germany, most of its members had performed for nearly forty hours with little or no sleep.

For their actions in support of the US's national interests, Colonel Smith, aircraft commander; Lt. Col. Harold M. Edwards, Jr., Capt. Bruce S. Mahaffey, and Capt. Richard P. Pelican, copilots; Lt. Col. James G. Jeter and Capt. John A. Crawford, navigators; Sergeant Maslankowski and SSgt. James E. Cooper, flight engineers; and Sergeants Sharp and Schine have been selected to receive the William H. Tunner Award as the outstanding airlift crew. ■

Overcoming numerous difficulties, this crew from the 437th Military Airlift Wing at Charleston AFB, S. C., flew deposed Haitian ruler "Baby Doc" Duvalier and his retinue safely out of that country. Part of the nine-man Tunner Award-winning crew included (top) loadmasters SSgt. Michael E. Schine and MSgt. Charles A. Sharp and (lower picture) navigators Lt. Col. James G. Jeter, left, and Capt. John A. Crawford, center. Mission commander was Lt. Col. Leslie E. Smith, right.

Maj. Randal E. Morger is a former Contributing Editor of AIR FORCE *Magazine under the Air Force Institute of Technology's Education With Industry (EWI) program. He is currently assigned to the Office of the Assistant Secretary of Defense for Public Affairs. His by-line last appeared in* AIR FORCE *in the October '86 issue with the article "Partners on the Peninsula."*

The top airmen and units of the Guard and Reserve reached deep and came up with extra measures of effectiveness.

Something Special

BY JEFFREY P. RHODES
AERONAUTICS EDITOR

—FlaANG photo by SSgt. Keith M. Unwin

Capt. Jim Thompson of the 125th Fighter Interceptor Group at Jacksonville International Airport, Fla., is the Earl T. Ricks Award winner for 1986. Following a drive-shaft failure in his F-106 in August 1986, Captain Thompson kept his cool and nursed the aircraft in for a dead-stick landing. He is shown here climbing into one of the 125th FIG's newly assigned F-16s.

It isn't an easy task for the selection boards, picking the top airmen and units of the year in the Air National Guard and the Air Force Reserve. Both of these organizations have well-deserved reputations for excellence. Yet some citizen-airmen do stand out, even amid so outstanding a field.

They are the ones who will be honored at the AFA National Convention this month as the 1987 recipients of the Earl T. Ricks Award, which is given for outstanding airmanship in the Air National Guard, the ANG Outstanding Unit Award, the Air Force Reserve Outstanding Unit Award, and the President's Award, which goes to the top AFRES flight crew.

The Ricks Award

"It was quite an adventure, but I hope it is the only time I'll ever have to do something like that," said Capt. Jim Thompson, a pilot with the 125th Fighter Interceptor Group at Jacksonville International Airport, Fla.

Captain Thompson's "adventure" occurred in August 1986 when he made the most of procedures he practices often in training and landed his single-engine F-106 despite a drive-shaft failure. A malfunction of this type is critical. It prevents fuel from reaching the engine and robs the aircraft of hydraulic and electrical power, thus essentially turning the plane into a fifteen-ton glider.

Captain Thompson was completing a navigation proficiency sortie and was preparing to return to his home base when the aircraft suddenly lost all power. "The thing just quit running," explained Captain Thompson, who was flying at 37,000 feet at the time. "At first I thought I had just lost the generator."

He extended the ram air turbine, which provided enough emergency hydraulic power to maintain control, and tried to restart the engine. "When it wouldn't start, I realized the engine had quit," recalled Captain Thompson. "I knew I had to get to where somebody could help me or at least to a place where I could punch out [eject] and there would

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be somebody to come and get me."

With nothing but a radio that worked intermittently and a standby magnetic compass, Captain Thompson then turned toward Tyndall AFB, Fla., which he recalled was ninety degrees off to his right. It also turned out to be forty-two miles away.

Captain Thompson had just entered the Jacksonville air traffic control center area. As the F-106 lost altitude, it disappeared from the center's radarscopes. Technicians at the Jacksonville center called controllers at Tyndall, who were able to pick up the powerless F-106 on their old-style sweep radar.

"The Tyndall controllers got hold of me on the radio when I was about nine or ten miles out," Captain Thompson said. "They gave me a snap vector and really got my eyes focused on the field." The controllers also alerted fire and rescue units to prepare for the incoming cripple.

"After I got the call, I realized I was in pretty good shape for an SFO [single-engine flameout] landing, which is something we practice a good bit, although not completely powerless. I had enough altitude, and all the emergency stuff, like the ram air turbine and the emergency gear release, was working, so I figured I could make it in. And besides, bailing out is not a pretty thought when you are flying over a swamp."

The F-106 touched down in the first 2,000 feet of the runway, and its arresting hook caught the departure end cable. "Everything worked out right, and I landed that rascal," said Captain Thompson. "I was really lucky, and I owe a lot to the controllers at Tyndall." The powerless flight and dead-stick landing at the base took eight minutes.

"My training absolutely came into play," concluded Captain Thompson. "I was able to handle the emergency, and the instant I saw the runway, I had no second thoughts about making it in. I was fairly comfortable and in a known environment. Bailing out is something you never practice. After I landed, I realized the gravity of the situation I had been in. Being able to make all of those snap judgments I had to make goes right back to training."

Ironically, the next time Captain Thompson flew that particular F-106 after it had been repaired, it was for an exercise conducted at Tyndall.

ANG Outstanding Unit

"Our people came forward and produced at unbelievable levels last year. It was just great," said Col. Donald E. Joy, Commander of the 103d Tactical Fighter Group at Bradley IAP, Conn.

The "Flying Yankees" did, indeed, have a great year. This A-10 unit met all of its training requirements, maintained an impressive overall average unit strength of 101.6 percent, and took part in eight exercises and deployments, including a major deployment to Europe.

The 103d TFG's pilots flew 2,944 sorties in 1986, logged 4,920 hours, and grabbed top honors in the 174th Tactical Fighter Wing's (the 103d TFG's parent unit) shoot-off.

Training goals were purposely set high, and all of those standards were met. The 103d TFG had an on-the-job training effectiveness rate of ninety-eight percent and an overtime training rate of just one percent. Its excessive training rate was nonexistent. The unit also conducted a Major Disaster and Mass Casualty exercise that involved about sixty volunteer fire fighters and twenty ambulance personnel from eight neighboring towns.

In addition to the high average unit strength, which was achieved despite the addition of seventy-nine new maintenance positions to fill, the 103d TFG maintained a retention rate of eighty percent. "I think productive training is the key to keeping strength up," said Colonel Joy. "If you have productive and interesting types of training, people are happy and will stick around."

It wasn't just the planes and pilots that went places, though. The 103d TFG's fire fighters went to Fire/Crash Training at Norton AFB, Calif. The engineers went to Prime BEEF training at Eglin AFB, Fla. And the clinic staff deployed to RAF Lakenheath, England, to sup-

Both an overseas deployment and an operational readiness inspection (as shown here) added up with other responsibilities to make 1986 a busy year for the 103d Tactical Fighter Group at Bradley IAP, Conn. The group, nicknamed the "Flying Yankees," set lofty goals for itself and met every one of those goals on its way to winning the 1986 ANG Outstanding Unit Award.

port the USAF Regional Hospital there.

The unit's major activity for the year was a deployment to NAS Nordholtz, West Germany, as part of the Coronet Nova exercise. This exercise, sponsored jointly by USAFE and NATO, is designed to familiarize aircrews and ground support personnel with working conditions in the European environment near the North Sea. For two weeks, 250 personnel fought foul weather to support twelve of the unit's nineteen assigned A-10 Thunderbolt II aircraft at Nordholtz.

"We had a major European deployment as well as an ORI [operational readiness inspection] in the same year," concluded Colonel Joy. "But across the base, morale was high. We have a dedicated band working together here, and they all did a great job."

AFRES Outstanding Unit

"We flew a little over 12,000 hours last year, and of that total, 7,563 hours were spent as part of actual Military Airlift Command missions," said Col. Billy R. Henderson, Commander of the 315th Military Airlift Wing, a C-141B Reserve Associate wing based at Charleston AFB, S. C. "Having a meaningful task when you fly is certainly more interesting than just flying around the flagpole."

While sixty-two percent of the mission hours flown by the Reservists were actual airlift (as opposed to Reserve training hours), twenty-five percent of the host 437th MAW's missions were flown by crews from the 315th MAW. "We have a very good relationship with the 437th. We support them, and they are happy to have our support," noted Colonel Henderson.

The 315th's list of accomplishments on its own last year was impressive, too. It received an overall rating of Excellent/Satisfactory on its ORI and flew 140 "add-on" missions not originally on the 437th MAW's monthly operations plan. These included such exercises as Reforger, Team Spirit, and Magnum Dealer. The flying squadrons have also accumulated an impressive safety record, nearly eighteen consecutive years without a major accident. The 315th MAW's 31st Aeromedical Evacuation Squadron flew on 205 missions last year, with twenty of those missions classified as "urgent" or "priority."

The unit's maintenance complex won several awards, including "Best Overall Maintenance" and "Best Preflight Team" at Volant Rodeo '86, MAC's annual airlift competition. The maintenance units also received a grade of 89.86 (out of 100 possible) from MAC's Maintenance Standardization and Evaluation Team. The unit even prepared a C-124 that had been on static display for fourteen years for a flight from Florence, S. C., to Charleston so that it could go on display at the base's museum.

Two of the 315th MAW's seven geographically separated aerial port squadrons, the 81st APS at Charleston and the 84th APS based at Greenville, S. C., also won awards last year. The 81st was named "Outstanding Reserve Strategic Aerial Port Squadron of the Year," while the 84th APS topped that by being named as the "Outstanding Total Force Air Reserve Force Unit."

Individuals won numerous awards, and the unit was involved in such community activities as a blood drive, a canned food drive, and a fund-raiser for the mentally handicapped.

The 315th is a large wing, with 700 assigned flying personnel and 3,000 support people. Despite these large numbers, the overall participation rate was a remarkable ninety-eight percent. To ease the coming and going, the wing set up a shuttle service to fly people in and out of Charleston for training sessions. It also conducts four training sessions per month. Another innovation is the use of computer-generated frag order formats as an aid to mission planning. "These were just ways we found we could do something better," said Colonel Henderson.

The President's Award

"It was a case of Americans helping Americans, so we didn't care how long it took," said Lt. Col. Raymond L. Bell, navigator on a re-

The 315th Military Airlift Wing, a Reserve Associate unit based at Charleston AFB, S. C., was doubly honored in 1986. The wing was named the 1986 AFRES Outstanding Unit, and a crew from the wing was tapped for the 1986 President's Award. Among the members of the crew winning the President's Award were (from left) Lt. Col. Raymond Bell (navigator), MSgt. Fleming D. Smith (flight engineer flight examiner), Capt. Kevin M. Cannon (the active-duty aircraft commander), and MSgt. Tommy L. Riggs and TSgt. Rexford C. Rawls (flight engineers).

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L T V : L O O K I N G A H E A D

markable aeromedical airlift mission June 28–29, 1986. A terrorist bomb had exploded on a train in Cuzco, Peru, and eight American citizens, including a critically injured fifteen-year-old girl, needed evacuation to the US.

The mission crew consisted of a cross section of Air Force Reservists, active-duty members, and a Navy corpsman. Coordination between a number of units and agencies (including the State Department) was critical. Detailed information about the patients or conditions in Peru was not available. Time, of course, was of the essence.

The C-141B aircrew, based at Charleston AFB, S. C., consisted of Reservists from the 315th Military Airlift Wing's 300th Military Airlift Squadron, while the aircraft commander, Capt. Kevin M. Cannon, was an active-duty officer from the 315th MAW's host unit, the 437th MAW. For a scheduled training mission, flight engineer MSgt. Fleming D. Smith was on the crew to examine engineer TSgt. Rexford C. Rawls, and MSgt. Tommy L. Riggs was the other engineer on the flight.

The crew had finished its scheduled training mission and was preparing to return to Charleston after an overnight stay at Howard AFB, Panama. Twenty-first Air Force headquarters notified the aircrew about the bombing and told them to sit tight at Howard until the aeromedical crew arrived.

The crew honored with the 1986 President's Award had to plan for and cope with all sorts of contingencies—including more casualties than originally anticipated—during its aeromedical evacuation mission to Peru. Flight nurse Capt. Linda D. Hanf (center) of the 31st Aeromedical Evacuation Squadron assembled the medical team for the mission, which included aeromedical technicians SSgt. Seth T. Schoch (left) and SMSgt. Kevin P. Egan (right).

Meanwhile, back at Charleston, Capt. Linda D. Hanf, a Reserve flight nurse with the 315th MAW's 31st Aeromedical Evacuation Squadron, was tasked at 5:00 a.m. to assemble a team. The medical team included SMSgt. Kevin P. Egan, SSgt. Seth T. Schoch, and HM2 John F. Mohr, a Naval medical technician. They had to pack their own equipment, and a C-5 flew the team to Howard.

They arrived in Panama an hour before the C-141's scheduled departure time. The StarLifter was quickly reconfigured for the aeromedical airlift flight by the loadmasters, MSgt. George M. Culp and SSgt. Furman Beckwith, Jr. While the plane was being outfitted, Colonel Bell, Captain Cannon, and 1st Lt. Thomas R. Parrish, the C-141's copilot, made four separate flight plans because their information about fuel and other particulars was sketchy. At this point, they were certain of only one patient.

Capt. (Dr.) Everett D. Lafon and SSgt. Carson Hines III, a technician from the hospital at Howard, joined the medical team. After a special intelligence briefing, the contingent took off. Midway through the three-and-a-half-hour flight, the crew received diplomatic clearance to land in Peru. US Ambassador to Peru David C. Jordan met them at the airport, and the plane was put under guard by the Peruvian army.

Captains Hanf and Lafon went to the hospital in a bulletproof limousine that would serve as the ambulance. Only then did the evac crew learn that they would be flying out eight badly injured people and the remains of another victim. Families would be boarding also, which meant rapid replanning.

"We got the people on board and got airborne," recalled Colonel Bell, who is Commander of the 300th MAS. "It was a difficult flight back, too. Before we left, the INS [inertial navigational system] suffered a malfunction, and then we had to fly at FL260 [26,000 feet] because the cabin pressurization had to be limited to sea level because of the injuries, especially the girl's head injuries." Colonel Bell was able to correct the INS problem before departure.

En route to Kelly AFB, Tex., the crew dodged several weather fronts and finally arrived at 3:00 a.m. local time after a seven-and-a-half-hour flight. After it was unloaded, the plane was moved to its parking spot on the transient ramp an hour later, completing a twenty-hour day for the aircrew and a twenty-three-hour workday for the medical crew.

The patients were taken to nearby Wilford Hall Medical Center at Lackland AFB. The fifteen-year-old girl died four hours after arrival, but the other seven survived.

"I am very proud of our people and what they did," said Colonel Bell. ■

Over the past thirty-six years, the Chief Red award winner has seen demands in avionics maintenance climb along with technology.

Training Tells

BY COLLEEN A. BOLLARD
STAFF EDITOR

FACED with a requirement for an inertial navigational system (INS) retrofit for its A-10 attack aircraft, the National Guard Bureau needed an experienced maintenance leader with a proven track record. CMSgt. Donald R. Whiting fits that bill ideally. He is the Avionics Maintenance Branch Chief for the 174th Consolidated Aircraft Maintenance Squadron at Hancock Field, Syracuse, N. Y., and the 1987 winner of AFA's CMSgt. Dick Red Maintenance Award.

As the A-10A aircraft project officer for INS retrofit, Chief Whiting's input became policy and procedure not only for the Air National Guard but for active Air Force units as well. He was instrumental in the acquisition of the A-10 INS hot bench, which provides training for aircrews of the 174th Tactical Fighter Wing and for maintenance technicians from each of the five ANG A-10 units. This saves money by reducing transportation and depot repair costs.

Established in 1984, the Chief Red Award is presented annually to an enlisted Air National Guardsman for outstanding contributions to aerospace maintenance. The award honors the memory of CMSgt. Dick Red, an Arkansas Guardsman whose commitment to aircraft maintenance excellence during a nearly forty-year career is legendary. Ohio Guardsman CMSgt. Gene A. Killilea was the initial recipient, CMSgt. Burl E. Summers was the honoree in 1985, and CMSgt. Richard W. Cooper of the New Mexico Air Guard won the award in 1986.

This year's winner knows how to keep today's avionics systems humming. He has spent all of his thirty-six years as a Guardsman in avionics maintenance, working with a dozen different aircraft types.

When Chief Whiting joined the New York ANG in 1950, he worked on the F-84B avionics systems. After completing several technical courses in Colorado, he returned to Syracuse and worked on F-51 aircraft for the ANG. Four years after joining, Chief Whiting became a full-time Fire Control Technician with the 107th Tactical Fighter Group at Hancock Field.

Chief Whiting sharpened his skills and gained additional experience working on T-33 and B-25K avionics systems until the unit converted to F-86Hs and acquired C-54 support aircraft in 1957. Since aircraft conversions are always accompanied by intense technical training for maintenance men, Chief Whiting completed much heavy course work in order to become proficient on the F-86H avionics systems.

Then, on October 1, 1961, as part of the military buildup occasioned

CMSgt. Donald R. Whiting, shown here at his desk at Hancock Field, Syracuse, N. Y., will be honored this month at the AFA National Convention with the Chief Master Sergeant Dick Red Maintenance Award. Chief Whiting was chosen from among seventeen nominees as the most deserving to receive this award. (Photo by MSgt. William Van Pelt, NYANG)

by the Berlin Crisis, his unit was activated and assigned to Phalsbourg AB, France. Chief Whiting served as the Fire Control Superintendent during his eleven-month active-duty tour.

After the North Koreans seized the USS *Pueblo* in 1968, his unit, now the 174th Tactical Fighter Group, was among the units called to active duty. Deployed to Cannon AFB, N. M., Chief Whiting was assigned as the Fire Control System Superintendent for the F-100 avionics systems, and he directed the upgrade training program for the F-111 conversion. He was also appointed as the Assistant Avionics Branch Chief for 300 people in the Field Maintenance Squadron. Released from active duty in 1969, Chief Whiting returned to Hancock Field and filled the Avionics Maintenance Branch Chief position with the Guard.

In 1970, his unit converted to the A-37B. Despite the training work load, Chief Whiting found time to improve his management and leadership skills. In 1971, he graduated from the ANG NCO Academy with honors and won the Distinguished Student Award, the Commandant's Award, and the Honor Flight Commander's Award. He also completed the NCO Leadership Course. In 1973, Chief Whiting was one of three senior ANG NCOs to attend the first class at the USAF Senior NCO Academy in Montgomery, Ala. By attending night college and technical and professional schools in residence, he received an associate degree in avionics radar technology from the Community College of the Air Force.

The list of supplemental courses that Chief Whiting has completed reads like a college catalog. But to succeed in a field where systems change and progress at an almost exponential rate, keeping abreast of the latest technology is not an academic exercise. Taking extra courses is "not only imperative but necessary," according to Chief Whiting. "I'm a strong advocate of training, and the people who work within the avionics field by and large have many years of training experience to their credit," he said.

Reflecting on the major changes in avionics maintenance over the years, Chief Whiting noted that the field has become more specialized and complex. "You don't just kick the tires and light the fires—it's much more involved than in those days when we had systems that were very simple to maintain."

In 1979, the 174th TFG converted to the A-10A and became the 174th Tactical Fighter Wing. Chief Whiting was appointed to speak for and represent the ANG at conferences and seminars on subjects ranging from the INS retrofit to the Nav-Air Shelters for the A-10 to the Rivet Workforce program. In addition to his other duties, he now heads the squadron's Security and Communication Security Education programs and acts as the Senior Enlisted Advisor to the Deputy Commander for Maintenance.

Although his schedule is a busy one, Chief Whiting makes time for other interests. He is an ordained Roman Catholic deacon in the diocese of Syracuse and delivers homilies to several thousand congregation members each weekend. Chief Whiting was an active committee member of the Cub Scouts and Boy Scouts and has worked hard to raise money at Christmastime for terminally ill children confined to hospitals.

This man of few peers has won many awards and accolades, including the 1972 NYANG Airmen of the Year honor. The Ninth Air Force Inspector General team said of his unit, "The leadership and management in avionics is outstanding, with all resources being managed in a highly effective manner, indicative of the guidance provided by the Avionics Branch Chief." Looking back now over his exceptional maintenance career, Chief Whiting regards the Chief Red Award as a "culmination of those awards that I've received" in the past. ■

Wideband communicators keep the Air Force in touch with the Air Force.

Team of the Year

BY COLLEEN A. BOLLARD, STAFF EDITOR

FROM fixed sites on European mountaintops to mobile transmitters deployed to the site of a natural disaster, those who keep the elements of the Air Force in touch with each other are the wideband communicators. These are the people who install, repair, and maintain USAF's tropospheric and microwave links for peace and war.

Five of the finest people in this crucial career field were recognized as the 1987 AFA/USAF Team of the Year. They include:

• **SSgt. Wesley R. Baker** of the 712th Air Support Operations Center Squadron, Bergstrom AFB, Tex., is reputed to be the most knowledgeable technician on radio systems at the work center. When his squadron received the new AN/TRC-170 microwave radio, he learned so much about it so quickly that he is now personally responsible for this $3.3 million piece of equipment. Sergeant Baker also earned excellent ratings during a recent staff assistance visit. Highly regarded as both a leader and a scholar, he is currently working toward a degree in mechanical engineering.

• **SSgt. (TSgt. selectee) Kenneth W. Brock** of the 3410th Technical Training Group, Keesler AFB, Miss., is a technical training instructor. Wideband Basic Course graduates will be better prepared than ever, thanks to Sergeant Brock's efforts. He helped to revise the course curriculum, meticulously rewriting more than fifty course progress checks and improving student counseling sessions. Last year, Sergeant Brock taught 139 students in six different high-tech areas so well that they earned a cumulative grade point average of 91.6 percent.

• **SSgt. Dennis J. Calus** of the 602d Air Support Operations Center Squadron, Kelley Barracks, Moehringen AIN, Germany, established the first known link using the new Tropo Satellite Support Radio (TSSR) under field conditions in Europe while on a unit training exercise. During the Joint Chiefs of Staff Crested Eagle '86 exercise, Sergeant Calus did a spectacular job of setting up a multisection operating site and providing logistics support for nearly twenty people. Consequently, he produced some of the most reliable communications ever for this type of deployment.

• **MSgt. William J. Jones** of Hq. Pacific Communications Division, Hickam AFB, Hawaii, developed a method for instantly accessing the status of any report of any unit directly from the Air Force Communications Command (AFCC) data base. Several divisions are now using his program. When Sergeant Jones noticed a trend in inaccurate Technical Order Improvement Reports (TOIR), he created a training guide and distributed one to each work center in his division. His idea was a success. The division now has the lowest error rate in AFCC.

• **SSgt. William D. Lazure** of the 1960th Communications Squadron, Kirtland AFB, N. M., is renowned for his security system expertise. He made painstaking tests, modifications, and improvements of Kirtland's Base and Installation Security System (BISS) until it became the first of its type in Air Force Logistics Command to achieve fully operational status, thus ensuring timely top-notch protection for the nation's largest and most sensitive weapons storage area. His no-nonsense suggestion to repair sensor detector circuits locally rather than at the depot level was approved by headquarters and is being evaluated for worldwide implementation. ■

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On Guard, In Reserve

A STAFF REPORT

—Photo © J. Cupido

It can no longer be said that the Air National Guard and the Air Force Reserve are "weekend warriors" without a meaningful mission. At this Patriot Viper exercise, the Marine piloting the F/A-18 (third from left) from MCAS El Toro, Calif., is the odd man out, as he is the only active-duty pilot in the picture. The F-15A (far left) is from the ANG's 159th TFG at NAS New Orleans, La., the F-4D is from the 507th TFG, an AFRES unit from Tinker AFB, Okla., and the F-16A (bottom) is from the 419th TFW, another AFRES unit, based at Hill AFB, Utah.

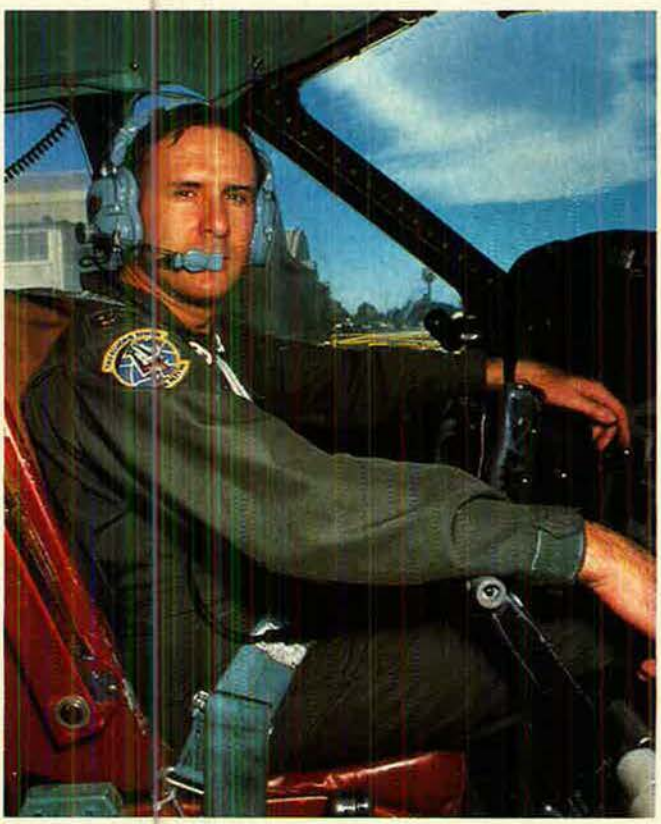
IT HAS been quite a while since anyone looked down their noses at the Air National Guard or the Air Force Reserve. These forces, superbly trained and far better equipped than they once were, now get plenty of respect. In fact, Guard and Reserve teams are usually favored to beat out active-duty and international entries in competitive events from Gunsmoke to Airlift Rodeo.

Recent conversions have put more of the Guard and Reserve in first-line combat aircraft, and they carry a big share of the Air Force mission *(see box)*. The crews operate with an impressive smoothness that comes from years of working together, and experience levels are high in both flying and ground support units.

"Gone are the days of training only one weekend a month and two weeks in the summer," says Maj. Gen. John B. Conaway, Director of the Air National Guard since 1981. "We are now involved daily throughout the world in performing real missions, such as aerial refueling, air defense, tactical airlift, and support of drug-interdiction efforts."

General Conaway's Air Guard—whose strength was 112,500 and climbing at the end of FY '86—is the larger of the two Air Reserve Forces (ARF) components. In fact, the Air National Guard is the fifth largest air force in the world.

The fastest-growing component, however, is the Air Force Reserve. Its current strength is 78,519, but between 1973 and 1990, the size of the Air Force Reserve will have nearly doubled (from 43,700 to 86,000). Together, the Air Guard and Reserve account for almost a quarter of USAF's total military manpower.



Typical of the people who fly for the Reserve is Maj. Ronald L. Fluitt, who flew C-47s in Vietnam, drives trains for Southern Pacific Railroad for a living, and flies C-141Bs on weekends. Major Fluitt is a member of the 445th MAW, a Reserve Associate wing at Norton AFB, Calif.

—MontANG photo by MSgt. Jack Carte

At Great Falls International Airport, two Montana Guardsmen—Maj. Sig Dehn and Lt. Col. Gary Baarson—review records for an F-16, the aircraft to which their unit is converting.

Both ARF components have improved in quality as they grew in size. Maj. Gen. Roger B. Scheer, new Chief of the Air Force Reserve, takes pride in the announced intention of the West Germans to build their air reserve units in the AFRES model, having found it to be the most advanced and combat-effective in the world.

Shifting the Mission

The "weekend warrior" image began fading in 1970, when the Defense Department published its Total Force policy, directing the services to build up their Guard and Reserve components, give them more of the mission, and integrate their operation with that of the active-duty components. The distribution of military manpower is still shifting. In the past five years alone, the Selected Reserve strength of the four services has increased by thirty percent.

"Under the Total Force policy, we have increasingly staked our national security on the ability to mobilize, deploy, and employ combat-ready reserve component units and members anywhere in the world rapidly," Dennis R. Shaw, Principal Deputy Assistant Secretary of Defense for Reserve Affairs, told Congress earlier this year. "Today, many military contingency plans cannot be effectively executed without committing some or

96 Bomb Wing, Paris Air Show, 1987

381 Bomb Group, Ridgewell England, 1943

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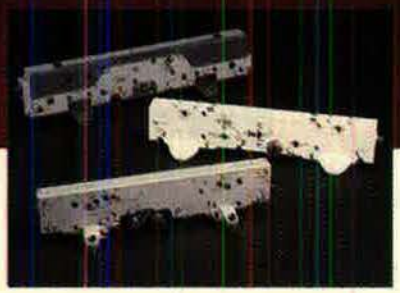

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many National Guard and Reserve forces in the same time frame as active forces. For example, the reserve components were available and used in Lebanon, Grenada, and most recently in the retaliatory operation against Libya."

Air Reserve components, now flying C-5s, C-141s, and KC-10s, have taken on more of the global airlift mission. Some Guard and Reserve units are being equipped with state-of-the-art F-16 and F-15 fighters, and others are upgrading to newer models of the F-4 fighter and the C-130 tactical airlifter. This program of conversion and modernization still has a ways to go, but it has already transformed the look and capabilities of the reserve components. Both the Air Guard and AFRES are programmed to grow still more in the years ahead with the transfer of additional mission work load from the active-duty force.

Shifting missions to the Guard and Reserve has great appeal for the budget-minded Congress, because reserve force units cost about a third less to operate. A number of factors, however, go into deciding the best mix of active duty, Air Guard, and Air Force Reserve in the overall force structure.

The missions most suitable for transfer are those that entail wartime surge requirements but relatively low peacetime activity and training levels. (The economy of reserve force units is mainly a function of lower levels of activity. When operating continuously at full tilt, these units cost as much as active-duty forces.) Also, missions where rapid response is critical must usually stay with the active force, since Guard and Reserve units need additional time to deploy after notification.

Objections From the States

The closest thing to a cloud on the horizon results from the unique dual role of the Guard, which functions as a state militia as well as a federal military force. In nonmobilized status, Guard units are commanded by their state governors. (Personnel of the Air National Guard, for example, were called up sixty-three times last year to support civil authorities with search and rescue, disaster relief, and other services.)

In recent years, some state authorities have begun to interject themselves into the federal taskings of Guard units from their states. They have sought in particular to block deployments to Central and South America on missions to which they and other state officials took exception. In a case currently pending in the federal courts, seven states—Arkansas, Colorado, Hawaii, Iowa, Maine, Massachusetts, and Vermont—are challenging the law that forbids governors to withhold, on essentially political grounds, participation by their Guard units in training outside the United States.

Otherwise, the division of duties is working out well, and the active-duty, Guard, and Reserve elements operate effectively together. Training and inspections are the same for all. The reserve components participate in Red Flag and other exercises, conduct overseas deployments, and take their share of the difficult jobs.

Seventeen years after its promulgation, the Total Force concept is no longer an experiment. It's a success story. ■

—PaANG photo by MSgt. Wayne Iselt

Capt. David L. Jannetta, a navigator in the Pennsylvania Air National Guard, prepares for an EC-130E mission. He's also President of Pennsylvania State AFA—and mayor of the city of Altoona.

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Percentage of USAF capabilities provided by the Guard and the Reserve.

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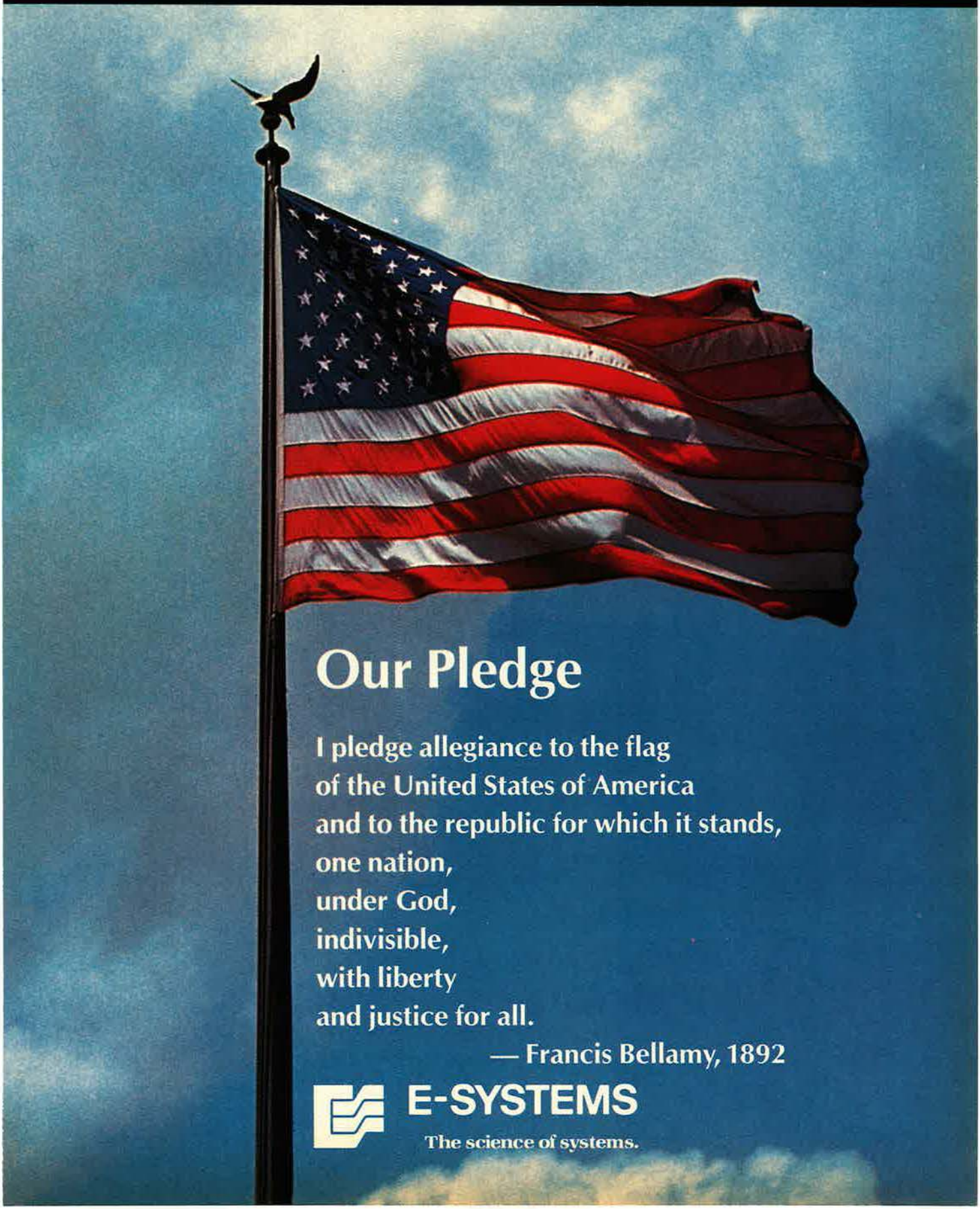

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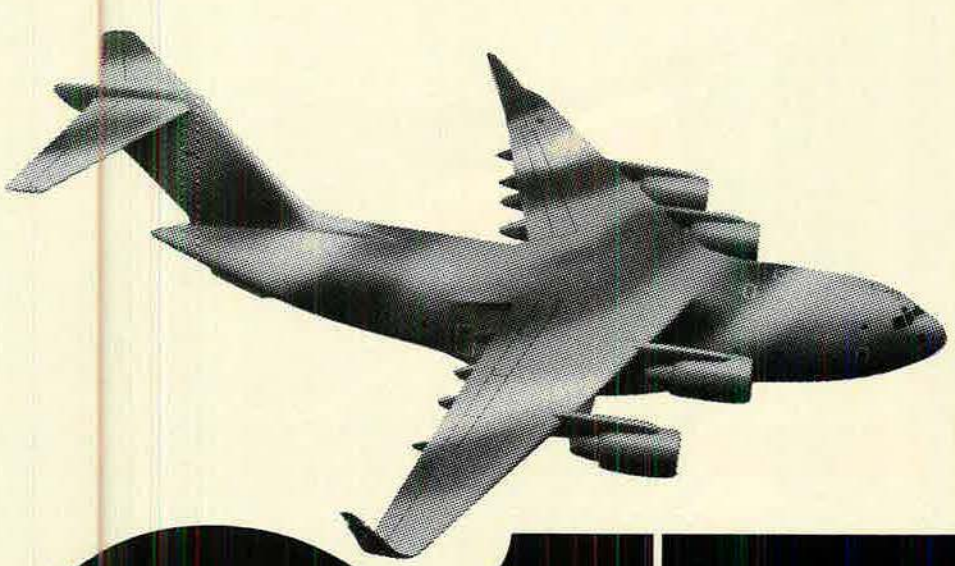

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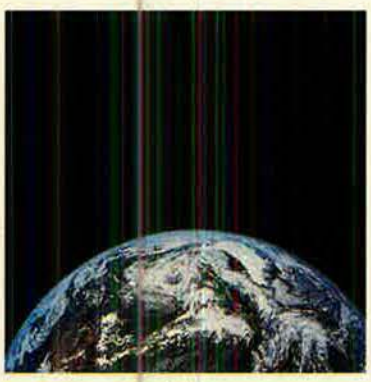

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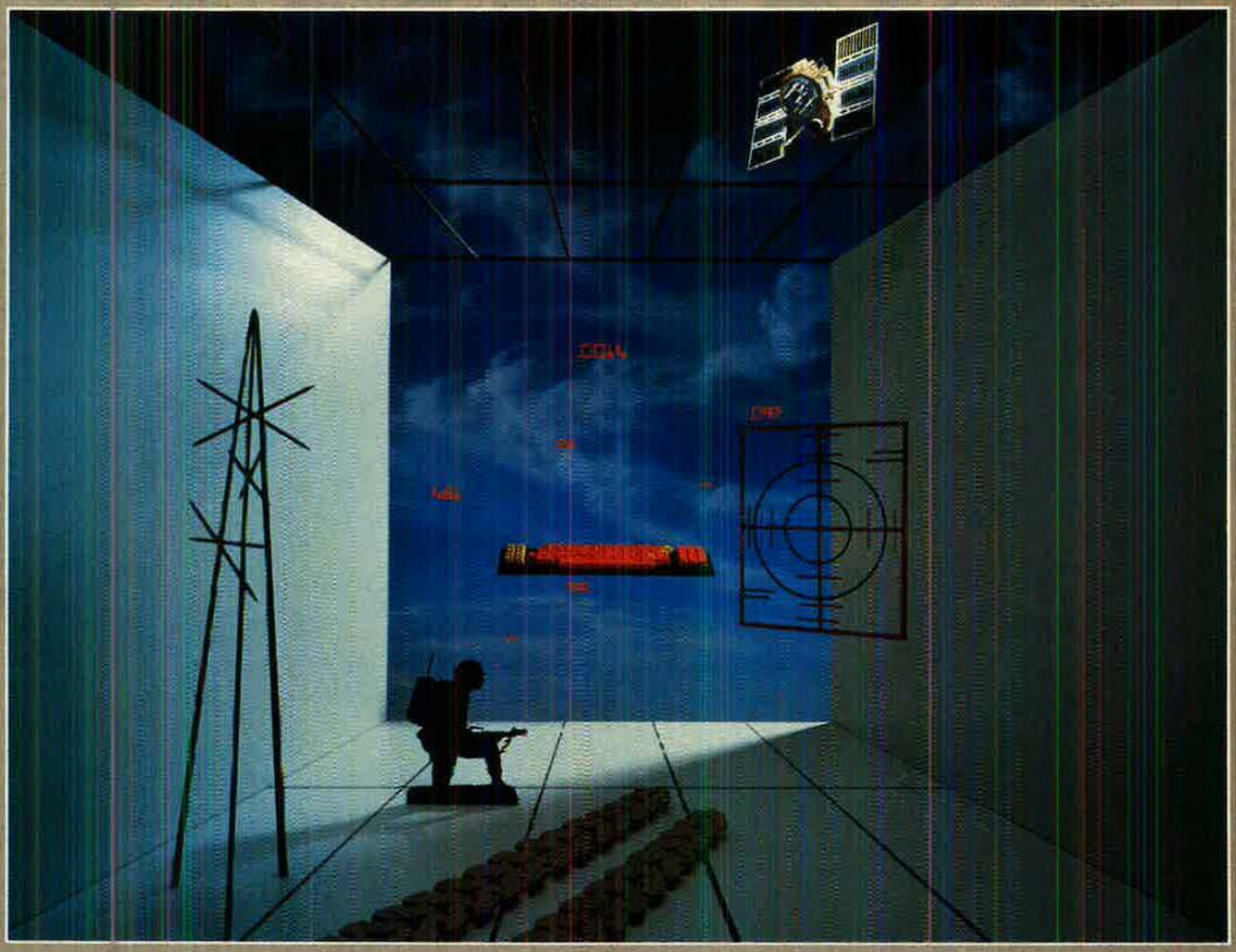

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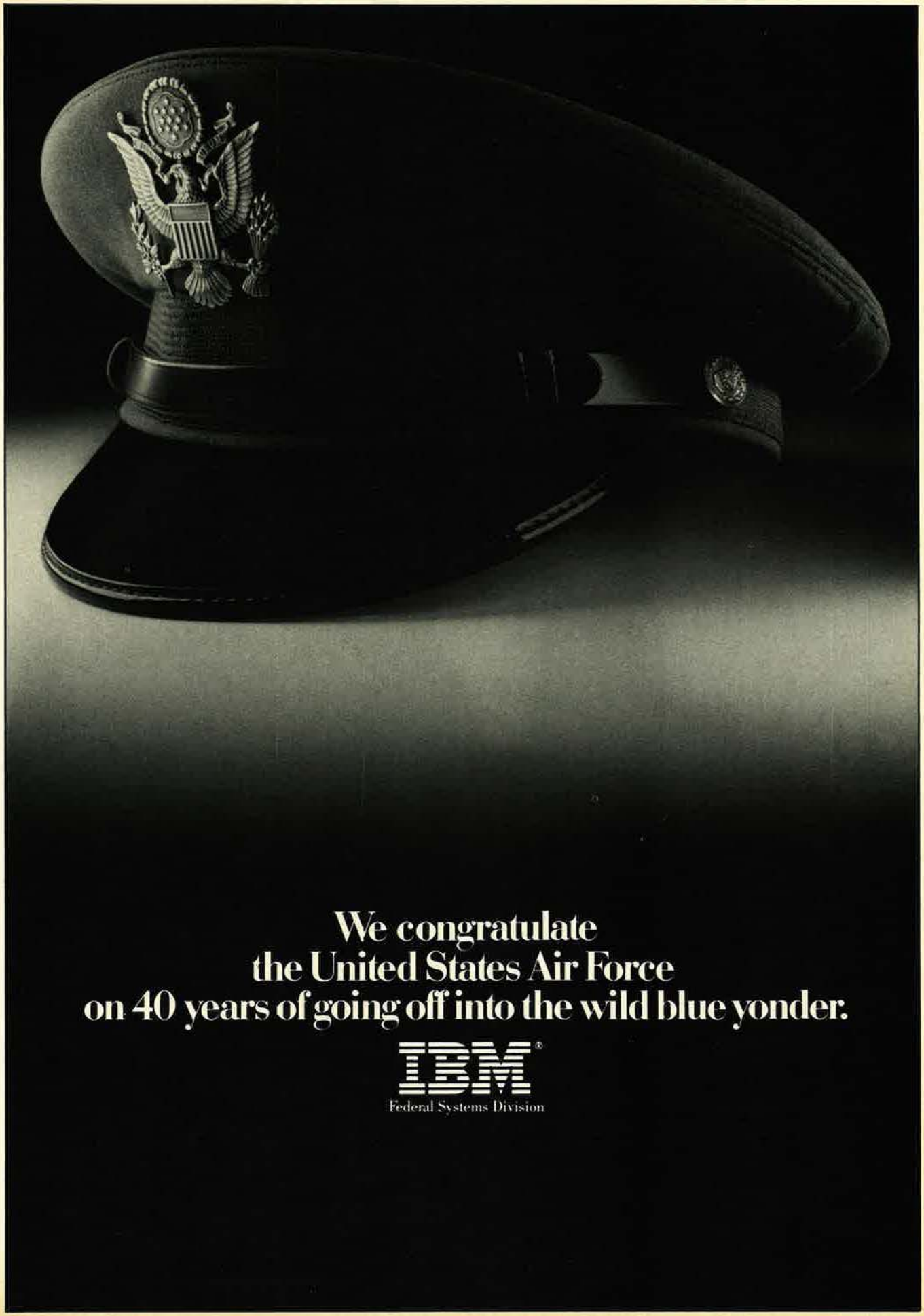
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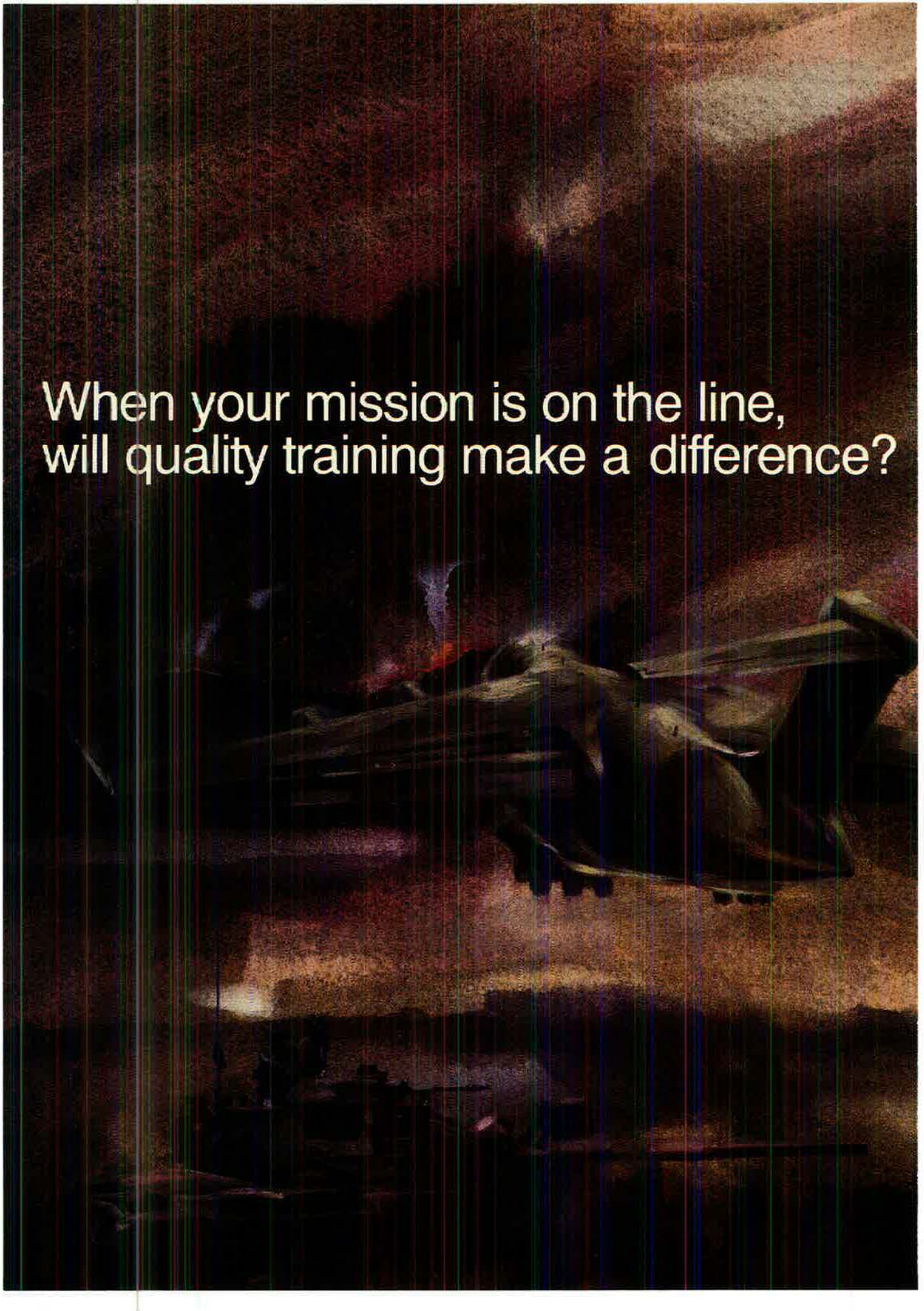
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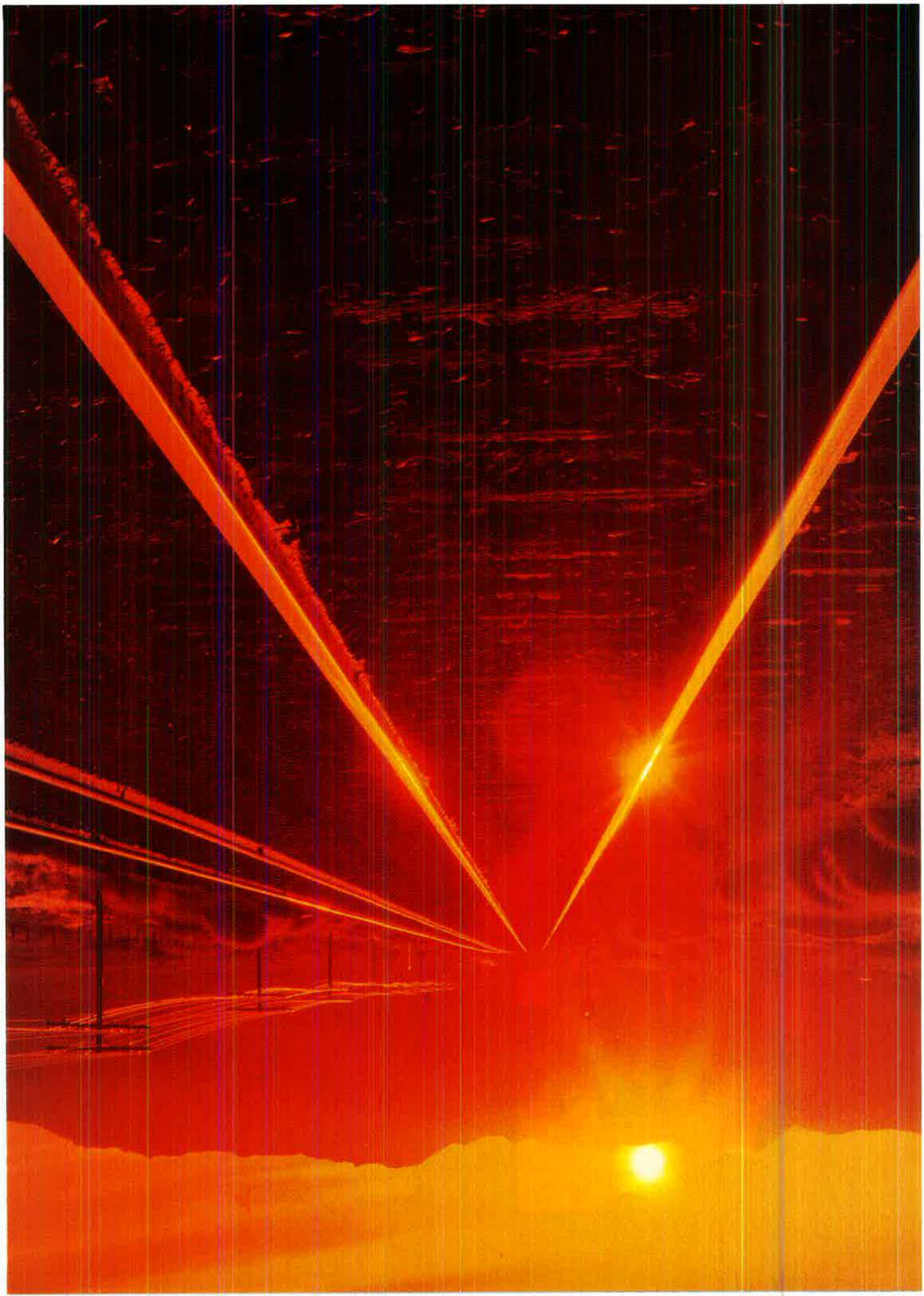

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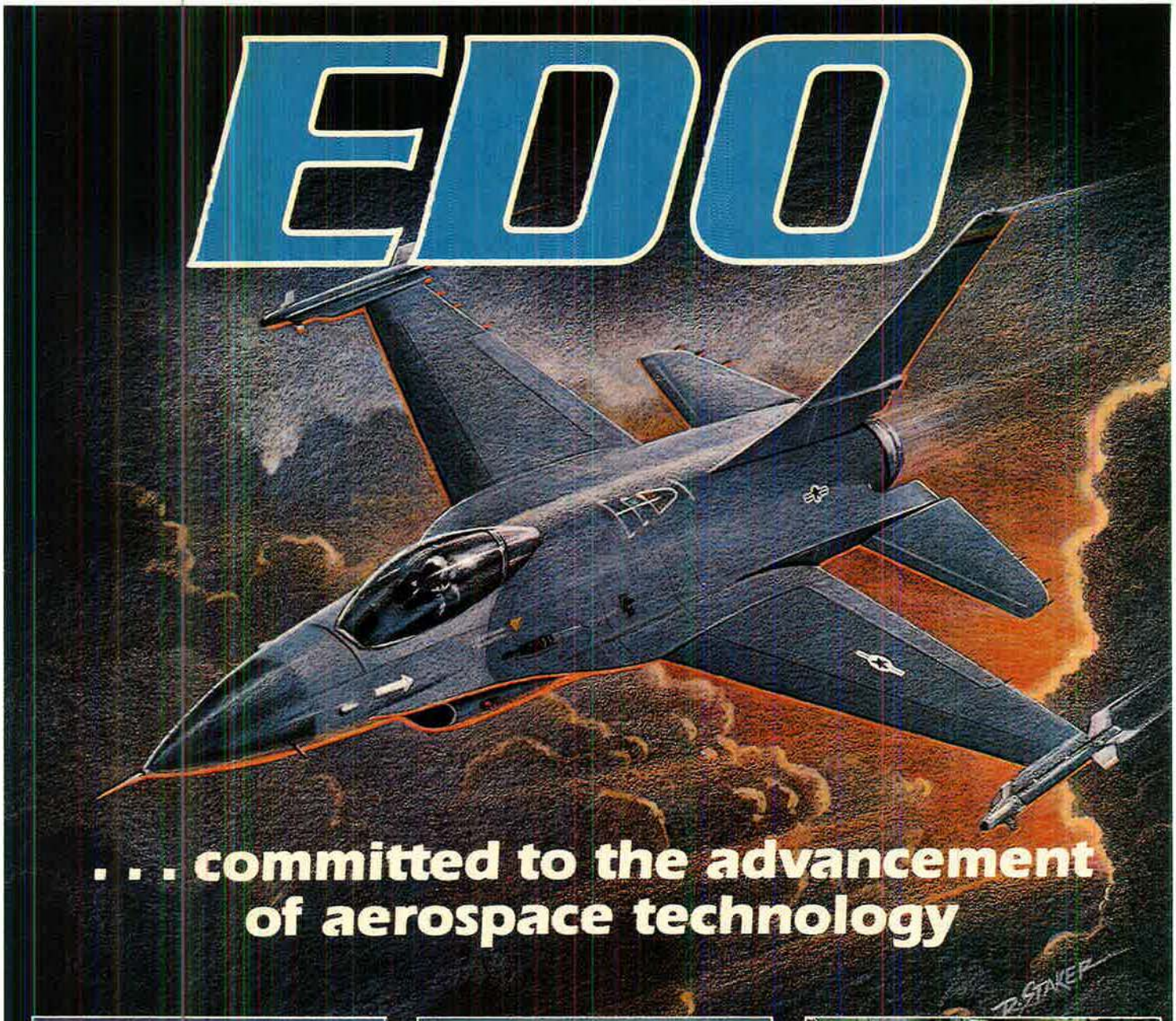

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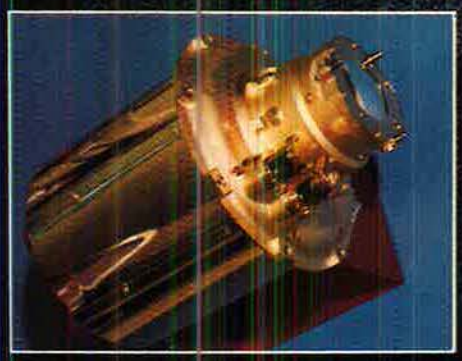

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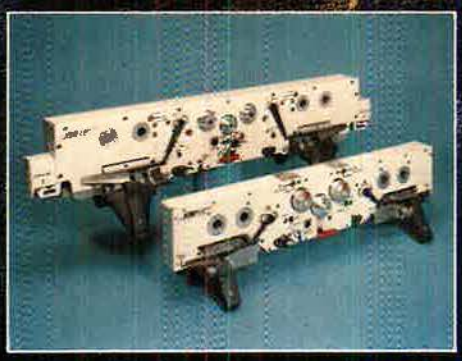

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Sheppard Technical Training Ctr.
Maj. Gen. David W. Forgan
Sheppard AFB, Tex.

USAF Recruiting Service
Brig. Gen. William J. Porter
Randolph AFB, Tex.

Air Force Reserve Officer Training Corps
Brig. Gen. Richard E. Hearne
Maxwell AFB, Ala.

Air University

Hq. Maxwell AFB, Ala.

Lt. Gen. Truman Spangrud
Commander

SMSgt. (CMSgt. selectee) Roy Boudreaux
Senior Enlisted Advisor

Air War College
Maj. Gen. Harold W. Todd
Maxwell AFB, Ala.

Air Force Institute of Technology
Brig. Gen. Stuart R. Boyd
Wright-Patterson AFB, Ohio

Air Command and Staff College
Brig. Gen. Frank E. Willis
Maxwell AFB, Ala.

Center for Aerospace Doctrine, Research, and Education
Brig. Gen. John C. Fryer, Jr.
Maxwell AFB, Ala.

Hq. Civil Air Patrol—USAF
Col. John T. Massingale, Jr.
Maxwell AFB, Ala.

Squadron Officer School
Col. Ellwood D. Hinman III
Maxwell AFB, Ala.

USAF Senior NCO Academy
CMSgt. Frank T. Guidas
Gunter AFS, Ala.

Center for Professional Development
Col. David L. Hosley
Maxwell AFB, Ala.

Extension Course Institute
Col. William A. Wojciechowski
Gunter AFS, Ala.

Air University Library
Robert B. Lane
Maxwell AFB, Ala.

Alaskan Air Command

Hq. Elmendorf AFB, Alaska

Lt. Gen. David L. Nichols
Commander

CMSgt. John F. Tobey
Senior Enlisted Advisor

Electronic Security Command

Hq. San Antonio, Tex.

Maj. Gen. Paul H. Martin
Commander

CMSgt. Robert L. Sherwood
Senior Enlisted Advisor

Air Force Electronic Warfare Ctr.
Col. Wesley Brown
San Antonio, Tex.

Air Force Cryptologic Support Ctr.
Col. Gary W. Manini
San Antonio, Tex.

Military Airlift Command

Hq. Scott AFB, Ill.

Gen. Duane H. Cassidy
Commander in Chief

CMSgt. Charles K. Ray
Senior Enlisted Advisor

21st Air Force
Maj. Gen. Donald A. Logeais
McGuire AFB, N. J.

22d Air Force
Maj. Gen. Alexander K. Davidson
Travis AFB, Calif.

23d Air Force
Maj. Gen. Robert B. Patterson
Hurlburt Field, Fla.

Air Weather Service
Brig. Gen. George E. Chapman
Scott AFB, Ill.

Aerospace Audiovisual Service
Col. Louis V. Pelini
Norton AFB, Calif.

Pacific Air Forces

Hq. Hickam AFB, Hawaii

Gen. Jack I. Gregory
Commander in Chief

CMSgt. Rodney E. Ham
Senior Enlisted Advisor

5th Air Force
Lt. Gen. Edward L. Tixier
Yokota AB, Japan

7th Air Force
Lt. Gen. Craven C. Rogers
Osan AB, Korea

13th Air Force
Maj. Gen. Donald Snyder
Clark AB, Philippines

313th Air Div.
Brig. Gen. Keith B. Connolly
Kadena AB, Japan

326th Air Div.
Col. Robert R. Bartlett
Wheeler AFB, Hawaii

Strategic Air Command

Hq. Offutt AFB, Neb.

Gen. John T. Chain, Jr.
Commander in Chief

CMSgt. Jan C. Boyd
Senior Enlisted Advisor

8th Air Force
Lt. Gen. James P. McCarthy
Barksdale AFB, La.

7th Air Div.
Brig. Gen. Loring R. Astorino
Ramstein AB, Germany

19th Air Div.
Brig. Gen. Robert M. Alexander
Carswell AFB, Tex.

40th Air Div.
Brig. Gen. Orthus K. Lewis, Jr.
Wurtsmith AFB, Mich.

42d Air Div.
Brig. Gen. David J. Pederson
Blytheville AFB, Ark.

45th Air Div.
Brig. Gen. John R. Allen, Jr.
Pease AFB, N. H.

15th Air Force
Lt. Gen. James E. Light, Jr.
March AFB, Calif.

3d Air Div.
Maj. Gen. Donald L. Marks
Andersen AFB, Guam

4th Air Div.
Brig. Gen. Arlen D. Jameson
F. E. Warren AFB, Wyo.

12th Air Div.
Brig. Gen. Robert W. Marquette, Jr.
Dyess AFB, Tex.

14th Air Div.
Brig. Gen. Howell M. Estes III
Beale AFB, Calif.

57th Air Div.
Brig. Gen. John L. Borling
Minot AFB, N. D.

1st Strategic Aerospace Div.
Maj. Gen. Donald O. Aldridge
Vandenberg AFB, Calif.

Tactical Air Command

Hq. Langley AFB, Va.

Gen. Robert D. Russ
Commander

CMSgt. Kenneth R. Meeks
Senior Enlisted Advisor

1st Air Force
Maj. Gen. Jimmie V. Adams
Langley AFB, Va.

9th Air Force
Lt. Gen. Charles A. Horner
Shaw AFB, S. C.

12th Air Force
Lt. Gen. Merrill A. McPeak
Bergstrom AFB, Tex.

USAF Southern Air Div.
Maj. Gen. Eugene H. Fischer
Howard AFB, Panama

USAF Tactical Air Warfare Ctr.
Maj. Gen. John E. Jaquish
Eglin AFB, Fla.

USAF Tactical Fighter Weapons Ctr.
Maj. Gen. Peter T. Kempf
Nellis AFB, Nev.

USAF Air Defense Weapons Ctr.
Maj. Gen. Clifford H. Rees, Jr.
Tyndall AFB, Fla.

28th Air Div.
Brig. Gen. John D. Logeman, Jr.
Tinker AFB, Okla.

United States Air Forces in Europe

Hq. Ramstein AB, Germany

Gen. William L. Kirk
Commander in Chief

CMSgt. Jimmy D. Hedgpeth
Senior Enlisted Advisor

Deputy CINCUSAFE for Southern Area and COMAIRSOUTH
Lt. Gen. Robert C. Oaks
Naples, Italy

3d Air Force
Maj. Gen. William K. James
RAF Mildenhall, England

16th Air Force
Maj. Gen. Winfield S. Harpe
Torrejon AB, Spain

17th Air Force
Maj. Gen. Richard M. Pascoe
Sembach AB, Germany

TUSLOG
Maj. Gen. John C. Scheidt, Jr.
Ankara AS, Turkey

65th Air Div.
Brig. Gen. John A. Corder
Sembach AB, Germany

316th Air Div.
Col. (Brig. Gen. selectee) William A. Studer
Ramstein AB, Germany

Separate Operating Agencies

Air Force Accounting and Finance Center

Hq. Lowry AFB, Colo.

Brig. Gen. Mark J. Worrick
Commander

CMSgt. Conrad Rhodes
Senior Enlisted Advisor

Air Force Commissary Service

Hq. Kelly AFB, Tex.

Maj. Gen. M. Gary Alkire
Commander

CMSgt. Glenn H. Lewis
Senior Enlisted Advisor

Air Force Inspection and Safety Center

Hq. Norton AFB, Calif.

Maj. Gen. Fred A. Haeffner
Commander

CMSgt. Ronald L. Schenk
Senior Enlisted Advisor

Air Force Legal Services Center

Hq. Washington, D. C.

Maj. Gen. Robert W. Norris
Commander

CMSgt. George K. Moffett
Senior Enlisted Advisor

Air Force Audit Agency

Hq. Norton AFB, Calif.

Brig. Gen. Basil H. Pflumm
Commander
Deputy Auditor General
(Detailed to the Pentagon)

(Temporarily Vacant)
Senior Enlisted Advisor

Air Force Engineering and Services Center

Hq. Tyndall AFB, Fla.

Col. Roy G. Kennington
Commander

CMSgt. Billy E. Scruggs
Senior Enlisted Advisor

Air Force Intelligence Service

Hq. Washington, D. C.

Col. George B. Lotz II
Commander

(Temporarily Vacant)
Senior Enlisted Advisor

Air Force Management Engineering Agency

Hq. Randolph AFB, Tex.

Col. James E. Roberts
Commander

CMSgt. Michael C. Shirley
Senior Enlisted Advisor

Air Force Military Personnel Center

Hq. Randolph AFB, Tex.

Maj. Gen. Ralph E. Havens
Commander

CMSgt. Arthur C. "Art" Shelton
Senior Enlisted Advisor

Air Force Office of Security Police

Hq. Kirtland AFB, N. M.

Brig. Gen. Frank K. Martin
Commander

(Temporarily Vacant)
Senior Enlisted Advisor

Air Force Operational Test and Evaluation Center

Hq. Kirtland AFB, N. M.

Maj. Gen. Cecil W. Powell
Commander

CMSgt. Robert L. Lucero
Senior Enlisted Advisor

Air Force Service Information and News Center

Hq. Kelly AFB, Tex.

Col. Paul F. Heye
Commander

CMSgt. David A. Sheeder
Senior Enlisted Advisor

Air Force Office of Medical Support

Hq. Brooks AFB, Tex.

Col. Harold W. Grinstaff
Commander

CMSgt. Daniel E. Chapman
Senior Enlisted Advisor

Air Force Office of Special Investigations

Hq. Bolling AFB, D. C.

Brig. Gen. Richard S. Beyea, Jr.
Commander

CMSgt. Roy T. Day
Senior Enlisted Advisor

Air Force Reserve

Hq. Robins AFB, Ga.

Maj. Gen. Roger P. Scheer
Commander

CMSgt. Richard E. Russell
Senior Enlisted Advisor

Air Reserve Personnel Center

Hq. Denver, Colo.

Col. Joseph C. Ramsey, Jr.
Commander

Direct Reporting Units

Air Force Academy

Colorado Springs, Colo.

Lt. Gen. Charles R. Hamm
Superintendent

CMSgt. Richard F. E. Cook
Senior Enlisted Advisor

Air Force Civilian Personnel Management Center

Randolph AFB, Tex.

Pat L. Schiltulli
Director

Air Force Combat Operations Staff

Hq. Washington, D. C.

Lt. Gen. Harley A. Hughes
Director

Air Force District of Washington

Bolling AFB, D. C.

Brig. Gen. Edward N. Giddings
Commander

CMSgt. Francis A. Rago, Jr.
Senior Enlisted Advisor

Air Force Technical Applications Center

Patrick AFB, Fla.

Col. (Brig. Gen. selectee) Billy J. Bingham
Commander

CMSgt. Dennis D. Corbiser
Senior Enlisted Advisor

Air National Guard

Hq. Washington, D. C.

Maj. Gen. John B. Conaway
Director

CMSgt. Richard M. Green
Senior Enlisted Advisor

USAF Historical Research Center

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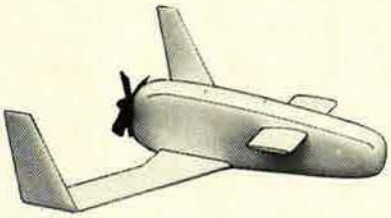

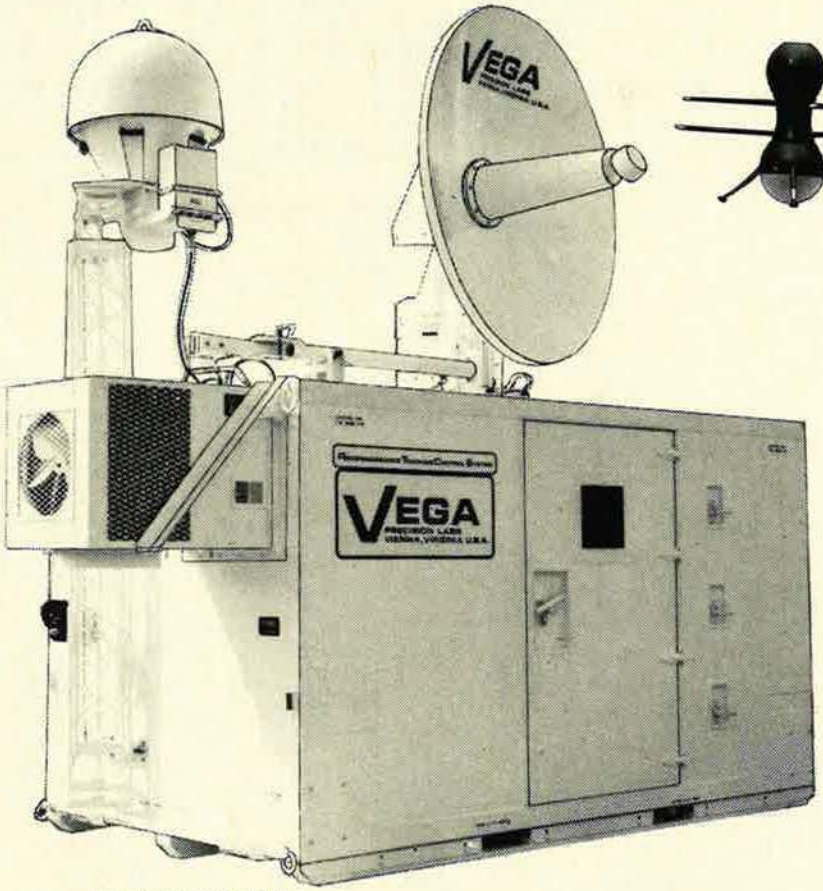

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FOUR STARS

Gen. Duane H. Cassidy
Commander in Chief
US Transportation Command
Scott AFB, Ill.

Responsible for consolidating global air, land, and sea transportation, strategic mobility planning, automated data-processing integration, and support of other unified and specified commanders during strategic mobility execution.

Gen. Robert T. Herres
Vice Chairman
Organization of the Joint Chiefs of Staff
Washington, D. C.

As Vice Chairman, serves as the nation's second highest ranking military officer and is the Acting Chairman in the absence of the Chairman.

Gen. John L. Piotrowski
Commander in Chief,
US Space Command
Commander in Chief,
North American Aerospace Defense Command
Colorado Springs, Colo.

As CINCNORAD, provides surveillance and control of North American airspace, warning and assessment of aerospace attack, and appropriate response against air attack. As USCINCSPACE, conducts space support and space control operations, aerospace defense to include surveillance and warning, and requirements development and planning for ballistic missile defense.

Gen. Robert H. Reed
Chief of Staff, SHAPE
North Atlantic Treaty Organization
Mons, Belgium

Responsible for reviewing and recommending policies to SACEUR that affect the operational capability of forces assigned from member nations of NATO to Allied Command Europe in addition to directing, coordinating, and supervising all activities of the SHAPE staff.

Gen. Thomas C. Richards
Deputy Commander in Chief
US European Command
Stuttgart-Vaihingen, Germany

Responsible for ensuring maximum combat readiness of forces assigned to subordinate commands and advises USCINCEUR on the formulation of policy for the conduct of combat operations within the entire European theater.

THREE STARS

Lt. Gen. (Gen. selectee) James A. Abrahamson
Director, Strategic Defense Initiative Organization
Office of the Secretary of Defense
Washington, D. C.

Program director for the nation's strategic defense effort, with a goal of developing and deploying an effective defense against ballistic missiles.

Lt. Gen. Robert D. Beckel
Deputy Chairman, NATO Military Committee
NATO Headquarters
Brussels, Belgium

Assists the Chairman of the NATO Military Committee, NATO's highest military authority, in developing allied military advice and recommendations for Alliance political authorities (the Secretary General and the North Atlantic Council/Defense Planning Committee) and providing policy and strategic guidance for SACEUR, SACLANT, and CINCHAN. Has special responsibilities for nuclear and arms-control matters.

Lt. Gen. Richard A. Burpee
Director, J-3 (Operations)
Organization of the Joint Chiefs of Staff
Washington, D. C.

Exercises staff supervision and cognizance over joint operational matters, including exercise and operational planning and direction, force readiness, and operational analysis; reconnaissance, electronic warfare, strategic, nuclear, and special operations; environmental services; and command and control countermeasures operations.

Lt. Gen. Michael P. C. Carns
Deputy Commander in Chief and Chief of Staff
US Pacific Command
Camp H. M. Smith, Hawaii

Responsible for maintaining the security of USPACOM and defending the United States against attack through the Pacific Ocean; supporting and advancing the national policies and interests of the United States and discharging United States military responsibilities in the Pacific, Far East, South Asia, Southeast Asia, and Indian Ocean; and preparing plans, conducting operations, and coordinating activities of the forces of USPACOM in consonance with the directives of higher authority.

Lt. Gen. Philip C. Gast
Director, Defense Security Assistance Agency
Office of the Secretary of Defense
Washington, D. C.

Manages activities relating to the transfer of US defense equipment, services, and military education and training by sale or grant to friendly countries.

Lt. Gen. Harry A. Goodall
Deputy Commander in Chief,
US Special Operations Command
Vice Director, Joint Deployment Agency
MacDill AFB, Fla.

Assists Commander in Chief of US Special Operations Command in providing combat-ready special operations forces for rapid deployment to support other unified commanders and in planning and conducting selected special operations as directed by the President or Secretary of Defense.

Lt. Gen. Bradley C. Hosmer
President
National Defense University
Washington, D. C.

Responsible for supervising the full range of University programs offered to active military officers at O-5/O-6 level, Reserve Component officers from O-4 through O-8, and civilian officials up to O-8 level equivalent; advising the Joint Chiefs of Staff on professional education in the armed forces; and chairing periodic meetings of the senior service college Military Education Coordination Conference.

Lt. Gen. Hansford T. Johnson
Deputy Commander in Chief
US Central Command
MacDill AFB, Fla.

Deputy Commander in Chief of a unified command responsible for all US military activity in a nineteen-country area in the Persian Gulf, Horn of Africa, and Southwest Asia, including combined exercises with regional forces, administration of security assistance, and representational activities.

Lt. Gen. Robert C. Oaks
Commander, Allied Air Forces Southern Europe
Deputy Commander in Chief, USAFE, for the Southern Area
Naples, Italy

Conducts air operations and manages the total Southern Region land-based air resources in support of the region's NATO nations.

Lt. Gen. Leonard H. Perroots
Director, Defense Intelligence Agency
Washington, D. C.

Provides foreign intelligence and counterintelligence staff support to the Secretary of Defense and the JCS, coordinates DoD intelligence collection requirements, and manages the Defense Attaché System.

OFFICE OF THE SECRETARY OF DEFENSE

Maj. Gen. Gordon E. Fornell
Senior Military Assistant to the Secretary of Defense
Office of the Secretary of Defense
Washington, D. C.

Serves as the Executive Assistant to the Secretary of Defense, advising and assisting him in all areas encompassing the entire range of defense responsibilities and national security affairs.

Maj. Gen. David J. Teal
Senior Military Assistant to the Under Secretary of Defense (Acquisition)
Washington, D. C.

Provides support to the Under Secretary for critical issues and special programs and assists in liaison with media offices, the Secretary of Defense, the staff of the National Security Council, defense agencies, and Congress.

ORGANIZATION OF THE JOINT CHIEFS OF STAFF

Maj. Gen. George L. Butler
Vice Director, Strategic Plans and Policy, J-5
Organization of the Joint Chiefs of Staff
Washington, D. C.

Responsible for development of JCS positions on military strategy, weapons policy, politico-military affairs (to include security assistance), and arms-control negotiations.

Maj. Gen. John P. Hyde
Deputy Director for Defense-wide C^3 Support, J-6
Organization of the Joint Chiefs of Staff
Washington, D. C.

Assures the integrity, compatibility, evolutionary capability, and technical efficiency of all defense-wide communications systems employed in support of command and control requirements designated by the Secretary of Defense.

Maj. Gen. Martin J. Ryan, Jr.
Director, Force Structure, Reserves, and Assessment, J-8
Organization of the Joint Chiefs of Staff
Washington, D. C.

Responsible for developing force requirements and options; conducting studies, analyses, net assessments, and evaluations of military forces; and supervising plans, programs, and strategies for conducting joint war games and interagency politico-military simulations.

US ATLANTIC COMMAND

Maj. Gen. John J. Doran, Jr.
Deputy Commander in Chief and Chief of Staff
US Atlantic Command
Naval Base Norfolk, Va.

As executor and principal assistant to USCINCLANT, ensures that the organization, administration, training, readiness, and operations of the command are carried out in conformance with the policies, plans, and intentions of the CINC. Coordinates headquarters staff work and USLANTCOM activities.

US CENTRAL COMMAND

Maj. Gen. John R. Farrington
Chief, United States Military Training Mission to Saudi Arabia
US Central Command
Dhahran, Saudi Arabia

Responsible for coordination and integration of all military aspects of the US security assistance program to Saudi Arabia.

Maj. Gen. Samuel H. Swart, Jr.
Director of Operations, J-3
US Central Command
MacDill AFB, Fla.

Responsible for operational military and security activity in a nineteen-country area in the Persian Gulf, Horn of Africa, and Southwest Asia.

US EUROPEAN COMMAND

Maj. Gen. Monte B. Miller
Command Surgeon
US European Command
Stuttgart-Vaihingen, Germany

Ensures medical readiness within USEUCOM region by exercising joint command and control over medical planning and resources, providing adequate medical planning staffs, overseeing aeromedical evacuation system in wartime, and developing joint medical plans for responding to terrorist attacks and other medical crises.

Maj. Gen. Richard A. Pierson
Chief, Joint US Military Advisory Group, Greece
US European Command
Athens, Greece

As senior US military officer in Greece, administers US military assistance to Greece, including the international logistics and sales program; promotes modernization of the Hellenic Forces; furthers US military plans, policies, and interests; and negotiates bilateral defense agreements.

Maj. Gen. Gordon E. Williams
Director, J-5 (Plans and Policy)
US European Command
Stuttgart-Vaihingen, Germany

Develops plans, programs, and policies for all matters pertaining to war plans, force structure, and other elements of JCS support by USCINCEUR in coordination with other unified and specified commands.

Maj. Gen. C. Norman Wood
Director, J-2 (Intelligence)
US European Command
Stuttgart-Vaihingen, Germany

As the senior US military intelligence officer in the European theater, he is responsible for providing intelligence support to USCINCEUR, formulating intelligence plans, policies, and programs, and managing joint/combined theater intelligence activities.

US SOUTHERN COMMAND

Maj. Gen. Eugene H. Fischer
Deputy Commander in Chief, USSOUTHCOM
Commander, US Southern Air Division, TAC
Howard AFB, Panama

As Deputy USCINCSO, responsible for all joint military matters in Latin America. As Commander of USAF Southern Air Division, responsible for USAF support to US Southern Command.

US SPACE COMMAND

Maj. Gen. James S. Cassity, Jr.
Deputy Chief of Staff, Systems Integration, Logistics and Support (J-4/J-6)
US Space Command
Colorado Springs, Colo.

Responsible for planning, contracting, acquisition, implementation, integration, logistics, and day-to-day management of the operations and maintenance of command and control and automated systems in support of the command's mission of space operations, surveillance and warning, and missile defense.

US SPECIAL OPERATIONS COMMAND

Maj. Gen. Hugh L. Cox III
Director of Operations, J-8
US Special Operations Command
MacDill AFB, Fla.

Responsible for preparedness of Special Operations Forces, which deploy in support of other unified commanders if directed by the President or Secretary of Defense.

US TRANSPORTATION COMMAND

Maj. Gen. Archer L. Durham
Director of Deployment
US Transportation Command
MacDill AFB, Fla.

Responsible for planning and managing deployment of forces and materiel to meet military objectives. Also serves as the focal point for deployment-associated decision-making information to ensure deployment when needed worldwide.

NORTH ATLANTIC TREATY ORGANIZATION

Maj. Gen. Larry D. Fortner
Deputy Commander, 6th Allied Tactical Air Force
Allied Air Forces Southern Europe
Allied Forces Southern Europe
Izmir, Turkey

Assists the Commander, 6th ATAF, as the head of a multinational air force that conducts air operations in support of ground forces and provides air defense of the southeastern NATO region.

Maj. Gen. Jerry D. Holmes
Chief of Staff, 4th Allied Tactical Air Force
Allied Air Forces Central Europe
Allied Forces Central Europe
Heidelberg, Germany

Assists the Commander, 4th ATAF, in the conduct of vital allied tactical and air defense operations in the central NATO region, utilizing the combined air assets, personnel, and resources committed to 4th ATAF by the US and its allies.

Maj. Gen. Wayne O. Jefferson, Jr.
Assistant Director, C^3 Division
International Military Staff, NATO Military Committee
Brussels, Belgium

Coordinates and provides policy guidance and advice on the operational, technical, standardization, and resource requirements of NATO command, control, communications-electronics, and information systems.

Maj. Gen. Fred R. Nelson
DCS Air, AFNORTH
Allied Forces Northern Europe
Kolsaas, Norway

Principal advisor to AFNORTH on all allied air operations in the command.

Maj. Gen. Michael A. Nelson
Assistant Chief of Staff, Operations, SHAPE
Allied Command Europe
Mons, Belgium

Responsible for assisting in the development and implementation of operational and contingency plans and formulation of force requirements for Allied Command Europe.

Maj. Gen. Thomas R. Olsen
Assistant Chief of Staff, Operations
Allied Forces Central Europe
Brunssum, the Netherlands

Responsible for all matters pertaining to land and air operations within NATO's Central Region, including the development and implementation of defense and contingency plans and the planning and conduct of exercises sponsored by the Commander in Chief, Central Europe, and other NATO commanders.

Maj. Gen. James P. Smothermon
Chief of Staff, Allied Air Forces Southern Europe
Allied Forces Southern Europe
Naples, Italy

Assists COMAIRSOUTH in conducting air operations and managing the total southern region land-based air resources in support of the defense and preservation of the integrity of NATO nations in the southern region.

ROK/US COMBINED FORCES COMMAND

Maj. Gen. James T. Callaghan
Chief of Staff, US Combined Forces Command
United Nations Command
Ground Component Command of Combined Forces Command
Seoul, Republic of Korea

As Chief of Staff of both the Republic of Korea/US Combined Forces Command and the United Nations Command, serves as the principal staff assistant to the Commander in Chief and Deputy Commander in Chief of these commands. Directs and coordinates the actions of the combined staff and formulates policy for general staff operations. Serves also as the Chief of Staff of the Ground Component Command of the Combined Forces Command.

DEPARTMENT OF DEFENSE AGENCIES

Maj. Gen. Robert F. Durkin
Deputy Director of Foreign Intelligence
Defense Intelligence Agency
Bolling AFB, D. C.

Maj. Gen. John E. Griffith
Commander, Defense Fuel Supply Center
Defense Logistics Agency
Cameron Station, Va.

Maj. Gen. Joe P. Morgan
Executive Director, Quality Assurance
Defense Logistics Agency
Cameron Station, Va.

Maj. Gen. Stanton R. Musser
Deputy Director
Defense Logistics Agency
Cameron Station, Va.

Maj. Gen. Robert A. Rosenberg
Director, Defense Mapping Agency
US Naval Observatory
Washington, D. C.

Maj. Gen. John H. Voorhees
Commander, Defense Personnel Support Center
Defense Logistics Agency
Philadelphia, Pa.

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At Risk in

The Soviet Union can put large numbers of systems in space and do it quickly. It is the only power that can deny others access to space.

BY EDGAR ULSAMER
SENIOR EDITOR (POLICY & TECHNOLOGY)

THIS country's position as the "world's most advanced military spacefaring power is at risk [mainly because the Soviet] military space force structure is larger," Gen. John L. Piotrowski, Commander in Chief of US Space Command, told AFA's national space symposium recently. In the event's keynote address, he pointed out that the Soviets' "readiness is higher, they are able to sustain the force, and—as proven by their exercises and responses to crises—they have better and more thorough integration into the operations of their terrestrial and maritime combatant commands."

By way of an example, he said that during the Falklands conflict between Argentina and England, the Soviets beefed up their space capabilities by launching twenty-nine satellites in sixty-nine days, or about one satellite every two days. More recently, he recounted, the Soviets, following a launch failure, were able to orbit a replacement satellite on top of a new booster in just two weeks, a feat the US could not have duplicated even under the best of circumstances. As General Piotrowski put it, "They have got a lot in the barn."

In that "barn," the head of the US Space Command explained, are more than fifty different types of space systems carried by eight different, reliable types of boosters. Their launchpad turnaround times, he pointed out, "are measured in days or even hours, while ours are measured in months." Given the Soviets' broad infrastructure of launchpads—about twice the US total—comprehensive inventory of spacecraft and boosters—including a throw-weight advantage over the US of somewhere between 5:1 and 10:1—and a large and experienced pool of highly trained handling and launch personnel, General Piotrowski warned that "in a crisis the Soviets could significantly increase their launch rate while—with their operational antisatellite [ASAT] weapon—simultaneously reducing our own on-orbit forces."

The USSR's investment in a "full range of space control antisatellite weaponry" has made it the only military power that can deny access to space to others, he emphasized. The US, he stressed, urgently needs a "space control capability," adding that the "cornerstone of that capability is an air-launched antisatellite system." It is imperative, therefore, in terms of "both deterrence and warfighting that we resume developmental testing of our air-launched miniature antisatellite homing vehicle." It would be a national tragedy of unforgivable proportion if "we rewarded Soviet aggression in space by withdrawal from that medium or answered with a terrestrial response that could escalate a conflict," according to General Piotrowski.

Space

PIOTROWSKI: The Soviets have a lot of space systems in the barn.

How the Current Dilemma Came About

The current dilemma, General Piotrowski suggested, is brought on by a somewhat cavalier attitude in the US "about the important contributions that space and space systems can make to the calculus of deterrence," on the one hand, and by underestimating the operational strength of Soviet military space forces that originally "may have been grounded in technological weakness," on the other. Elaborating on this tendency of underestimating Soviet space prowess, he explained that what would be assessed as great strengths in the case of other countries, "we have attributed to weakness. Perhaps this view has emerged largely because we cannot swallow [the notion] that the US—the nation that put men on the moon—is not taking the steps necessary to prevent another nation from becoming the world's preeminent space power."

Similarly, the head of the US Space Command said, there is the notion that "war in space is interesting, but not compelling" in the sense that the outcome of aggression in space may lack the visibility and finality of terrestrial combat. In reality, he pointed out, such Soviet spacecraft as radar, imagery, and electronic intelligence satellites are straightforward means for targeting US and allied maritime and terrestrial forces. Failure to provide the US national command authorities with the means to neutralize these Soviet space assets, he suggested, could be "very damaging."

In their symposium presentations, Gen. Bernard P. Randolph, the new head of Air Force Systems Command, and USAF's Deputy Chief of Plans and Operations, Lt. Gen. Harley A. Hughes, both strongly seconded the imperative of fielding US ASAT weapons. General Randolph pointed out that the targeting capabilities of Soviet radar and electronic ocean surveillance satellites are "frightening" with regard to US naval forces: "We need [an ASAT] response in kind." Under certain scenarios, General Hughes added, the Soviets "can take out selected US satellites, and we can't take out theirs. That's a damned poor place for this country to be when we want to deter and keep the world free. . . . What Congress is doing [with regard to] ASAT makes no sense whatsoever."

Another requirement of major significance to US Space Command is a space-based surveillance system (SBSS), according to General Piotrowski. There is, he pointed out, a "clear need for surveillance of satellites in low-earth orbits, especially those that can maneuver behind the earth or over the Eurasian landmass." The current complement of GEODSS (ground-based electro-optical deep-space surveillance) sites also needs

fleshing out, he told the AFA meeting. On Diego Garcia, the new GEODSS site is a "welcome addition. We are also negotiating with the government of Portugal about a GEODSS site [in that country]. But what we really need is a wide-band space surveillance imaging radar to survey the area between zero degrees and ninety degrees east longitude," according to General Piotrowski.

While development of the so-called space operations planning center is on hold at this time—due in part to the lengthy standdown of the Space Shuttle—the need for such a facility remains clear, according to General Piotrowski. This requirement will become acute when the Shuttle resumes operations next year and will become even more pronounced if and when the next generation of manned spacecraft, the National Aerospace Plane (NASP), is fielded.

RANDOLPH: We are hanging by our fingernails on space-launch capability.

In the area of CONUS air defense—and as a part of ADI (Air Defense Initiative, the counterpart to SDI in the air-breathing regime)—the Air Force is exploring ways to upgrade the E-3A AWACS to boost the system's depth and its ability to detect small radar cross section targets, according to General Piotrowski (who also serves as CINCNORAD). In addition, the Air Force is examining conceptual approaches to a "grandson of AWACS," he told the AFA meeting. At the same time, efforts to develop and deploy space-based systems that can detect and pinpoint air-breathing threats ought to be accelerated, General Piotrowski said.

Maj. Gen. Eric B. Nelson, AFSC's Deputy Chief of Staff for Systems, told the AFA meeting that an ironic anomaly marked SDI and ADI: "In the case of SDI, we have the sensors that can see the [ballistic] missiles, but [for the time being], we can't intercept them. In the case of ADI, we mostly can't see [the air-breathing threats], but we have the means [in technological] terms to intercept them." As a result, SDI is focused on "engagement, while ADI is mainly keyed to surveillance and warning." He seconded General Piotrowski's call to improve the detection capabilities of AWACS as the first step under ADI, pointing out that "we haven't made any major improvements of AWACS since we first fielded the system" in the last decade. Over the longer term, he suggested, consideration ought to be given to using NASP as a "fast ADI interceptor of cruise-missile carriers."

Resurrecting the US Spacelaunch Posture

This country's spacelaunch capability is "in tough shape. We are literally hanging on by our fingernails and nervous as heck about it," General Randolph told the AFA symposium. But these consequences of the standdown of the Shuttle and the Titan 34D expendable launch vehicle (ELV) are being corrected by a comprehensive recovery program, he said. At present, the Air Force has twelve payloads "sitting on the ground that should be in space." But launches of Titan 34D will resume this summer on the West Coast and this fall on the East Coast. "We are getting the launchpads ready to go [and] have developed launch procedures for the solid [rocket strap-ons] that are really fantastic," the new AFSC Commander pointed out.

By June of next year, the new medium lift vehicle, the Delta II, will be ready for operational use, concurrent with the resumption of Space Shuttle operations. Shortly thereafter—by October 1988—the Titan IV, an ELV with roughly the same payload capability as the Shuttle, will fly for the first time, General Randolph disclosed. In addition, the Air Force's spacelaunch inventory includes thirteen decommissioned Titan ICBMs that have been modified to serve as ELVs for weather satellites.

HUGHES: Scrapping traditional deterrence in the near term is hogwash.

These venerable ICBMs, the AFSC Commander pointed out, are "coming out of the hole in great shape," with the result that additional Titans may be converted to an ELV configuration.

Based on studies over the past two years of long-term US space transportation requirements, the Pentagon and NASA have come up with a White House-endorsed roadmap that capitalizes on innovative technologies, General Randolph reported. At the core of this roadmap, known as STAS (for space transportation architecture study), is ALS, the advanced launch system. The near-term objective for ALS centers on readily available, proven technology involving a "core vehicle" built around the Space Shuttle's main engine (SSME), possibly augmented by small strap-ons.

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The initial version of ALS, he told the AFA meeting, is likely to be a "backoff position from the ultimate design that would have an orbital payload capability of between 150,000 and 160,000 pounds" and incorporate a reasonable degree of "reusability." The first ALS vehicles, he suggested, would have payloads between current Shuttle levels—about 40,000 pounds—and the 150,000-pound range, he added. The ALS PRDA (Program Research and Development Announcement) issued by AFSC's Space Division, he pointed out, nails down maximum "operational utility," low cost, and high reliability as central design criteria for the system, but allows wide margins for innovation and creativity on the part of the candidate contractors. The Air Force does not want a design, however, that is "hand-built, that has to be massaged on the pad as we do right now. We want to be able to put [ALS] on the pad, put the payload on it, and launch." The Air Force is willing to consider either Shuttle-derived or Titan-derived concepts, he stressed.

The mature versions of ALS, General Randolph underscored, will emphasize reusability of such components as liquid-fueled strap-ons. Some ALS vehicles will be tailored for unmanned cargo missions, while others may be manned. The AFSC Commander explained that "high reliability" rather than hard-to-define man-rated design standards would be applied to the ALS program. ALS is also to work in concert with reusable orbital transfer vehicles featuring broad operational flexibility, he added.

The Air Force's current notion is that the strap-ons mounted on the sides of the SSME-powered core vehicle should use LOX (liquid oxygen)/hydrocarbon engines. These strap-ons would be dropped off before the vehicle itself gets into orbit, "turn around, and land. This may be an easy way to operate such a system."

An ancillary but significant aspect of the launch recovery program is concerted support of US commercial spacelaunch capabilities by the Pentagon, NASA, and the US Department of Transportation. The motivation behind this drive to bolster US commercial launch capabilities is to make "the whole business more active and robust" as well as to lower the cost of launch vehicles for both governmental and commercial users, according to General Randolph.

As a case in point, he noted that the Delta II program was structured in a manner that incorporated the design's suitability for commercial launch applications into the selection process: "We demanded that the contractors tell us how they would use the launchers for commercial ventures." The only major remaining hurdle, General Randolph said, is the "insurance issue. . . . Our position is that we should assume responsibility for those things that we do to support commercial ventures, [such as] range activities, and that the commercial contractor should assume responsibility for what he does. As a result, some commercial launch [organizations] believe now that they can get the necessary insurance and plan to go forward."

Toward More Launchpads

In line with making the US spacelaunch force more "robust" and diversified, the Air Force is also increasing the number of available launchpads. Current plans call for six pads on the East Coast and three active pads plus SLC-6 (the spacelaunch complex at Vandenberg AFB reserved for the Space Shuttle but kept dormant for the time being) on the West Coast, according to the AFSC Commander. Two of the West Coast pads will be tailored for Titan IV operations. The prospect of increased buy rates of Titan IV—possibly as many as six or more a year compared to the originally planned two a year—makes it necessary that more than one dedicated launchpad be available.

NELSON: We can see the missiles, but we can't intercept them.

Lt. Gen. Aloysius Casey, Commander of AFSC's Space Division, told the AFA meeting that the future of the SLC-6 is not clear: "We simply don't know whether there will be launches of the Shuttle from [VAFB] and whether or not the facility should be converted to [use] by ALS." General Casey acknowledged that the total number of ALS vehicles required probably won't be known precisely until that program is further along. General Randolph pointed out that unless NASA is able to get funding for advanced Shuttle solid-rocket motors and thereby is able to boost the system's payload capability from 40,000 pounds to about 56,000 pounds, "we couldn't use it for VAFB launches."

Manned Military Space Operations

The space policy issued early this year by the Defense Department directs specific attention to the importance of examining the value of manned military space operations, General Casey reported. While the Air Force has not pinpointed any specific requirement for manned military missions, AFSC's Space Division, among others, will step up efforts to explore the potential utility of military men in space. Because NASA was assigned primary responsibility for the Space Shuttle, the Air Force paid little attention to manned missions, the Space Division Commander acknowledged: "We need to explore this [field] through experimentation, [even though] it is hard to cost-effectively justify manned military missions in space."

Turning to manned spaceflight in general, General Casey termed the recent Soviet decision to undertake manned exploration of Mars an "exciting thing. I would like to see US manned missions to Mars." He added,

however, that such a mission would require extremely large boosters, probably well above the thrust levels of Saturn V, the workhorse of the Apollo program. The new "Energyia" Soviet space booster, he suggested, probably won't be adequate for manned missions without orbital staging.

Among the major space systems under development by AFSC's Space Division, the Navstar Global Positioning System (GPS) performs the "most elemental military requirement—knowing where you are," the Space Division Commander explained. When fully operational in the early 1990s, GPS will open a new era in "three-dimensional information, including altitude, time, ground, position, and velocity," permitting, for instance, blind bombing at night with "dumb bombs" that come within ten to twenty feet of the target center.

Specific benefits flowing from the operational GPS system, General Casey explained, also entail "secure, accurate navigation for submarines, enhanced aerial refueling capabilities under all weather conditions, improved search and rescue, better target acquisition, and more effective ordnance drop in the proximity of friendly forces without visual contact." So far, fifty-two manufacturers are developing GPS user equipment, with the ground hardware ranging in size from "a large backpack to [a] pack of cigarettes."

The current average unit cost of $70,000 for the user equipment is expected to come down to about $45,000 per copy in the early 1990s, according to General Casey. The antijam element of the equipment accounts for about eighty percent of the total cost for the military units. Asked about the survivability of the system, he suggested that an adversary would have great difficulty in "taking down all those satellites in a short time." GPS, he stressed, is "inherently survivable."

ABRAHAMSON: The SDI problem is understanding—not technology.

SDI Anchored in Innovation

The Strategic Defense Initiative, SDIO Director Lt. Gen. James A. Abrahamson told the AFA meeting, is "the largest single research undertaking under one umbrella" ever tackled by the US. No other project has "ever been as challenging and comprehensive." The core challenge, he explained, is that "we have to bring forward ten to twelve major development programs all at the same time" and make them dovetail: "This requires new ways of contracting and managing." As a result, he defined the SDI problem as "not a technological problem, but one of understanding." While suggesting that there are no "showstoppers," he conceded that "there are tough bureaucratic problems," including formidable "infrastructure and industrial hurdles. . . . We must do things faster, cheaper, and more boldly."

CASEY: USAF will look harder at the potential of man in space.

General Hughes termed SDI "the perfect countervailing strategy to the Soviet ballistic missile force that they have invested in" so lavishly in order to "intimidate the rest of the world." The long-term potential of SDI, however, must not lead to near-term neglect of the strategic triad and the "way we deter the Soviets" by traditional strategic offensive capabilities. The notion that a full-blown SDI capability is so close to realization that traditional deterrence can be dispensed with, he said, is "hogwash."

In fact, he pointed out, "the most dangerous . . . time that we will encounter over the next twenty years will be the period [when] we begin to put the [space-based] defense in orbit [until] it becomes effective." During that period, the triad must be both maintained and modernized. Also, both the strategic and the conventional forces must be modernized during this transition period because "we need to continue to deter. We have got to have SDI. It is doable. It has got to come in its own time, and it . . . has to be funded independently of other" essential deterrence requirements.

The Joint Chiefs of Staff, General Hughes pointed out, are "working very hard" on defining a set of tasks to be accomplished by SDI's so-called Phase I so that it is "militarily significant." The basic criterion, he added, is "cost-effectiveness at the margin," meaning "that it [must cost] the Soviets more to try and defeat it than it costs us to put it into orbit."

He added that—probably by the end of this year—the Joint Chiefs of Staff will have specified the "command that is going to be responsible for the integration and operation of SDI." This integration will also include existing US military space systems. The US Space Command, therefore, is a strong candidate for SDI operations, he suggested. ■

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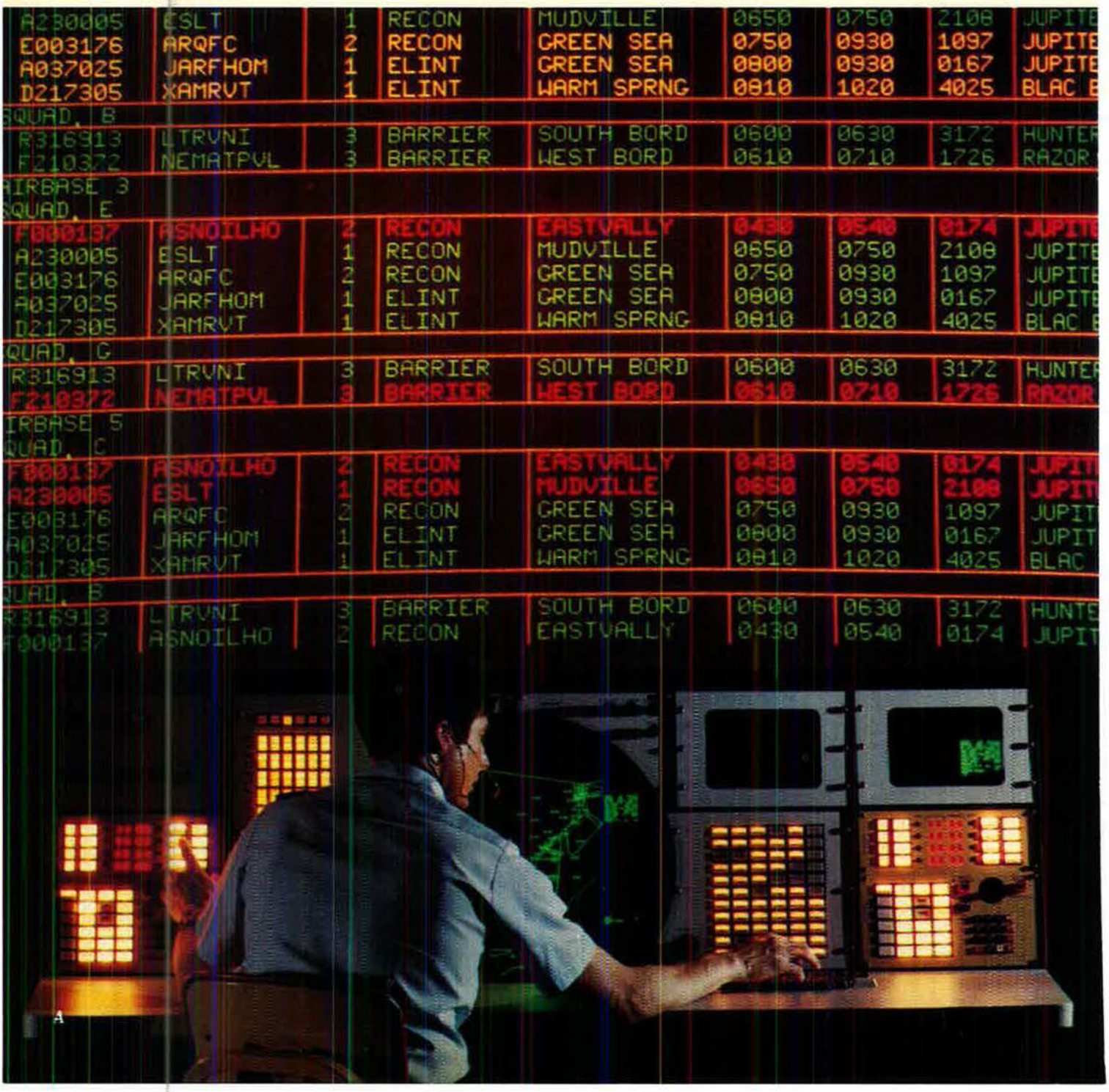

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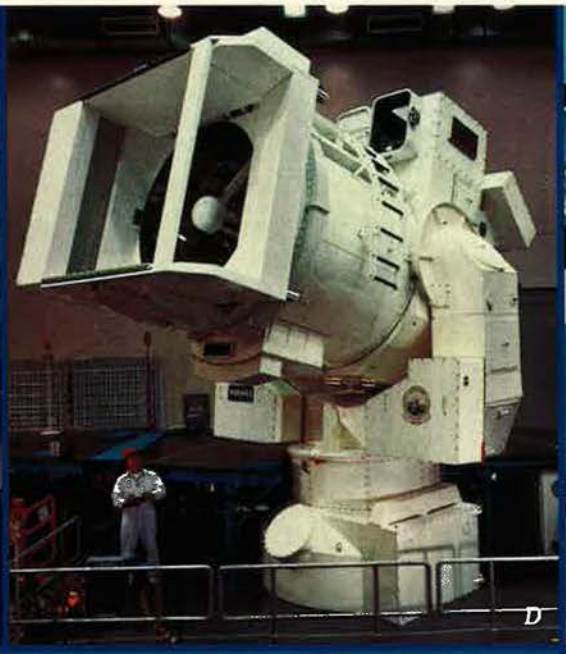

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AIRLIFT RODEO

BY JEFFREY P. RHODES
AERONAUTICS EDITOR

—USAF photo by MSgt. Ken Hammond

An Air Force Reserve C-130 banks over one of the drop zones at Fort Bragg, N. C., during this year's competition. Air Force Reserve, Air National Guard, and allied teams have done well at Airlift Rodeo over the past few years.

"THERE is nothing done at Airlift Rodeo that we don't do as part of our normal operations, except it is just a little more intensified," said 1st Lt. Newton Huneycutt, team chief for the 145th Tactical Airlift Group.

And intensified it is. Airlift Rodeo, Military Airlift Command's annual tactical airlift competition, is a week-long, head-to-head showdown held at Pope AFB, N. C. This year's competition, staged in May, matched twenty-seven active-duty, Air National Guard, and Air Force Reserve C-130 and C-141B units as well as eight teams from allied nations and one US Marine Corps crew.

Pope hosts Airlift Rodeo because of its across-the-street proximity to the ranges and drop zones (DZs) of Fort Bragg and the paratroopers of the 82d Airborne Division, whom the airlifters attempt to drop precisely on target in the course of the competition.

Airlift Rodeo showcases the mission of MAC. It tasks the ability of the crews to get men and equipment directly to a fighting front by air. But flying proficiency is not the only thing graded. Airlift maintenance, for example, accounts for one-fourth of a team's point total toward the best overall wing trophy as well as being an event in itself.

Also tested are the skills of security police teams, combat control teams (who parachute into an area to establish and secure landing and drop zones), joint airdrop inspection teams (who prepare and rig loads to be airdropped), and engine running on/offload (ERO) teams.

The feature attraction of the Rodeo, though, is getting Lockheed C-130s and C-141s or Transall C-160s to the right place at the right time and putting a load into a drop zone—just as the crews would have to do in a battle area.

Aircrews fly three missions during the competition, one each to drop personnel, such heavy equipment (HE) as bulldozers, and container delivery system (CDS) loads. How close the load lands to the target—or point of impact (PI)—counts in the scoring, but a premium is also placed on navigation, crew coordination, and flying skills.

Each crew is given a designated takeoff time. The aircraft commander can adjust this time by as much as two minutes, but he must so inform the umpire who rides with his crew. Actual takeoff must be within a minute of the scheduled or amended time. Otherwise, points are lost.

The runs are low level (300 feet above the ground), and the crews navigate to the DZ by a specified route that includes six turnpoints. These points must be identified and shown to the umpire, and then the pilot must fly over each of them to get full scoring credit.

Time Counts

The aircrews have a designated time over target (TOT). To help ensure the arrival time, the navigator tells the pilot when to slow down or speed up, but does this only on the inbound route. The actual run-in to the target must be made at a constant speed (approximately 150 knots) and at a constant altitude (800 feet for paratroopers, 600 feet for CDS loads, and 750 feet for heavy equipment). Speed or altitude variances are violations and cost points.

"Time over target is critical," said Capt. Kevin Hixson, aircraft commander of the C-141B representing the 437th Military Airlift Wing. "In any type of conflict, ground troops may be in an area for just so long, and then they have to move on. That's one reason why it is important to be over the target when you are supposed to be."

By means of a CARP (computed air release point), which takes into account wind direction and speed, exit time (time it takes for a load actually to leave the aircraft on a drop), parachute ballistic properties, and other factors, the navigator determines where in relation to the target the load should be released.

As the aircraft approaches the target (which at Bragg is marked with a block letter painted on a board), the combat control team (CCT) on the ground releases signal smoke and radios current wind speed and direction to the crew. Nothing drops until the color of the smoke is seen. Red smoke, for example, would mean that a CCT or a platoon was being overrun by an enemy force and that the airlifters should not make the drop.

The farther the airdropped load lands from the target, the fewer points are earned. In the case of paratroopers, accuracy is measured from the target to the spot where the first jumper lands. Accuracy is just as important as TOT, because ammunition dropped 900 feet from a unit whose perimeter is only 600 feet in diameter doesn't do anybody any good.

"The navigator has a whole lot of the responsibility for the points," said Lt. Col. Jesse Deal, navigator for the 145th TAG, the North Carolina Air National Guard unit that took the Best Overall Wing honors at Rodeo in 1986. "He accounts for most of the TOT and route points. A lot of guys can tell the pilot where to position the plane on run-in just by watching the way the smoke drifts. But it takes a lot of experience to be that good."

"I was standing on top of the letter J [the target marker] at the DZ when the Israelis came over," said Gen. Duane Cassidy, MAC's Commander in Chief. "I had to move or the paratrooper would have hit me. It was an absolutely perfect drop. And this was the first time they had ever been in the competition." The scoring paratrooper for the Israelis landed only ten feet from the target, and the team picked up 1,754 points out of a possible 1,780 for this drop.

On their way back, the crews are required to make landings that are much shorter than what the tech order calls for as "normal." For the C-130 and C-160 (a two-engine transport that is flown by the Germans and competes in the C-130 division) crews, two of the landings must be made on unimproved dirt strips on the Fort Bragg ranges, while the third is made on the concrete runway at the base, or "Pope LZ" (landing zone).

For these assault landings, the C-130 pilot aims for a point 200 feet inside a 400-foot landing zone, makes a steep approach, sets the plane down resoundingly (but not to the extent of "spiking" the aircraft or bouncing), reverses the propellers, and stops as short as possible. The team that won this event, the 176th TAG from Kulis ANGB, Alaska, was off the 200-foot marker by an average of only nineteen feet in its three attempts.

—USAF photo by MSgt. Ken Hammond

Once the loadmasters have gotten the load out the back of the airplane, they get a unique perspective on the competition (above). The aircrews are not the only people tested, as the combat control teams are also put through their paces, too (below). Both the loadmaster and this CCT officer are from 70 Squadron at RAF Lyneham, England.

The C-141s make all of their spot landings at Pope. The "StarLizards" (as the crews call the C-141s) aim for a point 1,000 feet down the runway. Their descent is not nearly so steep as that of the C-130s, the landing speeds are higher, and the rollout is longer, but the larger planes do come in and stop in a remarkably short distance. The 443d MAW from Altus AFB, Okla., averaged within sixty-nine feet of the mark during the competition.

"The C-141s have just started getting into short-field landings," said the 437th MAW's Captain Hixson. "There is a need for landing in a short distance, especially on SOLL [Special Operations/Low Level] missions, where we might have to go into an area with a short or damaged runway."

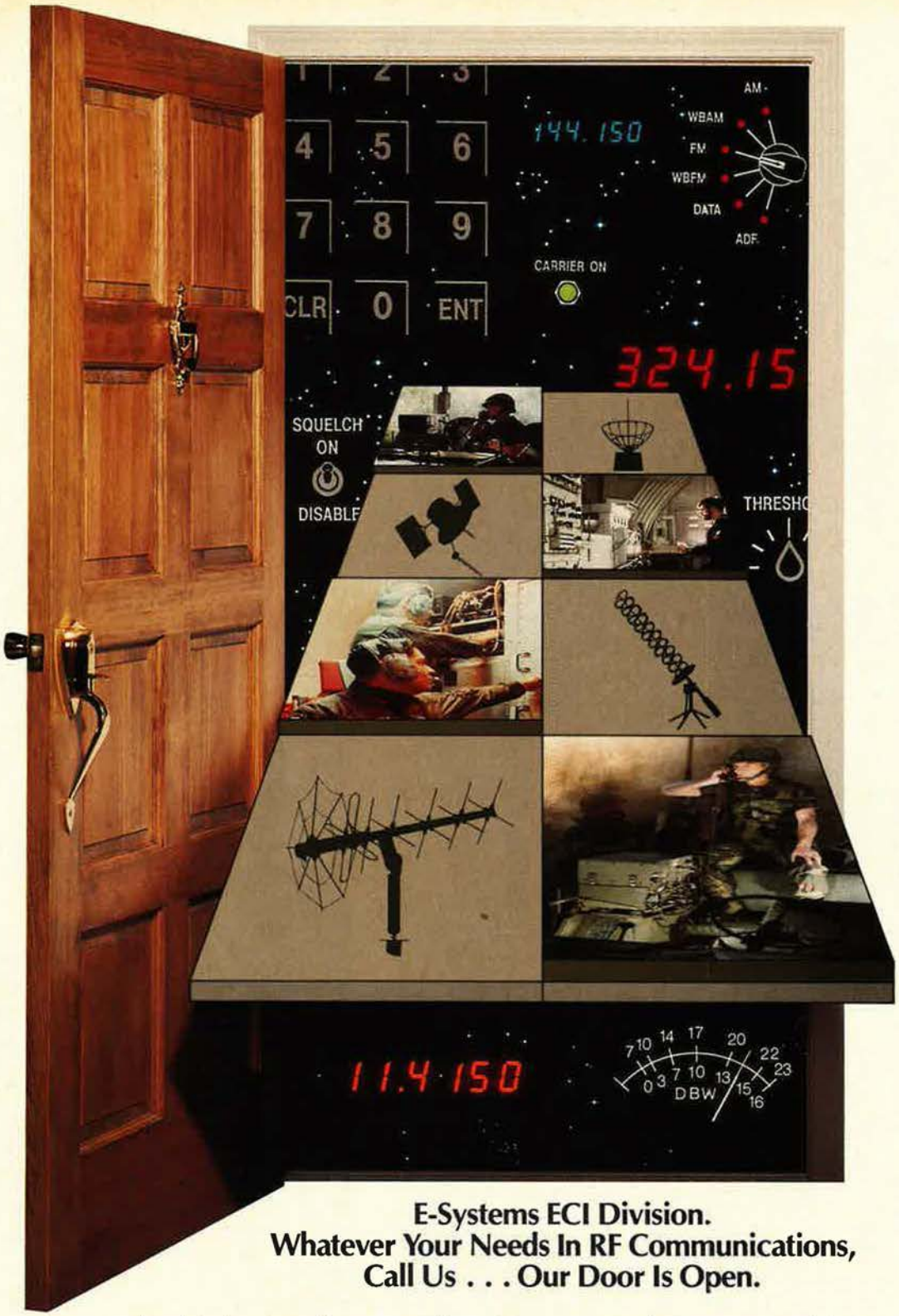
"The spot landings for the C-141s were added to the competition because it is a new mission element," added General Cassidy. "We want Rodeo to reflect what the crews back home are doing, and the spot landings prepare aircrews for a very possible wartime situation."

Busy on the Ground

Before an airlift mission flies, the load must be prepared and rigged properly. The parachute riggers and loadmasters who make sure a load is ready for dropping are tested by the joint airdrop inspection (JAI) event at the Rodeo.

JAI takes place in the cargo hold of a C-130 that was damaged beyond repair several years ago and that now sits, wingless, on a concrete

—USAF photo by MSgt. Dave Casey



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base. The task in this timed event is for the two-man teams to find all of the malfunctions (such as loose straps or disconnected parachutes) built into four CDS loads and two heavy-equipment pallets by the umpires. The crews are given six minutes to inspect the CDS loads and ten minutes to scrutinize the HE platforms.

"We have to write down the full names of all malfunctions," said SSgt. Cliff Harmon of the 437th MAW from Charleston AFB, S. C. "You can't use any acronyms. It gets hectic sometimes thinking about all the possible malfunctions while you are actually doing the inspection against the clock."

"Airdrop is not a science," noted 1st Lt. Dan Woolever, the 437th MAW's navigator. "There are so many variables you are not in control of." One of those variables is that nonaerodynamic bodies, such as equipment trailers, have to be airdropped correctly, or they will make big holes. A quarter-ton trailer was demolished recently when it came out of the aircraft at altitude and slipped its parachute. The trailer, which normally stands about four feet high, flipped over, crashed, and was compressed into a twisted mass roughly six inches tall. Although this particular mishap was not the result of a JAI error, it does illustrate why the loads must be rigged properly.

Once a load is rigged, it has to be loaded—and that takes special skills, too. "It normally takes about thirty minutes to block-in [secure] a load on a C-141 and about thirty minutes to block-out," said TSgt. Charles Rhodes, one of the engine running on/offload team members from the 437th MAW. "Here, we cut block-in to about two and a half minutes and block-out down to about 1:50."

That is as good a description as any of the ERO event, which would have to be considered Rodeo's only demonstration of an activity with purely wartime overtones. The concept of ERO is simple—safely load and secure two trailers and a pickup truck in the shortest time possible and do it while the aircraft's engines are running. This event is designed to keep the plane's ground time (and, consequently, exposure to ground fire) to a minimum.

—USAF photo by MSgt. Ken Hammond

An equipment trailer is extracted by parachute from the hold of a C-141B as the crew flies their plane over the drop zone. Each crew at Rodeo must make three types of airdrops during the week-long competition (above). The ramp at Pope AFB looks like a Lockheed dealership when all of the C-141Bs (below) and C-130s used in the competition are parked and lined up.

—USAF photo by SrA. Nancy Smelser

The ERO Ballet

ERO is quite difficult to explain completely without diagrams, but this ballet of driving the truck and manipulating the trailers so that everything is pointed toward the rear of the aircraft when the cargo doors close is something to watch. Because the truck and one of the trailers have to be turned around during the loading process, it takes a little longer to load than to unload. The British team from 70 Squadron at RAF Lyneham, England, accomplished this in four minutes and two seconds.

It takes a crew of four—one person to drive the truck, one to direct the driver (who is prohibited from looking backward for safety reasons), and two handlers. Close coordination between the ground crew, the loadmasters, and the flight crew is essential.

Maintenance is a big part of the competition at Rodeo. The ten-man crews are graded in four categories: preflight inspection, basic postflight operations, fuel servicing, and daily observations.

Maintenance is made harder by the fact that the aircraft are aging. The C-130B that the 145th TAG brought to Rodeo was built twenty-seven years ago, and the C-141 flown by the 437th MAW is more than twenty years old. They are typical of the MAC fleet. Some units are taking delivery of new H-model C-130s, but a majority of the planes in use are well into their adulthood.

"Although we have some problems that are caused just by having old airplanes, I think maintenance dedication makes up for it," said MSgt. Bill McKay, maintenance chief for the 145th TAG.

The security police and combat control teams are specialists within the airlift mission. At Rodeo, four-member SP teams compete in four exercises geared to their responsibility for protecting aircraft and aircrews on deployments and in hostile areas. Two exercises are in marksmanship—one is a live-fire engagement against pop-up targets, and one involves the use of a laser sys-

tem that records hits against live "snipers." Another exercise tests land navigation skills (to find and defend a remote airstrip), and there is an obstacle course.

The combat controllers are the first into an area ahead of an airdrop. The CCT units at Rodeo performed a HALO (High Altitude/Low Opening) parachute drop, which gets them to the ground quickly. In practical terms, this achieves an element of surprise and reduces exposure to ground fire. The teams then establish and secure the drop zone. The CCT units are also graded on combat leadership (which is an obstacle course), overland infiltration, and a cross-country run.

Fierce Competition

"Everybody who's here deserves to be here," said 1st Lt. Bruce "Trashbag" Strickland, a former Air National Guard F-16 pilot who now flies as a copilot for the 145th TAG. "Everybody is pretty much even, and winds or luck usually decide the meet." Indeed, only seventeen points separated overall first place (the West German team from Wunstorf) from third place, and only 1,932 points separated first from thirty-fourth. Seven teams were within 200 points of first place.

The teams take Rodeo seriously. Most of the allied teams got to Pope a week or so early to practice. Other units, such as the 435th TAW from Rhein-Main AB, Germany, and the Alaska Air National Guard team, shared the 145th TAG's facilities at Charlotte's Douglas Municipal Airport for a few days to familiarize themselves with the terrain in that part of the country. "We practiced a good bit before Sentry Rodeo [the ANG airlift competition]," said the 145th TAG's Lieutenant Huneycutt. "But we still had to do our regular assignments and meet our training requirements. You just can't stop and practice for Rodeo."

To prevent the competition side of Rodeo from getting out of hand, MAC Headquarters tells the units which aircraft they can bring to Pope instead of letting the wings and groups choose the ones that are best maintained. The aircraft assignments are not made until forty-five days before the meet. This reduces the temptation to squirrel away the competition aircraft for long periods, maintaining it to within an inch of its life.

There is also a new rule that fifty percent of the Rodeo team, including aircrews, must be changed every year. "Some units had what amounted to a professional Rodeo team," noted Lieutenant Strickland. "It is a good rule, because it gets more people involved."

Rodeo teams are seldom crews that operate together back home. Instead, the wings or groups select the best pilot, copilot, navigator, engineers, and loadmasters from their various squadrons. The same process applies to the other events. Some units, like the 145th TAG, selected their crew from volunteers, while other units, such as the 437th MAW, took recommendations from squadrons, with final choices being made by the wing commander and director of operations.

The smaller size of the Guard and Reserve units works to their advantage. Even though the teams are group-wide composites, almost everybody knows everybody else. "Because we see the same people day after day, and often year after year, we get a real feel for working with one another," said Lieutenant

The Top Ten

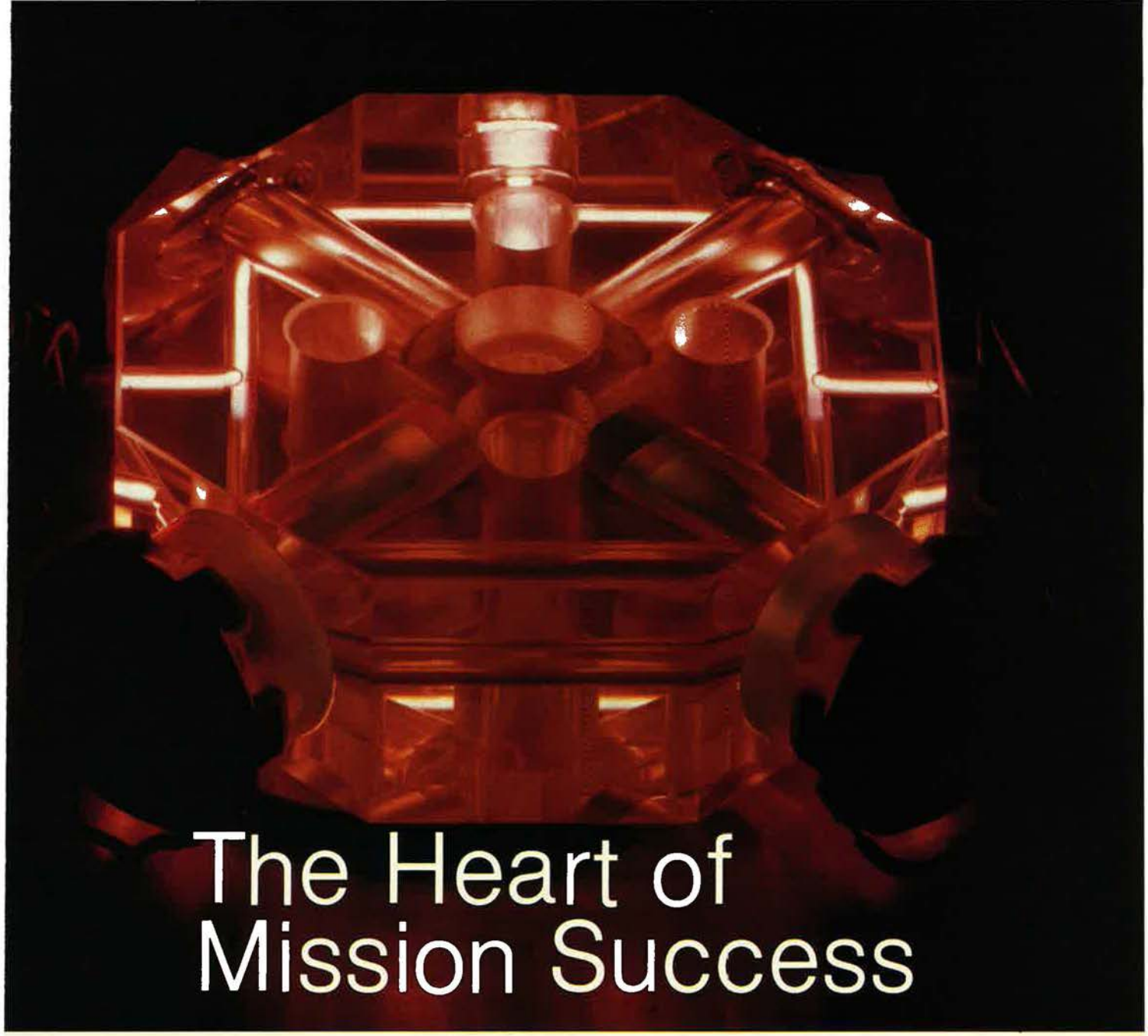
TEAM	AIRCRAFT	BASE	TOTAL POINTS*
LTG 62**	C-160	Wunstorf, Germany	6,537
445th MAW (AFRES)	C-141	Norton AFB, Calif.	6,525
437th MAW	C-141	Charleston AFB, S. C.	6,520
908th TAG (AFRES)	C-130	Maxwell AFB, Ala.	6,423
36 Squadron	C-130	RAAF Richmond, Australia	6,392
Israel	C-130	Base 27, Israel	6,369
1st SOW	MC-130	Hurlburt Field, Fla.	6,344
145th TAG (ANG)	C-130	Douglas MAP, N. C.	6,335
314th TAW	C-130	Little Rock AFB, Ark.	6,239
514th MAW (AFRES)	C-141	McGuire AFB, N. J.	6,234

*Point totals are out of a possible 7,140 points. Twenty-four other teams that competed in this category are not listed here.

**Awarded the Gen. William G. Moore Trophy for Best Overall Wing. (For the purposes of this competition, C-160s are included in the C-130 category.)

Airlift Rodeo Trophies

- *Best C-141 Aircrew:* 437th Military Airlift Wing, Charleston AFB, S. C. (4,780 points out of a possible 5,340 points).
- *Best C-130 Aircrew:* 314th Tactical Airlift Wing, Little Rock AFB, Ark. (6,427 points out of a possible 7,290 points).
- *Best C-141 Spot Landing:* 443d Military Airlift Wing, Altus AFB, Okla. (1,084 points out of a possible 1,500 points).
- *Best C-130 Short-Field Landing:* 176th Tactical Airlift Group (ANG), Kulis ANGB, Alaska (1,832 points out of a possible 1,950 points).
- *Best Foreign Team:* LTG 62, Wunstorf, Germany (8,143 points out of a possible 9,090 points).
- *Best C-141 Maintenance:* 445th Military Airlift Wing (AFRES), Norton AFB, Calif. (1,750 points out of a possible 1,800 points).
- *Best C-130 Maintenance:* 46 Aerobrigata, Pisa, Italy (1,796 points out of a possible 1,800 points).
- *Best C-141 Engine Running On/Offload:* 438th Military Airlift Wing, McGuire AFB, N. J. (746 points out of a possible 1,000 points).
- *Best C-130 Engine Running On/Offload:* 70 Squadron, RAF Lyneham, UK (758 points out of a possible 1,000 points).
- *Best Joint Airdrop Inspection Team:* 314th Tactical Airlift Wing, Little Rock AFB, Ark. (175 points out of a possible 200 points).
- *Best Aerial Port Combat Endurance Run:* 317th Tactical Airlift Wing, Pope AFB, N. C. (1,100 points out of a possible 1,300 points).
- *Best Security Police Team:* 96th Security Police Squadron (representing the 463d Tactical Airlift Wing), Dyess AFB, Tex. (1,745 points out of a possible 2,000 points).
- *Best Combat Control Team:* 23d Air Force Red Team, Scott AFB, Ill. (1,085 points out of a possible 1,250 points).



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Strickland. "You can almost sense what the others are going to do." The same is true for many allied units. As Squadron Leader John Murphy, the Australian team chief, said, "Since we only have one tactical airlift squadron in our air force, it somewhat limits our choice of people."

Guard, Reserve, and allied teams have done well at Rodeo the past few years. Active-duty units won the Best Overall Wing trophy the first three years of the competition, but have taken top honors only once since 1982. Reserve wings have won Best C-141 Aircrew honors two out of the last four years. Allied crews have taken the Best C-130 Aircrew twice in the same period. General Cassidy noted that the level of experience, including Vietnam-era experience, in the Guard and Reserve has helped those teams.

Weighing the Paratrooper

There is a constant quest for any kind of an edge in the competition. MSgt. Bill McKay, the 145th TAG's maintenance chief, opened the cargo doors of his C-130 well in advance so that the aircraft's interior would be cooler when the judges for the preflight inspection arrived. Lt. Col. Thomas Ovbey, the 437th MAW's team chief, brought a bathroom scale to weigh the paratrooper accurately who would be scoring for his team in the personnel drop. Some of these ploys will be used by other teams next year. Some were copied immediately.

The Australian combat control team rappelled head first off the sixty-foot-high board on the endurance course. "We had always done it feet first," said General Cassidy. "Our guys were out there trying to figure out which was the best and safest way to do it. Some teams did it one way, some did it the other. But that was something we learned from the Australians."

Knowledge picked up at Rodeo goes well beyond the realm of competition. "It is good to jump into this type of environment," said Capt. K. E. Hansen, a Danish pilot who was sent to Rodeo by his air force to observe and take notes. "We don't do much tactical airlift [Denmark only has three C-130s in its entire fleet], but it is good to see these procedures at work and to exchange ideas." Denmark was one of thirteen allied countries that had observers at the meet this year.

"We're new at this," added Cpl. Marc Peeper, navigator for the Marine Corps team from MCAS Cherry Point, N. C., which was competing at Rodeo for the second time. "We don't do airdrop as much as the Air Force does, and the competition is good for us. We learn a lot just by talking to the other teams. After this week, we'll go back and share what we learned—like better or different ways to do things—with the other Marine squadrons," Corporal Peeper explained.

"Tactical airlift is always changing," said General Cassidy. "No two missions are the same." And while MAC's missions are changing, so is MAC itself.

General Cassidy admits there has always been a good-natured rivalry between "Big MAC" (the C-141 crews) and "Little MAC" (the C-130 corps is happy to pull the Velcro-backed MAC shields off their flight suits and show the smaller shields underneath that read "Li'l MAC"), but he adds that the distinction is disappearing. There is also a difference between "Old MAC" and "New MAC."

"Old MAC" describes the veterans who have literally been through the wars and who can be recognized by their smoking and coffee drinking. The younger crew members represent "New MAC." They have less air time, and identifying characteristics are said to include the inclination to work out in a gym and eat salads for lunch. Both types are difficult to retain.

Fortunately, some of the departing "Old MAC" is heading for Guard and Reserve units, where their experience will be retained. Mostly, though, the pilots are heading for the airlines. "The airlines are a drain," said General Cassidy. "People who are good at airlift are good at other things, too. We have no trouble getting pilots, but they leave much too soon. MAC is a unique way of life, but it places great demands on the crews, their families, and their personal time."

—USAF photo by SrA. Nancy Smelser

The West German Transall C-160 taxies off after making its assault landing on the dirt strip at Fort Bragg as two combat controllers, TSgt. Charles Miller and SSgt. Hector Rivera, radio conditions to a C-130 lining up to make its landing. The C-130 and C-160 crews must make two assault landings on the dirt strip and one on the concrete at "Pope LZ." The West Germans were the overall winner of Airlift Rodeo '87.

What Pilots Want

"We need to pay the pilots a little more and give them some incentive to stick around," General Cassidy said. "Flight pay was last raised in 1981. They [the pilots] don't want us to match the airlines. They just want a raise. They want the Air Force to help them support their families. And they want new equipment."

McDonnell Douglas representatives were present at Rodeo this year, getting a perspective that they

will apply to the C-17 transport that the company is building for the Air Force. "The need is well-defined, and the C-17 is a well-defined program," said General Cassidy. "But the program needs funding at the very time funding is getting hard to come by."

The C-17, with its ability to haul outsize and oversize cargo on both strategic and intratheater missions, will go a long way toward easing the current airlift shortfall. It will be crewed by only a pilot, copilot, and one loadmaster, will be able to airdrop paratroopers, heavy equipment, and CDS loads, and has the capability to operate from austere airfields.

The C-17, however, will not make its first appearance at Airlift Rodeo until 1992 at the earliest—and that is assuming the budget stays on track. In the meantime, the tactical load will have to be carried by the C-130s and C-141s.

Lockheed is still rolling out three Hercules aircraft a month at its Marietta, Ga., plant. Many of these C-130Hs are going to Guard and Reserve units, replacing A- and B-model aircraft that are nearly thirty years old. Although the C-141s were originally intended primarily for high-altitude flight, more and more of their tasking is now for low-level missions. These missions put increased stresses on the wings and tails of the StarLifters, but the projected service life remaining for the average C-141B is more than 17,000 hours, or about until the year 2004. Lockheed is also studying some potential structural enhancements that could extend the fleet's useful life even further.

The quality of the MAC crews is impressively high. Using almost the same words, Captain Hixson and Lieutenant Huneycutt agreed that, given a week, anybody in MAC could fly with anybody else in MAC, and the combination would be a highly competent crew.

Airlift Rodeo is a spectacular show, but nothing done there is artificial or contrived. "What we do at Rodeo validates that what we do every day is real," said General Cassidy. ■

Navigating by Steeples

AIR FORCE Magazine followed two teams closely at this year's Airlift Rodeo: the 136th Tactical Airlift Wing's 145th Tactical Airlift Group, an Air National Guard C-130B unit based at Douglas Municipal Airport near Charlotte, N. C., and the 437th Military Airlift Wing, an active-duty C-141B unit from Charleston AFB, S. C.

They are typical units, but both had outstanding credentials going in. The 145th TAG was the defending Rodeo champion, and the 437th MAW had finished very high over the past few years and was a likely candidate to do well again. Neither one was disappointed. The 437th won Best C-141 Aircrew honors and was third overall, while the 145th finished third among twenty-seven C-130 units and eighth overall.

The 437th crew ranged in age from twenty-seven to thirty-two and consisted of Capt. Dave Norman (pilot), Capt. Kevin Hixson (copilot/aircraft commander), 1st Lt. Dan Woolever (navigator), TSgt. William Dunn and SSgt. Richard Elenberger (engineers), and Sgt. John Bishop and SSgt. Ken Mackey (loadmasters). The 145th crew included Capt. Boyd Moose (pilot/aircraft commander), 1st Lt. Bruce "Trashbag" Strickland (copilot), Lt. Col. Jesse Deal (navigator), CMSgt. Bill "Dad" Furr (engineer), and SMSgt. Mike Annas and SSgt. John "Juan-Boy" Huneycutt (loadmasters). This crew varied in age from twenty to fifty-four. The differing styles of the two crews provide fascinating glimpses of the world of airlifters.

Flying a route at 300 feet is a lot of work for the entire crew, but in a situation where route points and time over target are critical, it is especially interesting to watch the navigators work.

Lieutenant Woolever is the epitome of the modern navigator. He used his skills in complete synchronization with the plane's inertial navigational system (INS) to traverse the route. At each turnpoint, he took a time hack from Captain Hixson and updated the INS to increase the accuracy, which was already good.

Non-Doppling Doppler

Colonel Deal, who flew as a KC-135 navigator for Strategic Air Command in Vietnam, had to rely mostly on his navigational skills, but he was hampered by a less than completely accurate Doppler radar. "Our Doppler doesn't dopple all that well," quipped Lieutenant Strickland.

On the trip in, the navigators and copilots did the map reading. In the C-141, though, Captain Norman carried a strip map of the route and was involved actively in discussions to identify the turnpoints. In the C-130, Captain Moose carried a small chart that illustrated just the turnpoints, but he let Colonel Deal and Lieutenant Strickland carry the discussion on the turnpoints. Both pilots corrected and turned on the navigators' instructions.

The copilots have to watch for landmarks along the route (church steeples are great to navigate by because they are fairly permanent structures, and they rise above the trees) and keep a lookout ahead. The hazards and pitfalls of low-level flight soon became apparent on both flights. A large hawk (or a "B-One-R-D," as Lieutenant Strickland called it) was heading straight for the C-130. The copilot and Captain Moose both saw it and were about to take evasive action, but the hawk veered off (it probably felt the odds weren't in its favor) before it became a problem. Birdstrikes are a very real possibility at this altitude.

Despite the inherent hazards of low-level flight, it is very exciting. "It's just not as much fun unless you're flying at 300 feet," noted Sergeant Huneycutt.

Over the Turkeys

Part of the C-141's route took the plane over a turkey farm, and Captain Hixson asked Captain Norman if he wanted to gain altitude. Sometimes the turkeys get frightened and stampede when aircraft fly by, and the Air Force has paid numerous bills for trampled turkeys. Because of the weather this day, the StarLifter stayed at 300 feet and pressed on. The poultry did not panic, though.

Run-ins to the target were nearly perfect. Captain Hixson mounted a crude bombsight inside of the windscreen to help determine the drop release point, while Lieutenant Strickland and Colonel Deal were able to use the much better view from the C-130 to line up for the drop visually.

Apparently, the Indian hunting fetishes (carved animals the crew carries for luck) did their jobs, because the 145th TAG's jumper landed a mere sixty-six feet from the PI and the crew came within 100 points of a perfect score. This was good enough for third place, behind the British and the Israelis, whose jumpers both came down within a remarkable twenty feet of the target. The 437th MAW's jumper landed closer to the PI than any other C-141's did—158 feet. The crew lost some TOT points, though, and wound up with 1,564 points out of the possible 1,780.

Returning to base, Captain Moose lined up for the assault landing—what the C-130 world considers "pushing the outside of the envelope"—and popped the plane down eighty-four feet short of the 200-foot marker at "Pope LZ." The assault landing looked violent, but touchdown was relatively smooth. Captain Norman's C-141 spot landing was 151 feet short of the mark.

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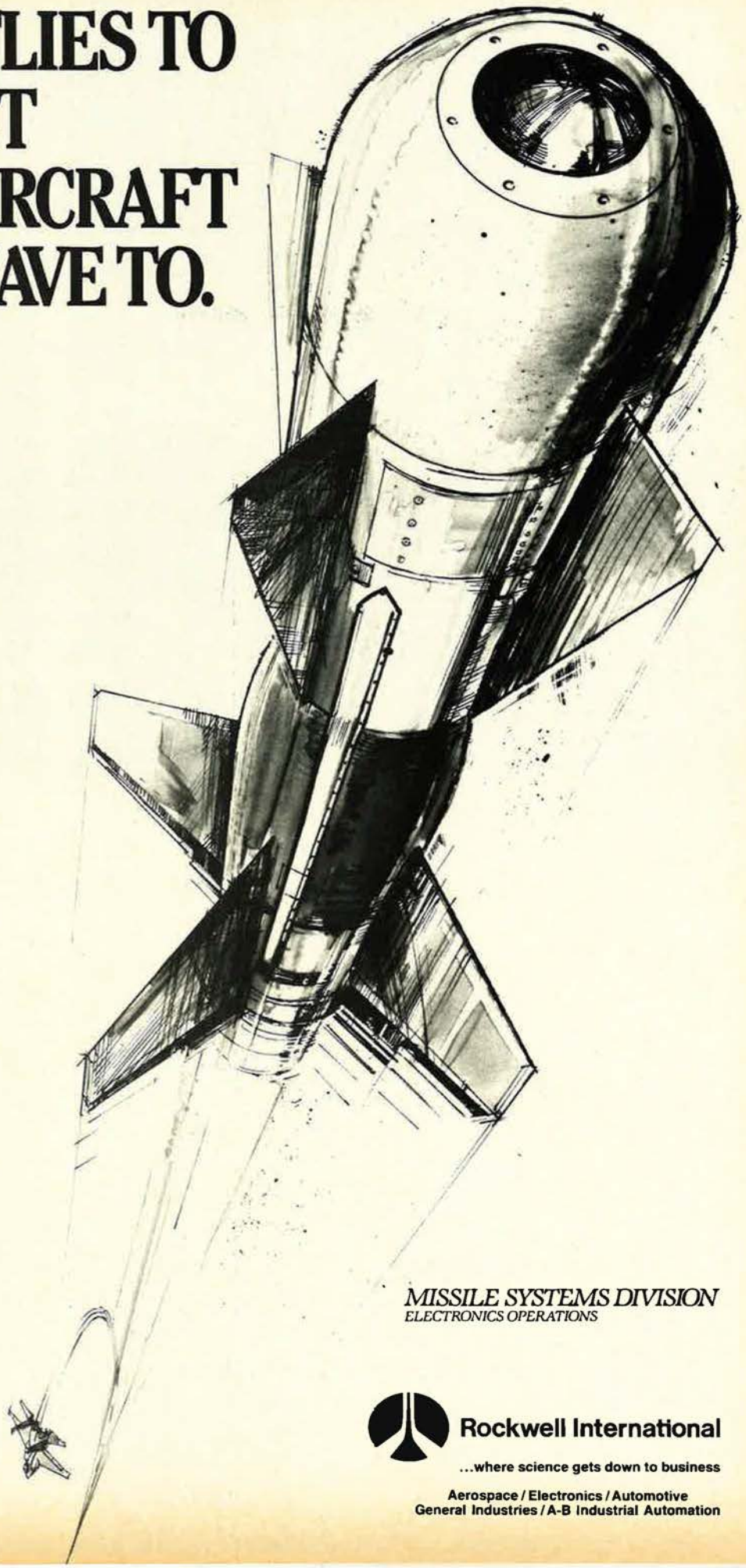

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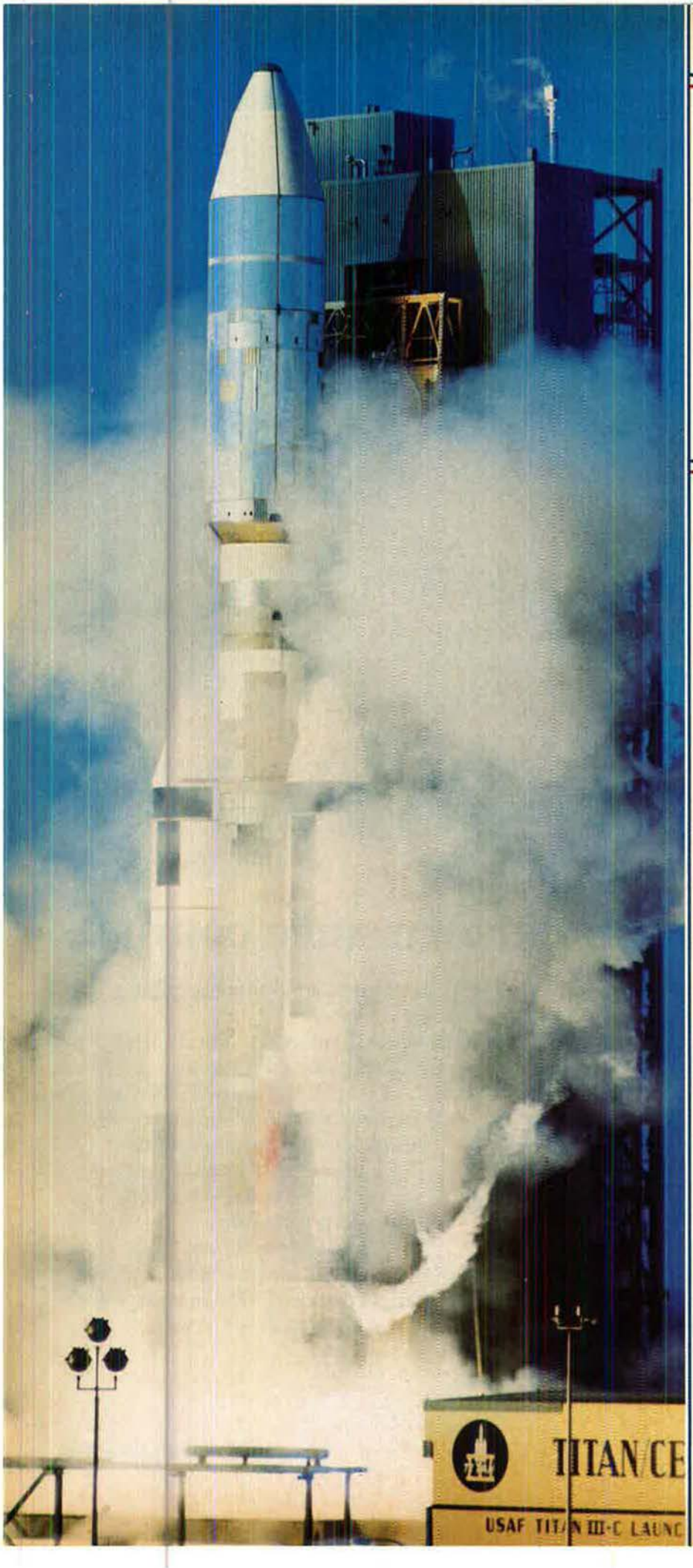

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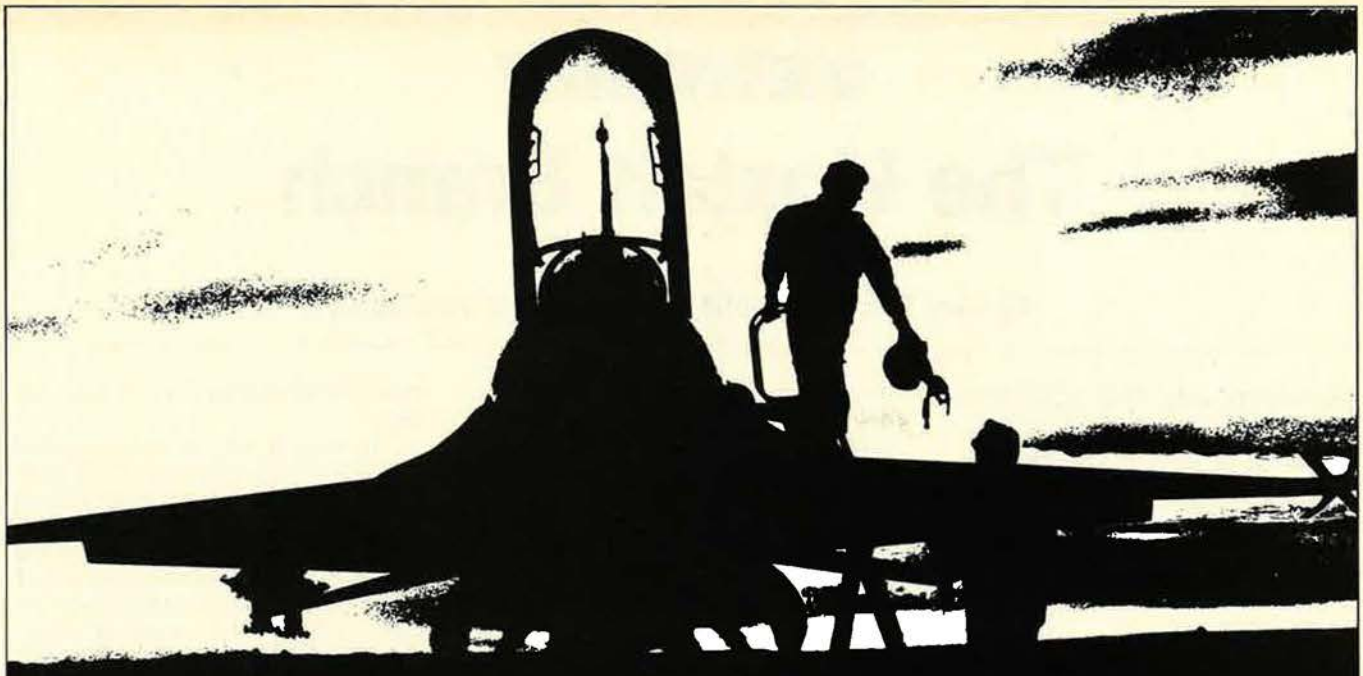

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VIEWPOINT

The Upstart Branch

By Gen. T. R. Milton, USAF (Ret.), CONTRIBUTING EDITOR

The Army and Navy did not take to the notion of flying officers. A Fort Riley horse soldier once asked me why, if I wanted to be a pilot, I had bothered to get an education.

Europeans view with amused tolerance the American predilection for anniversaries, although, come to think of it, the British made quite a stir over the Queen's Jubilee. Our Bicentennial was a great festival, complete with parades, speeches, and fireworks. This year's marking of the 200th birthday of the Constitution has been somewhat more subdued, but not without a generous display of good old American hype.

This year also marks the fortieth birthday of the United States Air Force, or so we are to believe. In reality, it marks the legitimizing of the Army's bastard child, after long years of a sometimes stormy relationship.

Back in the 1920s, Billy Mitchell already had a separate air force in mind. An unexpected outcome of his deliberate campaign of disobedience was to alert the Navy to the potential of airpower. Naval air progressed at a faster pace following the Mitchell court-martial than did the Army Air Corps. It would take a good many more years and the greatest war in history to make the case for an independent Air Force. Even then, it was by no means easy.

The years after Billy Mitchell were hardly encouraging ones for the small group of true believers. Hap Arnold was sent off to Fort Riley, home of the Cavalry School and a center for equestrianism, not flying machines. Instead of sulking in exile, Arnold became a missionary bent on converting horse soldiers to at least a tolerant understanding of what an airplane could do. He made a few converts, but missionary work is always hard sledding.

I can attest to the fact that that one of his potential converts at Fort Riley never got the word. Years later, this officer demanded to know whether I, a new second lieutenant, actually intended to go into pilot training. When I said I did, his reply was a classic: "In that case, why the hell did you bother to get an education?"

There were, however, a few here and there who began to appreciate airpower, along with some others who resented the upstart branch and its much envied flight pay.

As World War II drew nearer, the Air Corps began to demonstrate an increasing spirit of independence, with certain deviations from Army customs extending even to items of uniform—no Sam Browne belts. Unlike the Navy, which in prewar days kept a firm grip on its aviators by sending senior officers through flight school, the Air Corps hierarchy, such as it was, had begun as junior birdmen. Andrews, Arnold, Spaatz, and Eaker had lived through all the discouraging years with single-minded zeal, as had a small number of others. But then, the whole Army Air Corps was small.

When the war was finally upon us, Air Corps expansion turned into more of an explosion. Captains became lieutenant colonels and, shortly afterwards, colonels. Men a year or so out of flying school suddenly found themselves commanding squadrons and, soon enough, in combat. For all practical purposes, the Army Air Corps had become independent, once again emphasized by the uniforms affected by many of us in those days.

The war ended, and we were still in the Army Air Forces, but the fight was on. Under the banner of unification—as I look back on it, an Orwellian bit of terminology—the Air Corps, by now the AAF, fought for its independence as a separate and equal service. By that time, the Army had accepted the inevitable, although the Navy, fearing the disappearance of its own air arm, fought against the whole idea. Some of the most regrettable rhetoric in our recent history came out of that squabble.

The result was a compromise worked out by Adm. Forrest P. Sherman and Gen. Lauris Norstad. And so, in due course, we had an independent Air Force, and the Navy and Marines had their own air components. It was to be a while before the Army uniforms disappeared in favor of today's Air Force blue, but that didn't really matter. We had been feeling our independence for such a long time, what difference did a new uniform make?

Besides, we were shortly to become very busy with the Berlin Airlift. And then, when that was over, there'd be a brief interval before Korea and the first real test of whether or not a separate Air Force had been a good idea.

MiG Alley up toward the Yalu River became a headline feature, something positive and dramatic to come out of that otherwise indecisive war. McConnell, Jabara, Fernandez, Risner, and the other jet aces were media stars, and the question of whether an independent Air Force was a good idea was never again seriously debated. In fact, for a time after Korea, it was almost the only idea, as the other services found themselves relegated to secondary status in the budget. SAC and its bigger bang for a buck became the primary symbol of US military strength.

Vietnam, our longest war, put the focus back on conventional forces. Strategic weaponry remains essential, but small wars don't lend themselves to megatons, and small, or at least nonnuclear, conflicts seem to be a recurring event.

There are going to be difficult priority decisions for Air Force leaders down the road. The budget always has a limit, so the wish list will always have to be pruned. How to look ahead to space challenges, provide for a nuclear retaliatory capability, sort out the SDI options, and still be ready for the everyday confrontations is going to require wise people. We have had our share of wise men in the past four decades, and there is every reason to believe a look back forty years hence will be equally satisfying. ■

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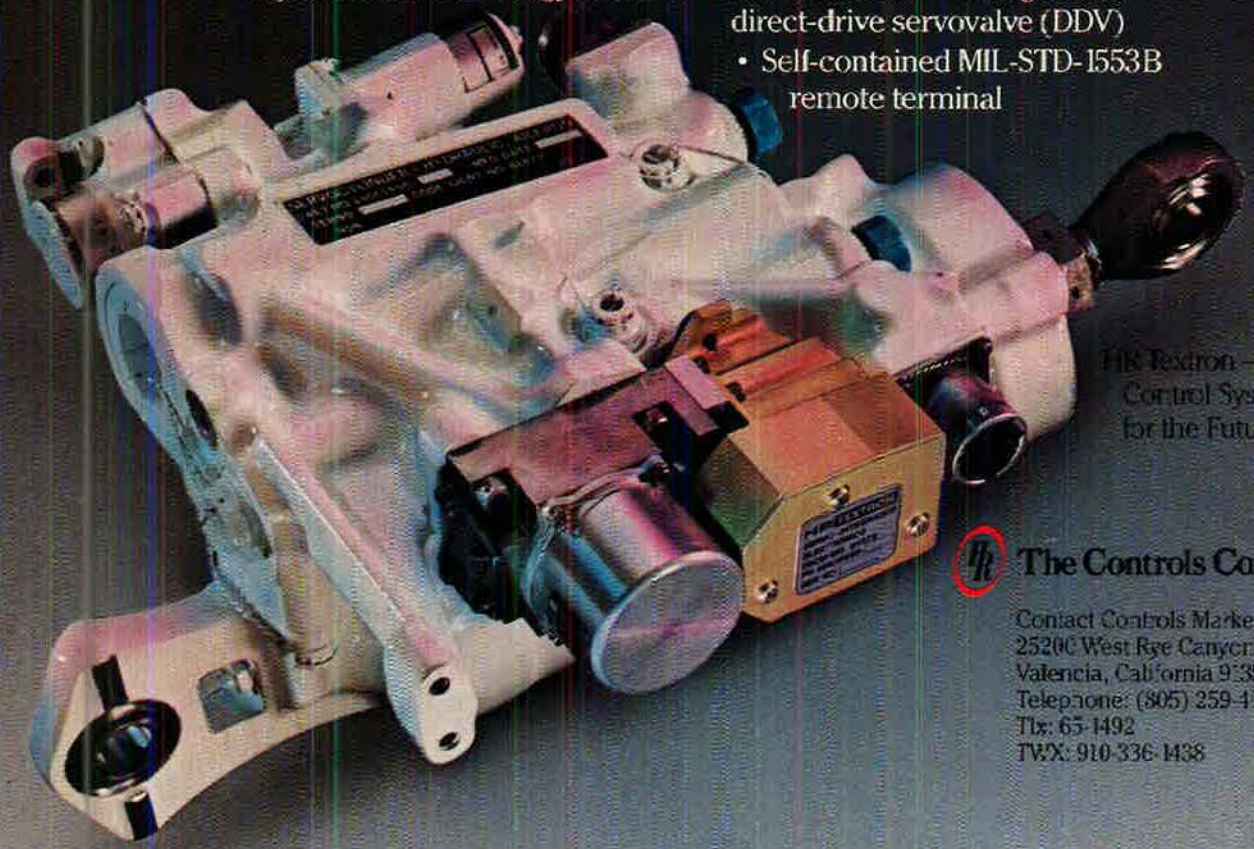

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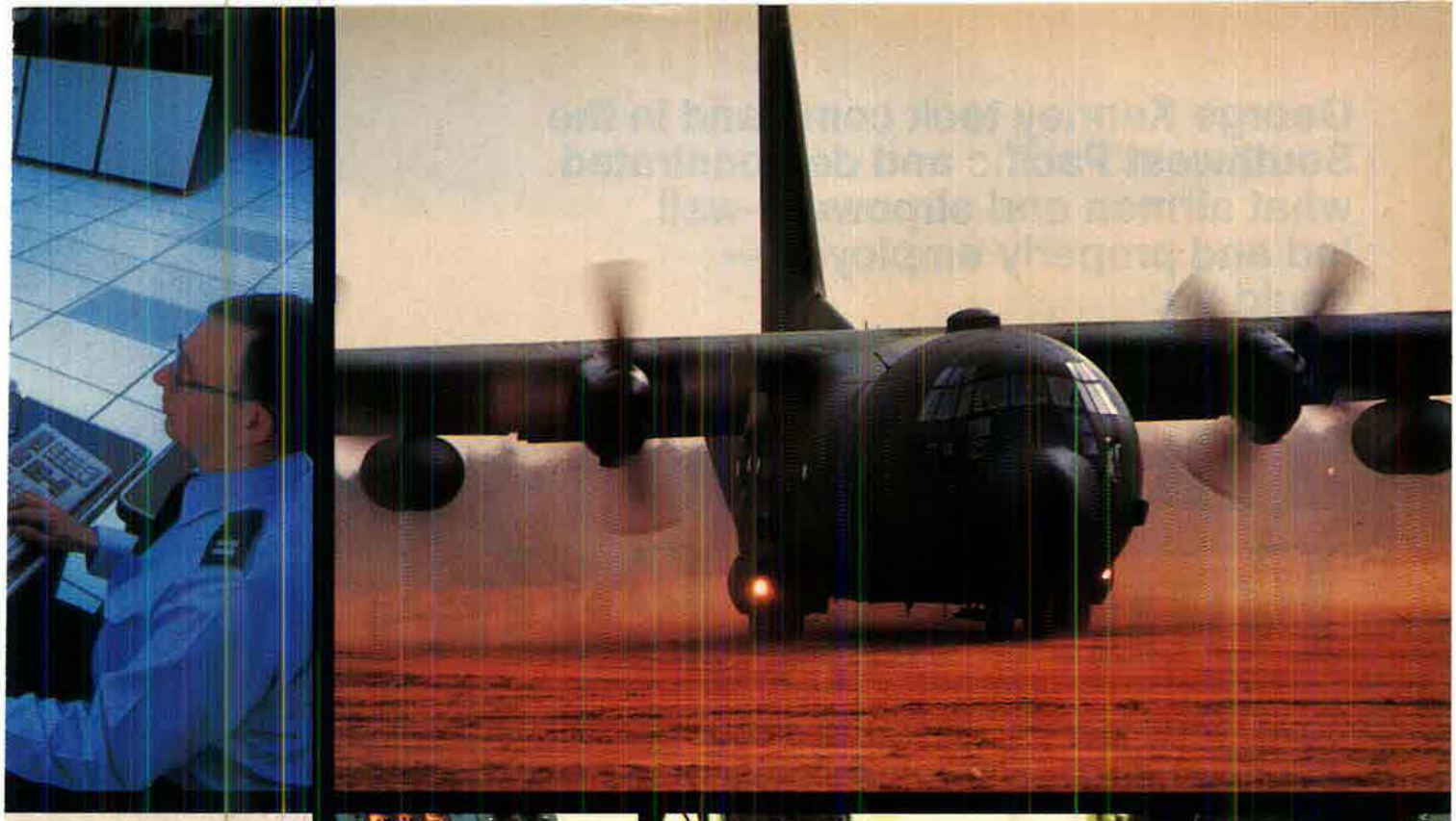

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George Kenney took command in the Southwest Pacific and demonstrated what airmen and airpower—well led and properly employed—could do.

The Other Founding Father

BY HERMAN S. WOLK

Gen. George C. Kenney, MacArthur's top air commander in World War II, was later SAC's first commander. He retired in 1951 and died in 1977, three days after his eighty-eighth birthday.

SEPTEMBER 1987 marks the fortieth anniversary of the establishment of the United States Air Force (USAF). Gen. Henry H. (Hap) Arnold, builder and commander of the Army Air Forces (AAF) in World War II, and Gen. Carl A. (Tooey) Spaatz, Commander of US Strategic Air Forces in World War II and the first Chief of Staff of USAF, are generally acknowledged as the founding fathers of USAF.

There are, however, many other outstanding Air Force leaders who played important roles, directly or indirectly, in the creation of the Air Force. One of these men, Gen. George Churchill Kenney, born in August 1889, deserves special attention, because he was one of the rare airmen equally gifted in the fields of engineering, materiel and aircraft production, air organization, strategy, tactics, and operations. He has been generally acknowledged as perhaps the most innovative American air commander of World War II.

A consideration of General Kenney's role, style, and contributions is also appropriate because it is approximately forty-five years since Maj. Gen. George Kenney arrived in the Southwest Pacific theater during the second world war to take command of the Allied Air Forces and the AAF's Fifth Air Force under theater commander Gen. Douglas MacArthur. As it turned out, General Kenney's arrival was destined to play an important part in the eventual creation of USAF because his dynamic demonstration of the effectiveness and flexibility of airpower convinced many Americans—politicians, military, and the public—that it was time to form an independent air force.

Solid Background

George Kenney possessed an extraordinary background gained in the relatively small US Army Air

Corps between the wars. He flew seventy-five missions in World War I, including special missions for Brig. Gen. Billy Mitchell. He downed two German planes, was promoted to captain, and decided to make Army aviation a career. He stayed a captain for seventeen years, except for one year as a first lieutenant. Prior to the war, Kenney worked as an engineer and attended the Massachusetts Institute of Technology. He graduated from the Air Service Engineering School at McCook Field, Ohio, after the war and subsequently specialized in production engineering.

In the late 1920s, while serving as an instructor at the Air Corps Tactical School, he met Maj. Frank M. Andrews, who was impressed with Kenney's grasp of technical problems. At this school, the Air Corps laboratory for development of doctrine, strategy, and tactics, Kenney refined his concept of "attack aviation" and revised the basic attack textbook. He became an advocate of low-altitude attack operations.

After serving as a planner under Air Corps Chief Maj. Gen. Benjamin D. Foulois, he was made Chief of Operations and Training, General Headquarters Air Force, by Brig. Gen. Frank M. Andrews. Lieutenant Colonel Kenney wrote tables of organization and plotted maneuvers throughout the country for GHQ Air Force, the Air Corps combat arm.

Kenney's experience in the Air Corps during the 1920s and 1930s gained him a reputation as an able, imaginative, and independent-minded airman. In 1938, when Maj. Gen. Henry H. Arnold became Chief of the Air Corps upon the death of Oscar Westover, Arnold sent Kenney to the Materiel Division at Wright Field as Chief of Production Engineering. There were problems to be resolved at Wright Field, and Arnold thought Kenney possessed the know-how to do the job. General Arnold was correct; Kenney became something of a troubleshooter for him. "Every time he got something going wrong," Kenney once recalled, "he would say, 'Send George Kenney out there; he is a lucky son of a bitch. He will straighten it out.' I never was supposed to have any brains; I was just lucky." The fact was that General Arnold had great confidence in Kenney's ability. Subsequent events would prove the Chief of the Air Corps's judgment to be correct.

On December 7, 1941, the Japanese attacked the US Pacific Fleet at Pearl Harbor. Arnold ordered Kenney, with the temporary rank of major general, to San Francisco to command Fourth Air Force. General Kenney's responsibilities included the air defense of California, Oregon, and Washington and the training of units for assignment overseas.

His tenure as commander of Fourth Air Force was short-lived. In July 1942, General Arnold ordered Kenney to Washington. Kenney knew something big was about to be sprung on him. On July 12, he met with Arnold and Gen. George C. Marshall, Army Chief of Staff. They told him that he was to replace Lt. Gen. George H. Brett, MacArthur's air commander.

To Center Stage

Kenney's appointment as commander of the Allied Air Forces in the Southwest Pacific theater was due not only to his demonstrated competence but also to the play of personalities and events. Arnold and Marshall had first proposed to MacArthur that Maj. Gen. James H. Doolittle replace Brett. General MacArthur demurred however, because he mistrusted Doolittle's alleged flamboyance. Upon Arnold's suggestion, Marshall then recommended Frank Andrews. The former commander of the GHQ Air Force (then heading the Caribbean Defense Command) refused, observing that he was not about to work for a man whom he thought had kept the Air Corps down in the 1930s and who failed to appreciate the capabilities of the air arm.

The first thing Kenney did when he took over in the Southwest Pacific was "get rid of a lot of the Air Corps deadwood," as he put it. What he wanted were innovators and what he called "operators." One of those was Brig. Gen. Ennis Whitehead, shown here in his two-star rank (right), who became Kenney's deputy commander. These two men became the architects of the air victory in the Pacific theater.

Although obviously pleased with being placed in command of combat air forces, Kenney's discussions in Washington were not entirely agreeable. In his own mind, he recognized the Japanese pattern of success: gaining air superiority, use of amphibious forces supported by air elements, and use of captured airfields to keep the advance moving. He knew that "the Allies had lost freedom of air action early in the game and without airpower could not even hold their defense positions, let alone undertake offensive action."

One of Kenney's innovations was parachute fragmentation bombs (or "parafrags"). Here some of his Fifth Air Force B-25s are conducting a minimum altitude attack on an enemy airstrip eight miles west of Wewak, on New Guinea's northeast coast. One B-25 unloads on three Tonys while the one on the right cuts through the smoke from a burning Helen.

With this in mind, Kenney suggested to Arnold and Marshall that he had "to get rid of a lot of the Air Corps deadwood, as no one could get anything done with the collection of generals that had been given Brett to work with." Kenney also noted that "a lot of colonels would have to come home, and I wanted carte blanche to handle the situation." He asked Arnold "to wash his own linen and get them all out before I go across." Arnold refused. Kenney observed that Arnold and Marshall "were a bit peeved" with him, but they agreed that anything that MacArthur would let him do was all right with them.

Although in a sense Kenney had been one of General Arnold's best-kept secrets, and this was certainly true with regard to the public, he was now about to move to center stage. He was well aware of the allied grand strategy of tackling "Europe first" and of the fact that the Southwest Pacific "looked like a mess." The Europe-first strategy posited that General MacArthur's forces were to operate defensively to stop the Japanese and to hold Australia until the Allies clearly gained the upper hand on the European continent. According to Kenney, this strategy was "McNarney's [Maj. Gen. Joseph T. McNarney] thesis, which Arnold and Marshall have adopted. No one is really interested in the Pacific, particularly the Southwest Pacific Area."

The "mess" that he referred to included more than 500 planes in the theater with only a handful in commission. Morale was low, and personality clashes abounded between Americans and Australians and within the American command. Generals Brett and MacArthur had failed to get along and to communicate, and open antagonism existed between Brett and Maj. Gen. Richard K. Sutherland, MacArthur's Chief of Staff. Kenney wanted P-38 aircraft and 3,000 parachute fragmentation bombs that remained in war reserve. He needed men, planes, equipment, materiel, and an effective command organization. To say the least, his work was cut out for him.

"The Sutherland Problem"

Both Kenney and General Arnold were aware of "the Sutherland problem." Prior to Kenney's meeting in Washington with Arnold and Marshall, Brig. Gen. Laurence S. Kuter, Deputy Chief, Air Staff, AAF Headquarters, informed Arnold that Sutherland was "the cause of most of the Air Force problem." Kuter suggested to Arnold that Kenney should replace Brett. The latter, competent and self-effacing, had been unable to move past Sutherland to communicate effectively with General MacArthur. Replying to Kuter's recommendation, Arnold observed: "My God, if MacArthur can't get along with Brett, how do you think he can get along with Kenney?" Perhaps he couldn't, Kuter emphasized, "but at least it won't take so long to find out, and Kenney's personality may be just what we need."

In July 1942, flying to the Pacific, Kenney turned over his problems in his own mind. In a sense, the key to his logistical, organizational, and operational problems rested on his ability to form a sound relationship with theater commander Douglas MacArthur. General Brett left Kenney this assessment of MacArthur: "He has not a full appreciation of air operations, nor is there any officer on his staff sufficiently conversant with air operations to have the ability for proper planning. The Air Commander must therefore be exceptionally careful in checking orders received and must be capable of planning all his operations in detail. . . . I do not believe that MacArthur has a single thought for anybody who is not useful to him, and I believe he detests the Air Corps through his own inability to thoroughly understand it and operate it as he does ground troops."

On the morning of July 29, 1942, Kenney met with

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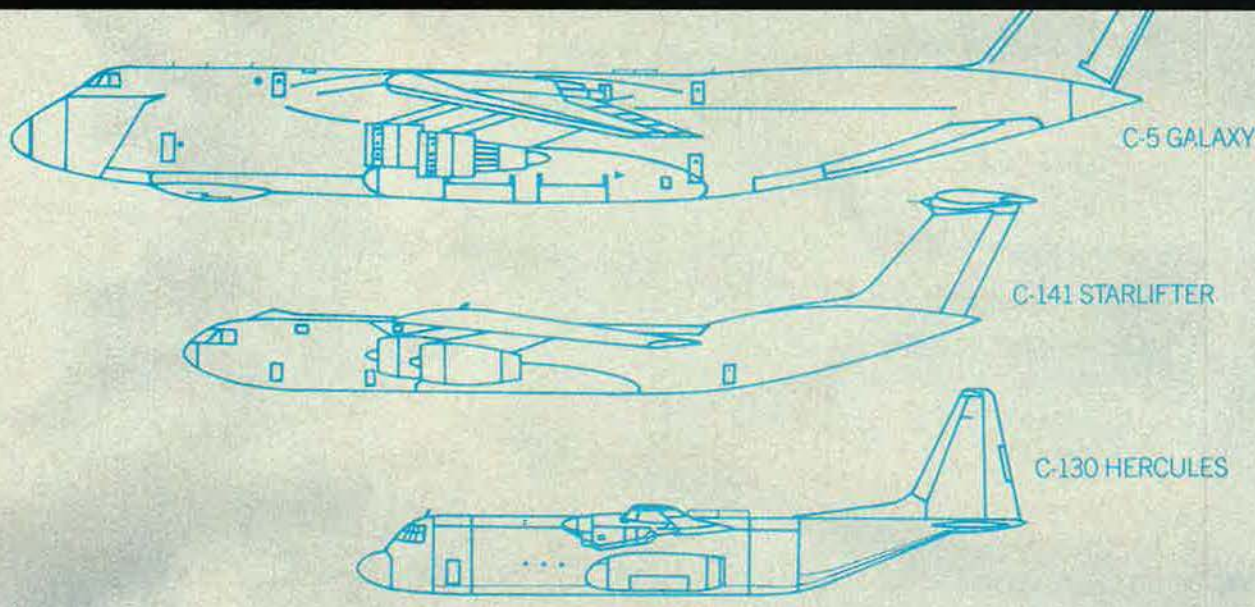

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MacArthur. For one hour, MacArthur made clear his frustration with the air forces. They had done nothing. According to Kenney, MacArthur "had no use for anyone in the organization, from Brett down to the grade of colonel." Kenney finally interrupted his commander to say that he intended to command the air forces and that he knew how to run an operational air force. Kenney emphasized "that as far as the question of loyalty was concerned, if for any reason I found that I could not work with him or be loyal to him, I would tell him so and do everything in my power to get relieved. He grinned and put his hand on my shoulder and said, 'I think we are going to get along all right.'"

Brett had suggested to Kenney that "a showdown early in the game with Sutherland might clarify the entire atmosphere." In effect, Sutherland had been controlling the air forces, issuing air directives to Brett. Kenney determined to put a stop to this practice, and on August 4, 1942, he confronted MacArthur's Chief of Staff. He informed Sutherland that the most competent airman in the Pacific was George Kenney, and if that was not true, "I would recommend that he find somebody who was more competent and put him in charge. . . . I did not think that this top air leader was named Richard Sutherland." Kenney emphasized to Sutherland that from now on GHQ would lay down the missions and that he would give the detailed air orders to his subordinate air units. When Sutherland protested, General Kenney suggested that they go in to see MacArthur, whereupon Sutherland backed down. From this point on, Maj. Gen. George Kenney ran the Allied Air Forces in the Southwest Pacific.

Innovators and Operators

Kenney's style of command was first "to clear it with the Old Man." He told MacArthur what was wrong with the air forces and what needed to be done to correct the situation. The primary objective was "to take out the Jap air strength until we owned the air over New Guinea. . . . There was no use talking about playing across the street until we got the Nips off of our front lawn." Japanese shipping and airdromes would be attacked at every opportunity. The big Japanese base at Rabaul had to be "neutralized."

First however, the aircraft of Fifth Air Force (formally established August 7, 1942) had to be put back into commission. Most of Kenney's more than 500 planes were not ready to fly operational missions. He also required a large infusion of replacement crews, 150-gallon droppable fuel tanks, and racks for the parachute fragmentation bombs that he had ordered. He directed Maj. Paul I. (Pappy) Gunn, a canny innovator, to design and install fragmentation bombs on A-20 light bombers. Gunn had designed a package of four .50-caliber machine guns (500 rounds per gun) for the nose of the A-20 and ultimately he would do the same for the B-25 medium bomber.

General Kenney wanted innovators and what he termed "operators." He named Brig. Gen. Ennis Whitehead as his deputy commander. Brig. Gen. Kenneth Walker was made the Fifth's bomber commander, and Col. Paul B. Wurtsmith—whom Kenney called "a thief" and "a reformed bad boy"—took over Fifth Air Force Fighter Command. Kenney sent the "deadwood" home—several generals and about forty colonels and lieutenant colonels.

As commander of Fifth Air Force and the Allied Air Forces, with headquarters in Brisbane, 1,000 miles from the New Guinea combat front, Kenney needed to resolve the command problem. The solution was to make Whitehead, a tough, aggressive leader, commander of the Advanced Echelon of Fifth Air Force at Port Moresby. Kenney henceforth sent operational directives from Brisbane to Whitehead, who would execute them from Port Moresby.

This B-25, armed with "Pappy" Gunn's package of four .50-caliber machine guns in its nose, is on its way to help soften up Japanese positions on New Britain in support of American landings on Cape Gloucester in the winter of 1943–44.

In General Kenney's mind, almost equal in importance to gaining air superiority over the Japanese was the necessity of a clear demonstration of the ability of Fifth Air Force to airlift troops into the battle zone and to resupply them. MacArthur's strategy of pushing the enemy back westward along New Guinea's north coast depended on the success of aerial resupply. Kenney needed to convince MacArthur that the airlift and supply plan would work.

In September 1942, although MacArthur's staff opposed it, the "Old Man" approved Kenney's plan. The strip around Wanigela Mission was cleared by natives during the first week in October, and C-47 transports landed a battalion of Australian troops and engineers. There was no enemy opposition on the ground or in the air. This operation, a key to the Buna campaign, General Kenney emphasized, "turned the corner in the New Guinea war." It was only the first of a number of important airlift operations, and MacArthur quickly became an enthusiastic advocate. In September 1943, in the

largest airlift operation of its kind to that point in the war, some 1,700 paratroops were dropped, resulting in the capture of Nadzab in New Guinea's Markham River valley.

Passing the Gravy

While demonstrating the contribution that air operations could make to MacArthur's "island-hopping" strategy, Kenney also took great care to make certain that his men had everything they required for top morale—including promotions. Not long after arriving in the theater, he noted, "We haven't been getting any special favors so far that I have found, but so long as we are the only ones doing any fighting in the American forces, I am going to see that if there is any gravy being passed around, we get first crack at it." Kenney observed that the noncombat outfits seemed to have plenty of rank. He immediately moved "to stop all promotions in the Service Command and other noncombat outfits until the combat squadrons get commanded by majors and flights by captains who have proven leadership in combat."

The pilots came first. When they griped about unsatisfactory engine overhauls, Kenney told the Service Command that he had "more faith in the pilots' judgment than in Air Service Command alibis and to remember that the kids in New Guinea are the customers—and they are always right." Prior to Kenney's arrival, requests from the New Guinea front for parts and equipment had been turned down if requisition forms had not been properly filled out. He informed Service Command Headquarters that requisitions were to be filled "whether oral or written or made out properly or improperly. . . . We could not sink Jap ships or shoot down Jap planes with papers and filing cabinets. . . . I was more interested in getting the planes flying than having a beautiful set of files that we were not even going to take home when the war was over."

General Kenney wanted all activity pointed toward defeating the enemy. He made certain his "kids" had what they required—from refrigeration to mosquito netting. No detail escaped him on his frequent visits to operational units. Planes simply had to be kept in commission. He brooked no alibis and ordered the number of aircraft in commission to be reported to him each day by group and by squadron. "By in commission," he emphasized, "I mean ready to take off for combat operations." He worked the troops hard, but demanded no more of them than he did of himself. Maj. Victor Bertrandias, a former Douglas Aircraft executive, reporting to work in the supply field, informed Kenney, "Gen. Joe McNarney told me to report to George Kenney. He will give you a job and work hell out of you or chase you home on the next plane."

Kenney's vision, knowledge of operational detail, mastery of organization, and extraordinary leadership paved the way for the air forces' tremendous contribution to MacArthur's strategy and operations. From Dobodura to Hollandia, Sansapor and northwest to the Halmaheras and the Philippines, Fifth Air Force (subsequently joined by Seventh and Thirteenth Air Forces to form the Far East Air Forces) and the Allied Air Forces demonstrated the flexibility and effectiveness of airpower.

Few if any World War II operational air commanders—including Gen. Carl A. Spaatz—came to their commands as well prepared as George Kenney, whose experience in the Air Corps in the 1920s and 1930s was from the ground up. He was an engineer and flyer who learned and taught doctrine and tactics. He was equally skilled in operations, production engineering, and scheduling. In this photo, taken after the war ended, he's comparing notes with General Spaatz. They're in the elevator lobby of the New Grand Hotel in Yokohama, Japan.

Dealing With Arnold

Kenney knew how to deal with General Arnold. It was a tricky situation, because MacArthur and Arnold never got along especially well. As mentioned, the "Europe-first" strategy complicated the picture. In 1942, the Southwest Pacific theater was considered by the Joint Chiefs to be primarily a defensive operation. Kenney's secret in prying aircraft and equipment from Arnold was not only to badger the AAF commander but sometimes subtly to suggest a way out of a particular problem and then to make certain that the solution would be General Arnold's.

"Big Uglies" Prove A Point.

On the night of 18 December 1972, the USAF launched Operation Linebacker II: the first of a series of large-scale air attacks against heavily defended targets in the Hanoi and Haiphong areas of North Vietnam. During the initial attack, 129 B-52 bombers ("Big Uglies") took part, supported by 39 aircraft providing fighter escort, defense suppression, stand-off ECM cover and chaff. On the following 11 nights, with a break only for Christmas, the B-52s flew a total of 729 sorties and dropped 15,000 tons of bombs on 34 targets. Reportedly, more than 330 missiles were fired at the raiders, downing 15 of the heavy bombers: an average of only one aircraft was destroyed per 58 missiles fired, and one aircraft lost per 48 sorties flown. The "Big Uglies" had proved a point: although relatively slow and unmaneuverable, with their powerful self-protection ECM suites supported by defense suppression aircraft, they could press home attacks on heavily defended targets without suffering disastrous losses.

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Both General Kenney (left) and John R. Alison, a fighter ace with General Chennault's "Flying Tigers," served as Presidents of AFA, Kenney in 1953–54 and Alison in 1954–55. Here they're at the 1955 AFA Convention in San Francisco.

During the war, however, Kenney never relinquished the pressure on Arnold to keep the aircraft and supply pipeline flowing to the Southwest Pacific. Although Kenney was not receiving all that he wanted, the constant successes of Fifth Air Force convinced General Arnold that Kenney would always put the planes and equipment to especially good use. As early as the spring of 1943, Arnold assured Kenney that "you are no longer the forgotten man."

Kenney was not above putting the pressure on Arnold in another way. Several times during the war, when in Washington to brief the Joint Chiefs, he stopped at the White House to bring President Franklin D. Roosevelt up to date on combat operations. Kenney always found the President extraordinarily knowledgeable down to the smallest detail about operations in the Southwest Pacific. Roosevelt admired Kenney's style of command, applauded his success, and was sympathetic to his needs. The point was not lost on General Arnold. Kenney gained Arnold's respect and admiration (no mean feat) to the point where the AAF commander asked him, prior to Operation Overlord, to forward his ideas on what should be done in Europe in planning air operations so that a successful invasion of the continent could be assured.

Kenney's judgment, usually unerring about operational matters, failed him over the question of the use in the Southwest Pacific of the B-29 long-range bomber. He wanted the B-29s and planned to employ them from Australia to smash the Japanese-controlled oil refineries at Balikpapan, Borneo, and Palembang, Sumatra, thus cutting off the enemy's petroleum supply. Kenney wrote Arnold in October 1943, "If you want the B-29 used efficiently and effectively where it will do the most good in the shortest time, the Southwest Pacific Area is the place, and the Fifth Air Force can do the job. . . . Japan may easily collapse back to her original empire by that time [1944], due to her oil shortage alone."

General Arnold however, had determined early that the B-29s should only be employed directly against the Japanese home islands, and in March 1944, Kenney learned from Maj. Gen. Laurence S. Kuter, visiting the Southwest Pacific theater, that he would not be receiving the big bombers. With Operation Matterhorn in 1944, the B-29s that had been based in India and staged through China moved to the Marianas in October, where in March 1945 Maj. Gen. Curtis E. LeMay's XXI Bomber Command began to strike crushing blows against the home islands. Kenney thought that the B-29 attacks from the Marianas would have little or no impact on the enemy—only "nuisance raids," he reasoned. On this issue, he was spectacularly wrong.

Effective Style of Command

Kenney's success was due in large measure to firmly held ideas and convictions refined during a long career in the Air Corps. One of these convictions was his faith in low-altitude operations. These gave "more surprise, less trouble from fighters, and more bomb hits. . . . Nothing like low-altitude work to pep a gang up if the losses are not too high and the results good." He knew how and when to get along. He worked well with those he called "big men"—MacArthur and Arnold.

He also had no trouble getting along with the Navy when the combat situation demanded it. Coordination and control between the services could be worked out. "We have never," he emphasized, "had any troubles on that score in this theater that could not be and have not been solved in a conference or two."

When the war ended, General Arnold wired Kenney, "It may truthfully be said that no air commander ever did so much with so little." Gen. Douglas MacArthur put it this way: "Of all the commanders of our major Air Forces engaged in World War II, none surpassed General Kenney in those three great essentials of successful combat leadership: aggressive vision, mastery over air strategy and tactics, and the ability to exact the maximum in fighting qualities from both men and equipment."

Kenney wanted "operators" like Whitehead and Wurtsmith, but Kenney himself was the toughest of all the operators. In this age of managers and specialists, his performance in World War II and his style of command are not without their lessons for today's commanders.

All George Kenney knew how to do was win. ■

Herman S. Wolk is Chief, General Histories Branch, and Chairman, Publications Committee, Office of Air Force History. He is the author of Planning and Organizing the Postwar Air Force, 1943–1947 *(Office of Air Force History, 1984), and contributing author to* Evolution of the American Military Establishment Since World War II *(George C. Marshall Research Foundation, 1978). Mr. Wolk has written many articles for this magazine over the past twenty-five years.*

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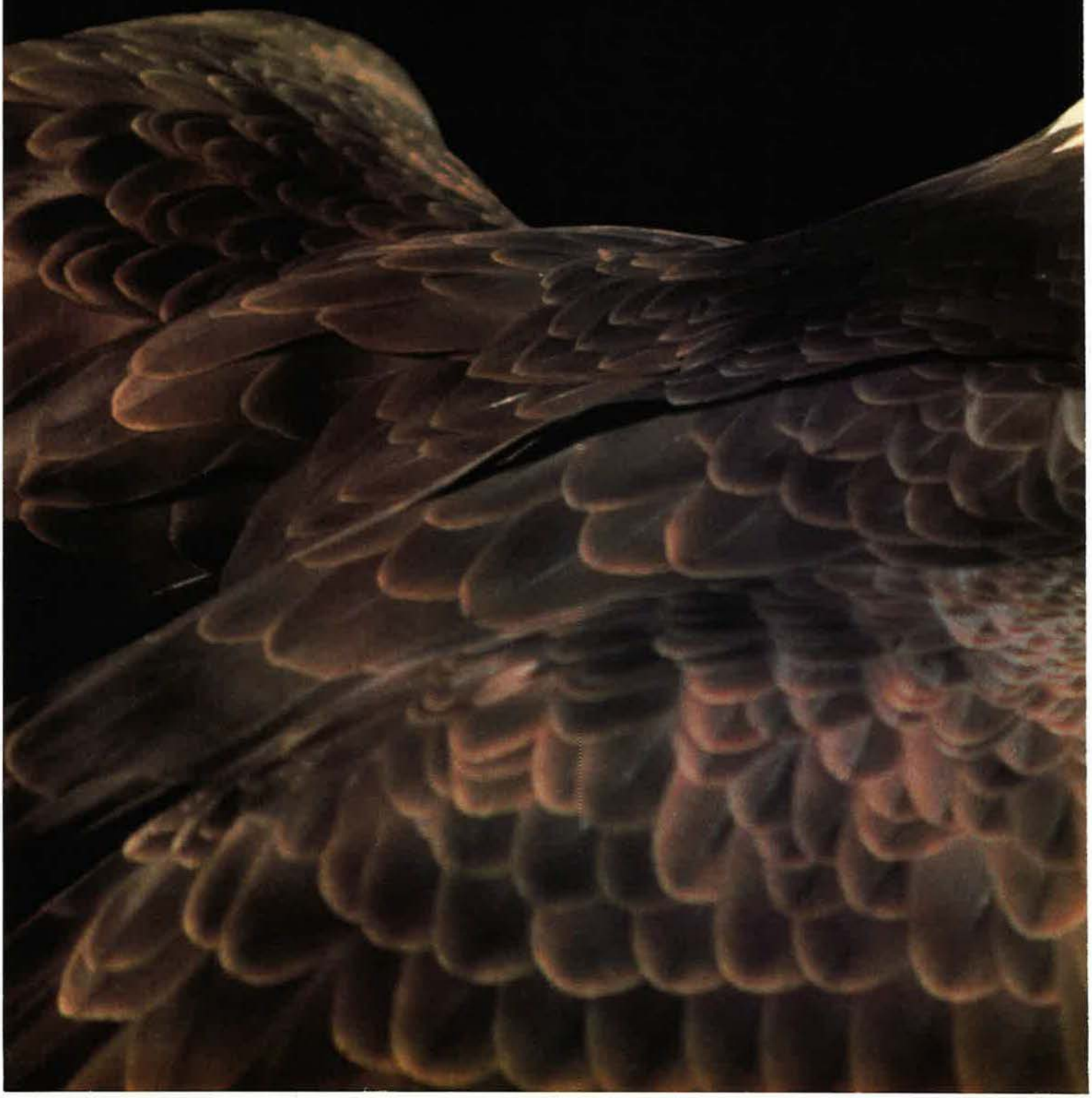



Excellence is reserved for those who aim high.

The Air Force Academy Falcons went undefeated in the '58 season, surprising the competition—and themselves.

Those Fa

BARELY out of the nest and into college competition, the Air Force Academy Falcons went undefeated during the football season of 1958. They shut out Stanford, they beat Oklahoma State, and they tied Iowa, which was No. 1 in the nation at the time.

They did it despite these obstacles:

- A cadet wing of fewer than 1,000.
- Only thirty-three players who showed up for spring practice.
- Linemen who averaged less than 200 pounds each.
- No previous big-time college football experience.
- A new coach.
- Primitive training facilities.

Now, nearly thirty years later, there is still astonishment at the feat and wonder at how it happened. Even the players themselves and the men who coached them appear hard-pressed to account for the stunning success of that 1958 season.

In August of that year, the Air Force Academy had moved from the temporary quarters that had been established at Lowry AFB in Denver to the new facilities at Colorado Springs. The first cadets had arrived in July 1955, and the school had yet to graduate its pioneering class of 207 young men.

In 1958, the 18,000-acre campus at Colorado Springs still bustled with activity as bulldozers attacked mounds of earth and rock while crews swarmed over construction sites. A dormitory and a few buildings had been completed by the time fall practice began, but what sports facilities there were at the campus were makeshift at best.

James I. Conboy, head athletic trainer since the founding of the school, recalled the humble beginning of the now elaborate sports complex. "We had no field house," he said. "No gym. No place to work out when the weather was bad. We leveled a field—where the parade ground is now—for a football field. We had no hospital. No training table. We had a twenty-five-bed dispensary. If anybody got hurt, we had to take him to Denver."

There was nothing in the past performance of the Falcons to suggest any great success in the 1958 season. In 1955, with an enrollment of 306 cadets, the school had fielded a freshman team that compiled a 4-4-0 record against other college first-year students. The Air Force coach was Col. Robert V. Whitlow.

The next year, the Academy hired a professional coach, L. T. (Buck) Shaw, who had better success playing Western State, Whittier, and Eastern New Mexico—schools without a football reputation. The Falcons finished the season 6-2-1.

The year 1957 was pretty much a disaster for the Air Force. The season opened with a crushing 47–0 defeat by UCLA in a night game. The Falcons did not score a single point against George Washington or Utah and closed out the year with a 3-6-1 record.

The Falcons had no "home" field because Falcon Stadium wasn't completed until the fall of 1962. (The first game at Falcon Stadium was played on September 22, 1962, and the Air Force beat Colorado State 34–0.) Instead, the Academy used stadiums in Pueblo, Colorado Springs, and Denver. On most out-of-town trips, only the team went along with the coaches, a few officials, and the cadet handlers of the mascot falcons that were flown at halftime. Occasionally, a party of cadets might engage a bus if the distance to the game was not too great.

The Year of the Falcon

The Year of the Falcon began in March 1958 with the hiring of Ben S. Martin as head football coach. The thirty-five-year-old Naval Academy graduate had come from the head coaching job at the University of Virginia to assemble a staff composed entirely of Air Force officers, including a young lieutenant named Franklin "Pepper" Rodgers (head coach at Georgia Tech 1974–79). At that time, Martin's budget didn't allow any civilians to be hired.

"I didn't look for football players to make into athletes, but athletes to make into football players," Coach Martin said. "The physical requirements of the Air Force Academy were such that I knew the material was there. Also, I knew I had intelligent athletes, so I could emphasize the mental aspects, could have the flexibility, and take tactical advantage of a situation.

"We developed a multifunctional team. We did not use code for our plays. If it was a slant off tackle, we called it a slant off tackle. Sometimes we made up plays as we went along. If we saw an opponent out of position, we'd call a play to take advantage of that."

Coach Martin, who is now retired in Colorado Springs after twenty years as head coach of the Falcons, maintains close ties to the Academy and its athletic department. While he pursues several business ventures, he also serves as a color com-

bulous Falcons of Fifty-Eight

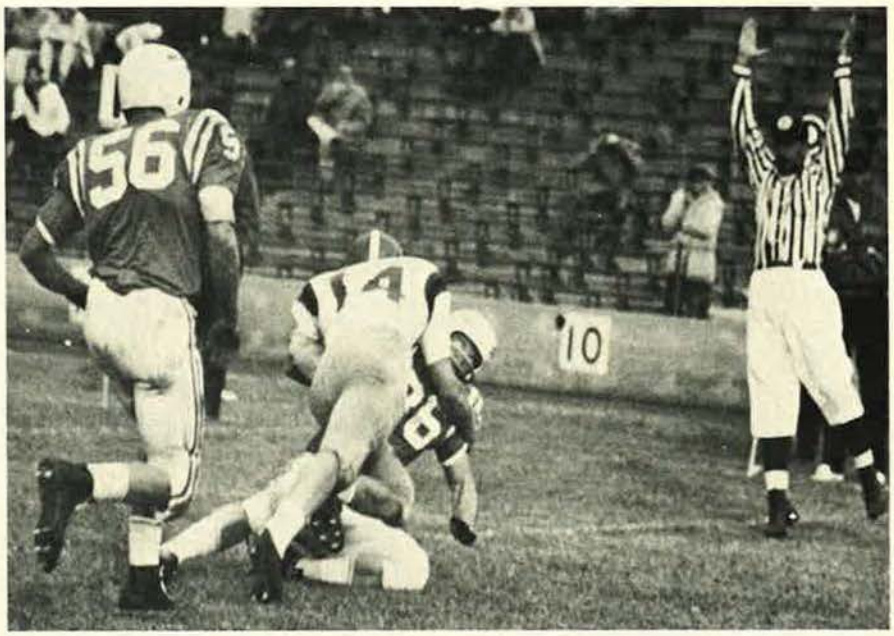
BY JAMES R. PATTERSON

Photos courtesy of the Air Force Academy

The Academy's undefeated 1958 football team included (from left) FRONT ROW: John Kuenzel, Tom Jozwiak, John Gulledge, linebacker Howard Bronson, right tackle Brock Strom (the team captain), fullback Steve Galios, right guard Charles Zaleski, Dave Phillips, and left end Charles Rodgers. SECOND ROW: Mike Rawlins, halfback Mike Quinlan, halfback Phil Lane, quarterback Rich Mayo, George Pupich, George Clark, left end Bob Brickey, and Jim Kerr. THIRD ROW: quarterback Eddie Rosane, Larry Thomson, center Charles Moores, Chris Warack, Don Madonna, Bill McLain, Charlie May, Dan Johnson, and Monte Moorberg. FOURTH ROW: Jay Mitchell, Charles Waterman, Giles Wideman, Emil Cwach, Neal Rountree, offensive guard Randy Cubero, Charles McCain, Bob Wagner, Tom Walker, and Sam Hardage.

mentator for the radio network that covers Air Force Academy football games.

The 1958 season opened September 26 with a night game before a packed stadium at the University of Detroit. Detroit, which had been building to compete with Notre Dame, had a solid team, but the Air Force dominated from the kickoff. The game was highlighted by Mike Rawlins's seventy-yard run from scrimmage, which remained a school record for several years. The final score was 37–6 in favor of the Falcons.



Game No. 7 on November 8 was a squeaker, with the Academy edging the University of Denver 10–7. Here Steve Galios scores the Falcons' touchdown as Charles Moores, the Air Force center, arrives just too late to get in the play.

Dr. James R. (Rich) Mayo recalls the Detroit engagement chiefly as his introduction to college football. A psychiatrist now in practice in Houston, the then nineteen-year-old sophomore who later became the Falcon's No. 1 quarterback said butterflies filled his stomach before the game.

"I remember Pepper Rodgers calming me down," Dr. Mayo said. "He told me he had also come from a small town and knew just how I felt."

National Spotlight

The Iowa game the next Saturday catapulted the Air Force into the national spotlight. Iowa was rated by the pollsters No. 1 in the nation and would later go on to win the Big Ten conference title as well as beat California 38–12 in the Rose Bowl. The Falcons weren't given a chance by sportswriters who considered the contest to be just a warm-up game for the Hawkeyes.

It was a warm-up all right, with a blistering sun beating down on Iowa's Kinnick Stadium. The crowd of 48,325 Hawkeye supporters filled the stands and had little doubt about the outcome.

But Iowa was in for an unhappy surprise. Despite the size of the Hawkeyes—particularly the huge linemen—the faster, quicker Falcons drove down for an early score on a pass to George Pupich. The Air Force scored again before Iowa managed a touchdown, but the Falcons beat back repeated threats before late in the game when the Hawkeyes engineered their second touchdown.

If the point after the Iowa touchdown had been good, the Hawkeyes would have gone ahead 14–13. But it was blocked, and this saved the tie for the Falcons.

Brock Strom, the Academy's captain, right tackle, and biggest man on the team at 217 pounds, remembers how it happened:

"Charlie Zaleski, a right guard, and I got together to make a hole for little Howie Bronson, a linebacker, to slip through. Howie was only five feet ten inches and weighed 185 pounds. He ran straight through. Nobody touched him."

Mr. Strom, who lives in Leawood, Kan. (a suburb of Kansas City), and works for the Burlington Northern railroad, remembers the emotional lift the Falcons received during the game by the late arrival of two busloads of cadets who had been delayed by mechanical trouble on their way from Colorado Springs. The crowd gave them a hearty reception as they formed up and marched to their seats.

Col. Reuben (Randy) Cubero's most vivid memory of the Iowa game was his David-and-Goliath mismatch with Mac Lewis, a 315-pound All-American Hawkeye guard. Cubero, now a professor at the Academy, was the smallest man on the team at five feet ten inches and only 167 pounds. He played guard on offense. In those days, footballers went both ways playing offense and defense. Lined up as a linebacker when Iowa had the ball, the nineteen-year-old sophomore from Little Neck, N. Y., had "two chances to be a hero" that day.

"The Iowa quarterback threw a pass," he related, "that bounced off my chest. Then he came right back with the same play, and I fumbled it again. I was just too anxious to run with the ball before catching it."

Cubero said the Air Force tie at Iowa "gave us tremendous confidence." Coach Martin credited the game with launching the Academy from obscurity to national attention. "Before Iowa, the sportswriters didn't know there was an Air Force Academy or where it was located," said Coach Martin.

The First Home Game

Colorado State was next on the Falcon schedule, the first home game of the season played in the University of Denver stadium on October 11. It was pretty much of a breather for the Air Force. The cadets won easily by a score of 36–6.

On October 18, the Falcons met Stanford University, a West Coast powerhouse. The Academy had scouted the Stanford team thoroughly, utilizing active-duty personnel based in the California area. The Indians (as they were then known) depended primarily on a passing attack. When the fleet-footed Falcons

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shut down their aerial offense, Stanford crumbled. The Air Force won 16–0.

The University of Utah came next, again a home game played at the University of Denver. The ball was airborne much of the afternoon as Lee Grosscup, Utah's All-American quarterback, traded strikes with Rich Mayo and John Kuenzel for the Falcons. The duel ended when Bob Brickey, Air Force's left end, broke through to throw Grosscup for a loss just as Utah was driving for a touchdown. The score: Air Force 16, Utah 14.

Oklahoma State proved the Falcons were for real. The Cowboys, Big Eight contenders, would later tie the University of Oklahoma and boasted one of the strongest running games in the country. They met the Air Force on a dreary, overcast afternoon November 1 in Stillwater. It was the homecoming game for the Cowboys, with 31,000 on hand for the event, including an impressive delegation of Air Force brass becoming excited about the amazing Falcons.

Michael J. Quinlan, now a retired colonel living in Monument, Colo., still hears the thunder of the Oklahoma fans stomping their feet in the iron stands of the Cowboy stadium. A halfback and the fastest man on the team (he ran the 100-yard dash in 9.9 seconds), Mike Quinlan recalls that the seesaw scoring in the contest earned the Falcons the nickname of the "Cardiac Kids."

"The first quarter, Oklahoma State went ahead 7–0," said the former associate director of athletics at the Academy. "Then the Falcons came back to score two touchdowns and kick a field goal, so OSU led 18–15 at the half.

"In the third quarter, the Cowboys jumped ahead with a touchdown and a two-pointer, while the Falcons didn't score. It looked hopeless when Oklahoma scored another three points late in the fourth quarter to make it 29–18.

"Then Rich Mayo got hot. Starting on our twenty-yard line, we marched down the field, mostly with pass plays. Rich then threw a long one to Charley Rodgers, the left end, that bounced off of Charley and was caught by Phil Lane, a halfback standing on the two-yard line. Phil, tackled on the spot, did a one-and-a-half somersault across the goal line."

The Air Force kicked the point after with a little more than four minutes to play. The crowd was on its feet roaring for the Cowboys to hold on to the ball. The Falcons dug in, finally stopping them on the Air Force thirty-yard line.

"Rich completed seven passes in the last minute of the game," Mike Quinlan said, referring to a newspaper clipping about the contest. "We went seventy-two yards in seventeen plays. Twice Rich passed on fourth down. With only nine seconds left on the clock, he threw a fourteen-yard pass to Bob Brickey to win the game 33–29."

In the locker room, there were bear hugs and laughter and dancing in the showers. Generals Curtis LeMay and Rosy O'Donnell led the cheers and the back-slapping.

Heading for a Bowl

The Falcons were headed for a bowl game.

Against the University of Denver the following week came a letdown. The Air Force was listless, but their kicking game saved them. Final score: Academy 10, Denver 7.

The University of Wyoming (the site of the game was Colorado College's Washburn Field in Colorado Springs) gave the Academy little trouble on November 15. At the end of the afternoon, the scoreboard read Air Force Academy 21, Visitors 6.

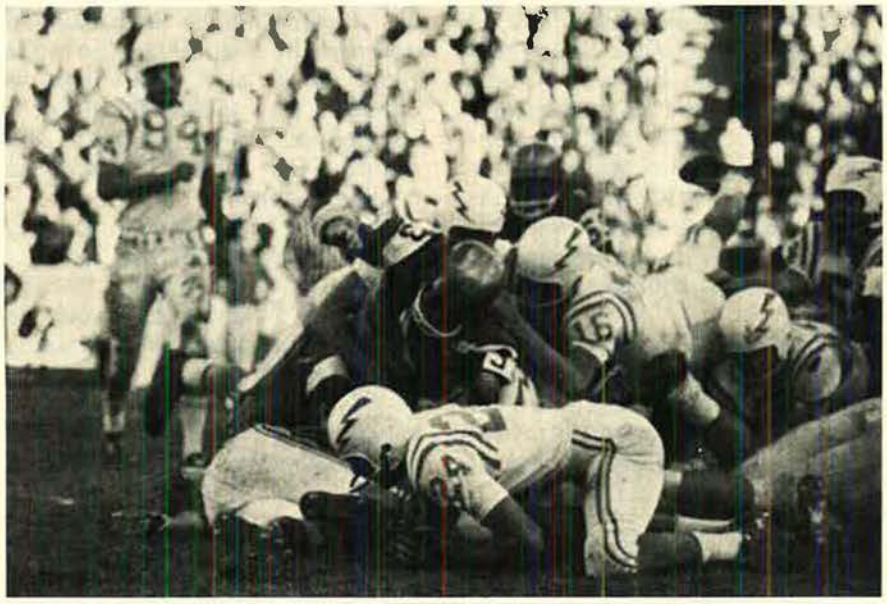
The University of New Mexico had even worse luck. The Lobos concentrated on stopping the aerial attack of the Air Force, but this tactic only turned on the Falcons' running game. Halfbacks Phil Lane and Mike Quinlan and fullback Steve Galios ran up and down the field for long yardage. New Mexico was routed 45–7.

The University of Colorado game on November 29 was something else. There is general agreement that the Air Force was outplayed that day and should have lost the game. Jim Conboy said the massive Buffaloes, led by quarterback Boyd Dowler, were clearly superior in everything but defense. Randy Cubero estimated that Colorado outgained the Falcons 500 yards to 200.

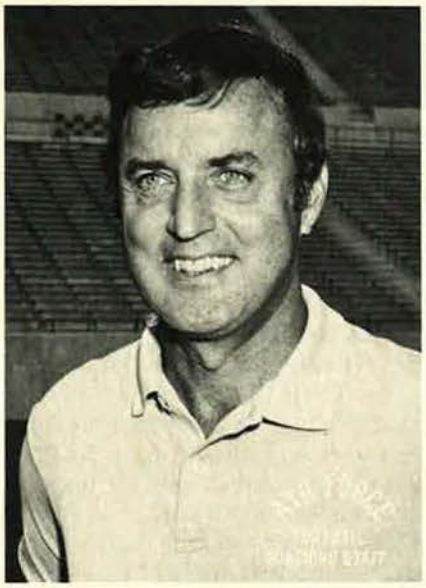
"We were lucky to pull it out," he said, "but we made a great goal-line stand. The Buffaloes were on our five-yard line when the final whistle blew." The final score was 20–14.

The invitation to the Cotton Bowl did not depend on beating Colorado, but a defeat would have tainted the credentials of the Air Force to meet the Southwestern Conference champions. Besides winning the conference, Texas Christian University had also gone undefeated and was rated as having the best defense in the nation.

The afternoon of New Year's Eve,



Everyone agreed that the Academy was outplayed on November 29 in the game at Boulder, but nonetheless the Academy beat the University of Colorado 20–14. Here Eddie Rosane tries a quarterback sneak. George Pupich (No. 24) is the man in the foreground.



Ben S. Martin became Falcon head coach in March 1958 and would remain at the Academy for the next twenty years.

the Falcons donned sweatsuits to limber up on a Dallas high school football field, but ran no plays.

"They were sky-high," Coach Martin said of his charges. "I just wanted them to try to relax, take it easy, and have fun. We entertained them with a touch football game by the coaching staff. I was the captain of the 'Ring Knockers' and Pepper Rodgers was the captain of the 'ROTC'ers.' Pepper said later that I originated the 'I' formation—I run, I pass, I kick, I win."

That night, snow fell in Dallas, but the cold, bleak weather had no effect on the size of the throng that filled the Cotton Bowl. Air Force partisans arrived in two special trains from Colorado, and blue-suiters rallied in from the many air bases in Texas. In addition, millions more would watch the match on network television, as the Falcons enjoyed their first national exposure.

An Afternoon of Frustration

The game itself was something of an anticlimax, ending in a scoreless tie. It was an afternoon of frustration for the Air Force, plagued by fumbles and missed opportunities.

"We were moving the ball," Mike Quinlan remembers, "when Rich Mayo got knocked out. Eddie Rosane came in to replace him as quarterback. He had to come in cold. No time to warm up. [At one point] I was standing alone in the end zone, and he missed me."

Ben Martin claimed that a touchdown pass was called back because of an illegal procedure, but films later showed that there had been no violation.

"We tried three field goals," he said, "all well within our range. Two of them were inside their twenty-yard line but at a tough angle. TCU attempted two, but they were out of range, and the ball fell short."

Although the Horned Frogs had trouble advancing the ball beyond midfield, they maintained their reputation for being well-nigh immovable on defense. Several of the TCU linemen later went on to the pros. Chief among them was Bob Lilly, then a sophomore, who would subsequently star for the Dallas Cowboys.

"God, is that boy tough!" Brock Strom, who played opposite Lilly, told a teammate during the game. But Strom's performance that afternoon capped a career that led to his being named an All-American and later to the National Football Foundation's College Football Hall of Fame.

Randy Cubero also had his best day. Playing middle linebacker on defense, he would tap the nose guard on the side he intended to charge. The tactic frequently stopped the six-foot two-inch, 240-pound TCU fullback before he could get started.

"In 1970, I was going to gunnery school for OV-10 forward air controllers," Cubero recalls. "I happened into a bar, and here was this big guy with pilot's wings talking about the Cotton Bowl. Turned out he was Max Pierce, the TCU fullback. When I told him I was the little linebacker who had played against him that day, he whooped, picked me up, and paraded around the bar with me on his shoulder."

Cubero said Pierce had gone into the Air Force through ROTC, and since their meeting, they had become "great friends."

Jim Conboy, whose continued service as head trainer at the Academy has made him a sort of godfather to the 1958 team, contends its members have stayed closer together than any of the others of later years. The veterans of '58 hold periodic reunions, and many of them keep in regular touch with each other.

The Formula Remains a Mystery

As to the precise mixture of talent, motivation, and coaching that combined to produce the remarkable undefeated season for the Air Force, the formula remains a mystery. Certainly, many psychological and physical factors were involved.

"I can't account for it," psychiatrist Rich Mayo said. "There is no logical way to account for what happened that year. The odds were too great. It was absolutely a miracle.

"There were certain ingredients—a lot of courage, dedication, selflessness, and discipline. But it couldn't happen again in a thousand years."

Brock Strom and Mike Quinlan point to the excellent physical condition of the Falcons and their quickness and speed. Jim Conboy notes the team went through the season without any serious injuries. Randy Cubero credits the coaching.

"I think the arrival of Ben Martin as coach that year was the single biggest factor," Cubero said. "The team instantly fell in love with him. He was dynamic and innovative and brought an uplifting feeling to us all."

Martin modestly minimizes his contribution.

"They played with great dedication and emotion," he said. "My mission was to help them to their goal to do something memorable, which they surely did.

"Our undefeated season was a rarity—and that before a school had graduated its first class. I played at Annapolis, where I was a 1946 graduate. The Middies played football for almost a hundred years before they had an undefeated team." ■

James R. Patterson is a free-lance author now living in Colorado Springs, Colo. Mr. Patterson worked eighteen years as a reporter for the Kansas City Star. *During World War II, he flew C-46s and C-47s in the China-Burma-India theater, and during the Korean conflict, he was recalled for what he terms "hardship" duty in London. He subsequently took a job with United Aircraft International (later United Technologies Corp.), working in the company's London and Washington offices for eighteen years. He is a retired Air Force Reserve lieutenant colonel.*

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Mission to Norway

Over the North Sea, all four engines of Lt. Rockford Griffith's B-24 quit, but the worst still lay ahead.

BY JOHN L. FRISBEE
CONTRIBUTING EDITOR

On November 18, 1943, the Eighth Air Force made one of its few visits of World War II to Norway. The target was Oslo-Kjeller airfield, where the Luftwaffe overhauled many of its aircraft. No fighter opposition was expected, but this wasn't exactly a milk run. From the 44th Bomb Group's base at Shipham in East Anglia to Oslo was about 650 miles—200 miles farther than Berlin—with most of the route over the cold, inhospitable waters of the North Sea.

Bad weather made takeoff and form-up something less than a textbook operation. Last off the runway was Lt. Rockford C. Griffith and his B-24J Liberator crew. It was their first combat mission. Griffith had to do some serious throttle bending to catch up with the bomber stream. Fuel might be a problem before the day was out.

The formation reached its target without incident, bombed from 12,000 feet, and headed for home. As they flew south along Oslofjorden, it became obvious to Griffith that fuel *was* a problem. He pulled out of formation to set up his automatic pilot in order to save gas.

Then, off the southern tip of Norway, the unexpected happened. Luftwaffe fighters hit the stream—fifteen Bf-109s and Ju-88s concentrating on the straggler, damaging three of Griffith's engines, tearing up one wing and rudder, and seriously wounding the belly gunner, Sgt. Bill Kuban.

Griffith pushed over in a dive for a cloud bank at about 5,000 feet, taking all the evasive action the damaged bomber would allow. At one point, the controls momentarily locked. It looked as though the war was over for Lieutenant Griffith and his crew. But they had done something to even the score. Tail gunner Sgt. Forrest Clark shot down one fighter before the battered B-24 reached cloud cover. The radios, covered with gasoline, were shut off, and the ten-man crew was out of touch with the world.

As soon as he thought it safe to leave the clouds, Griffith nosed down to 3,000 feet, in the clear. While the crew threw out all unnecessary equipment, he and copilot Lt. L. G. Grone battled to keep the limping Liberator in the air. Three of the four engines were cutting out intermittently, and once all four quit simultaneously over icy water and 300 miles from a friendly shore. Then the good engine caught again, and the other three resumed their in-and-out performance. Three hours after the fighter attack and with the fuel gauges flickering, Griffith and the crew sighted the coast of England. Fifteen more minutes and they'd be rolling down the runway at Shipham.

Approaching the field, Griffith called for gear-down, but only one wheel dropped. It would have to be "gear-up" and belly in on the sod. But when flight engineer Sgt. E. J. Parrish tried to raise the wheel, he found it was stuck in the "down" position.

Then-Col. Leon W. Johnson (left), at that time group commander, with Lt. Rockford C. Griffith.

Forrest Clark later described Rockford Griffith as a calm, steady man, a strong leader who did not panic under stress. In the next few seconds, Griffith displayed those characteristics. Since the wounded gunner could not use a parachute, Griffith would have to attempt a landing on one wheel with a damaged rudder and flaps and the only good engine running virtually on fumes.

At the same time, Griffith would not risk the entire crew against those odds. He ordered everyone to bail out except copilot Grone and Sergeant Kuban. Griffith and Grone then put the big bomber down gently on one wheel and held it there until a wing dropped and the Liberator slid to a stop in a cloud of smoke and dust. Before it was hauled to the boneyard, two unexploded 20-mm shells were found in the good engine.

A combination of skill, courage, and luck brought Lt. Rockford Griffith and his crew back from their first mission and earned him a Silver Star. Skill and courage were the constants in that formula. The variable was fickle Lady Luck.

Nineteen missions later, she was, at best, inattentive. With failing engines and not enough fuel to make it to England, Rocky Griffith landed his Liberator in Switzerland, saving the crew from probable capture or worse. That wasn't a bad day's work, either.

Rockford Griffith was nominated for inclusion in the "Valor" series by Forrest Clark and the other members of Lieutenant (now retired Major) Griffith's crew.

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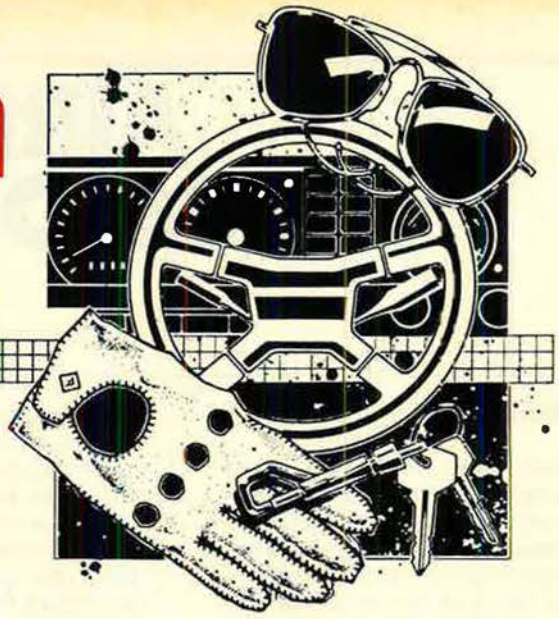

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AIRMAN'S BOOKSHELF

Six Books in One

From Huffman Prairie to the Moon: The History of Wright-Patterson Air Force Base, by Lois E. Walker and Shelby E. Wickam. Published by and available from the Office of History, 2750th Air Base Wing, Wright-Patterson AFB, Ohio 45433, 1987. 496 pages. $28.50. (Available also from the Superintendent of Documents, US GPO, Washington, D. C. 20402.)

Those folks at Wright-Patterson really know how to celebrate a fortieth anniversary—especially when it coincides with the seventieth anniversary of the plot of land out in Ohio that grew up to become Wright-Patterson.

From Huffman Prairie to the Moon does the job with style—and bulk. It's a half dozen books rolled into one. It's a history of Huffman Prairie (where Orville and Wilbur Wright perfected their Flyer and where Hap Arnold learned to fly). It's a history of Wilbur Wright Field, a key facility in World War I. It's a history of Fairfield Air Depot, source of logistics and maintenance for the Air Service in the 1920s and 1930s. It's a history of McCook Field, known as the "Cradle of Military Aviation Development." It's a history of Wright Field, a new name for the center of the burgeoning business of materiel and materials in the years before and through World War II. It's a history of Patterson Field, a splitoff from the old Wright Field and site of noble achievements in logistics during World War II. And, finally, it's a history—*the* history—of Wright-Patterson AFB, as the combined facilities have been known since 1948.

The first part of this book leaps its regional boundaries and gives us a definitive history of the early years of military aviation. But the focus is on the events in Ohio. Sometimes the amount of detail is staggering, as for instance when we are told that on July 27, 1909 (at Fort Myer, in a resumption of the flight tests that had killed Thomas Selfridge the previous September), Orville, with Lt. Frank P. Lahm aboard, flew "for 1 hour, 12 minutes, and 37⅘ seconds," thereby exceeding the Army standard and setting a new world record.

The volume is filled with enchanting sidelight material. Speaking of the new telephone system, in mid-1918 at Wilbur Wright Field, we are told that 229 instruments were available and that calls averaged 5,200 a day. This was fortunate for the success of the cross-country flying program since "a fairly common occurrence was a call from a chagrined pilot on his first cross-country flight who had gotten lost and run out of gas" and had had to land somewhere in the countryside.

The book bristles with boxes and leaps to life with pictures—many of them treasures from out of the past and not at all the usual collection of through-the-years photos that we've all seen time and again in Air Force histories. Not only are the photos rare and wonderful, but they're meticulously captioned; it's refreshing to find captions that are not just labels but that tell a little story, each one of them.

Some of these are gems, as for instance the photo on p. 172 showing a—frankly—not-very-interesting mechanism, but the caption makes all the difference: "Special tower constructed to test aircraft ejection seats. Sgt. Lawrence Lambert of Wright Field became the first person in the United States to exit an airplane in flight by means of an ejection seat on August 17, 1946." A well-deserved measure of fame for Sgt. Lawrence Lambert!

The boxes are wonders, too, in their way. They cover everything from biographical details of such luminaries as Billy Mitchell, Mason Patrick, Erik Nelson, the McCook family, and Benjamin D. Foulois to such topical curiosities as "The Gerhardt Cycleplane" (p. 189), "Transoceanic Pioneers" (p. 207), "Wright Field Insignia" (p. 213), and "The WASPs" (p. 255). Boxes also conveniently list the various commanders through the generations—McCook Field, 1917–27, for example, on p. 98, Wright Field, 1927–45, on p. 149, etc. The book, in short, is both a narrative history and an almanac of military aviation, and it is superbly crafted in both of these respects.

This is, of course, the kind of undertaking that is already out of date on the day after the historians cease their efforts simply so that the result can be shepherded through the printing presses and bindery in order to have the book published at all. Thus, the latest events covered in this 1987 volume seem to be mid-1984, which is a longish leadtime but certainly forgivable in terms of the product that results.

From Huffman Prairie to the Moon is a catalog of the great names of the Air Service, the Army Air Forces, and the United States Air Force. They're all here—Jimmy Doolittle, Hap Arnold, George Kenney, "Tooey" Spaatz. They're all here because in the 1920s, the 1930s, the 1940s, and beyond, *everyone* who made any kind of contribution to military aviation left his footprints at Wright-Patterson or one of its predecessors.

Trivia buffs will rejoice on finding such unsolicited nuggets as that contained in one of the footnotes on p. 191, where we are told that Maj. Rudolph "Shorty" Schroeder (who set an altitude record of 33,113 feet on February 27, 1920, over McCook in an open-cockpit LePere biplane) was "nicknamed 'Shorty' because of his stature, 6 ft 4 in and 155 lbs."

How the preflight checklist came to be is another fascinating story from Wright Field's past. The Boeing Model 299 (predecessor of the B-17) was being flight-tested there on October 30, 1935. It took off, lifted smoothly, and began to climb when suddenly it stalled, turned on one wing, plunged to earth, and burst into flames.

The pilot, Maj. Ployer P. Hill (for whom Hill AFB now is named), died; others aboard escaped. Investigation of the wreckage showed that no one had remembered to disengage the mechanism that locked the elevators and rudders while the aircraft was parked.

"Ironically, it was this locking of elevators . . . that was considered to be one of the best innovations of the Model 299. In fact, the horizontal tail surfaces . . . were so large that 'if

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AIRMAN'S BOOKSHELF

. . . not secured . . . a strong wind could damage them.' "

In the aftermath, the preflight checklist became a standard operating procedure.

How tidy things were in the years right after World War I. The Army Air Service classified all aircraft—both domestic and foreign—into five main categories: pursuit, attack, bombardment, observation, and training. These categories were further divided into fifteen types, and here the nomenclature is marvelous: "Single-seat Pursuit—Water-cooled engine" (PW for short), "Two or Multi-seat Night Bombardment—Short distance" (NBS for short), or "Two or Multi-seat Army and Coast Artillery Observation and Surveillance" (or AO).

From that list, the Barling bomber, for instance, got its XNBL-1 designation (for "Multi-seat Night Bombardment—Long distance"). Unfortunately, the Barling never quite lived up to its exalted billing. It was, we are told, the dream of Billy Mitchell himself, who recruited British aircraft designer Walter J. Barling, Jr., to "design and build an airplane of sufficient size to carry enough bombs to sink a battleship during a sustained attack." The result was a 42,000-pound triplane with 120-foot wingspan and fuselage length of sixty-five feet. It stood twenty-eight feet high and dwarfed the Air Service's other planes of 1923.

Though it did set a record on October 27 of that year, carrying a "useful load" of 3,000 kg (6,613.86 lb) to an altitude of 1,629 meters (5,344 ft) and flight duration of one hour, nineteen minutes, and 11.8 seconds, the Barling was seriously underpowered and unable, for example, to cross the Appalachian Mountains. But it was a necessary and useful step as the fledgling service inched toward the B-17s and B-29s of the next generation.

A couple of statistics here tell us something more about the Barling: Its wing area of 4,017 square feet was seventeen square feet *more* than that of the B-52D. Of course, we must keep in mind that the Barling had *three* wings (two and a half, actually, since the middle one was shorter and narrower than the other two and had no control surfaces). But, on the other hand, the Barling's top speed was 95.5 mph, against the B-52's 600 mph.

We have heard much in recent weeks about "misleading" Congress. The Barling, in its aftermath, and Hap Arnold, a few years before his heyday, furnish this incident: "In 1927, the [Barling bomber] was dismantled and stored at Fairfield Air Depot. Shortly after Maj. Henry H. Arnold became Depot Commander in 1929, he submitted a Report of Survey to the Office of the Chief of the Air Corps, seeking permission to salvage parts of the bomber and to burn the rest. Because of residual congressional interest in the airplane, permission was denied. Undaunted, Major Arnold then submitted a similar Report of Survey on the 'XNBL-1'—carefully omitting a reference to the Barling bomber by name. Higher headquarters approved this request, and the machine was destroyed in 1930."

Readers should, by now, have the impression that this is an important and valuable book, as Wright-Patterson itself is an important and valuable place. The book gives us this summary of what's there today and how it got that way:

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installations. It is the headquarters for a vast, worldwide logistics system and is a major research and development center for the United States Air Force. More than eighty-five organizations, representing several different Air Force commands and a host of Department of Defense organizations, are located at Wright-Patterson.

"By many measures, Wright-Patterson is the largest, most diverse, and organizationally complex base in the Air Force. Civilian visitors compare the base to a large industrial park with city-like characteristics. And the base is steeped in tradition. It has been a leader in military aviation development from the open-cockpit era of the Wright brothers to today's aerospace age."

This history of Wright-Patterson is impressive in bulk, in content, and in the accuracy of the presentation. It will be a distinguished addition to any airman's bookshelf. Fully indexed and lavishly cross-referenced, the book makes it easy and convenient for readers to trace events or individuals or aircraft through the various sections. The large format is attractive, and many of the photographs are in full color. It's a great way to help celebrate the fortieth anniversary.

—Reviewed by Richard M. Skinner, Managing Editor.

Execution Awry

Aces Over the Oceans—The Great Pilots of World War II, by Edward H. Sims. Foreword by Col. Francis Gabreski, USAF (Ret.). Aero Books, Blue Ridge Summit, Pa., 1987. 181 pages with illustrations. $14.95.

Aces Over the Oceans is a unique idea. The book does not look at the whole careers of such famous aces as Erich Hartmann, Ira Kepford, Sir Douglas Bader, or Gerhard Barkhorn, but rather concentrates on single memorable missions that took place over water.

The twelve missions spotlighted in this book are also interesting because the pilots (some of whom are rather obscure, such as British Lt. John Godley) are caught in positions that don't quite hold up to the traditional ace "image"—being shot down, crashing into the sea, or barely making it back to base in a crippled plane.

While the underlying concept of *Aces Over the Oceans* is unique, the execution of that idea goes awry. Author Edward Sims, whose previous efforts are highly regarded, frequently violates one of the cardinal rules of journalism—use of the word "I." Mr. Sims is to be admired for the true friendships he has cultivated with these famous pilots, but by the end of the book, this chumminess becomes annoying.

Also irritating is the almost constant use of the exclamation mark in the narrative, especially in passages where it is not needed. "Etc." is also used entirely too much in entirely too many sections of the chapters. Lack of consistency in such things as aircraft and unit designations (Mr. Sims describes the famous Messerschmitt

AIRMAN'S BOOKSHELF

product as ME 109, but its trimotor transport cousin is listed as Ju 52) also slows down the reader's flow.

A curious style irregularity is that some of the mission stories are enhanced by the use of direct quotations (such as Gerhard Barkhorn's), while others (like Joe Foss's) are described almost totally in the author's words. This unevenness is somewhat surprising, too, since Mr. Sims had apparently talked to all of these pilots.

After some stage-setting (and editorializing), Mr. Sims finally gets around to the actual missions. Here the chapters shine. Descriptions of flights like "Percy" Gick's story of flying an obsolete Fairey Swordfish torpedo bomber against the German battleship *Bismarck* are truly notable.

At the end of some of the chapters, Mr. Sims describes what these aces did after the war or are doing now. Unfortunately, he also gets bogged down in trivial matters, such as what the pilots were wearing when they met the author at the train station.

It is clearly evident that Mr. Sims did quite a lot of research to write this book. Parts of the chapters that actually describe the missions are a valuable historical record, especially since some of these aces have since passed away.

It is a shame, though, that the end product is overshadowed by the sum total of this book's missteps.

—Reviewed by Jeffrey P. Rhodes, Aeronautics Editor.

New Books in Brief

Jane's Aviation Review, edited by Michael J. H. Taylor. The sixth edition of this annual review points to progress on the next generation of tactical fighter aircraft and the advent of scimitar-blade fan engines for airliners as two of the most significant aerospace developments of the past year. The contributors variously examine such topics as the Nimrod cancellation, exploration of transatmospheric vehicle concepts, air transport in China, and the continuing success of the Airbus consortium. In addition to the customary (and valuable) yearly chronology, this year's edition also includes a survey of USAF test centers. As always, *Jane's Aviation Review* sums up the year in aerospace with insight and a salutary dose of opinion and comment. With photos. Jane's Publishing Inc., New York, N. Y., 1987. 168 pages. $16.95.

The Organization and Lineage of the United States Air Force, by Charles A. Ravenstein. If, as Thomas Carlyle wrote, the present is the living sum total of the past, then in this slim guide to the evolution and organization of this nation's military air arm is—in a structural sense—the "whole" of the United States Air Force. The reader will find detailed here the official hierarchy of Air Force composition from the birth of the Aeronautical Division of the Signal Corps in 1907 up to the present day. The lineage of major commands, separate operating agencies, direct reporting units, and numbered air forces is traced from the establishment of the individual organization to 1983, and the book concludes with a presentation of the current organizational structure. A special feature is a four-color section depicting the official emblems of major USAF organizations. This publication by the Office of Air Force History is part of the Project Warrior Studies series. With glossary and index. Available from the Superintendent of Documents, US GPO, Washington, D. C., 1986. 77 pages. $7.50. ■

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AFA INTERCOM

By Robin Whittle, AFA DIRECTOR OF COMMUNICATIONS

Southrey Chapter Helps Sponsor Anniversary Bash

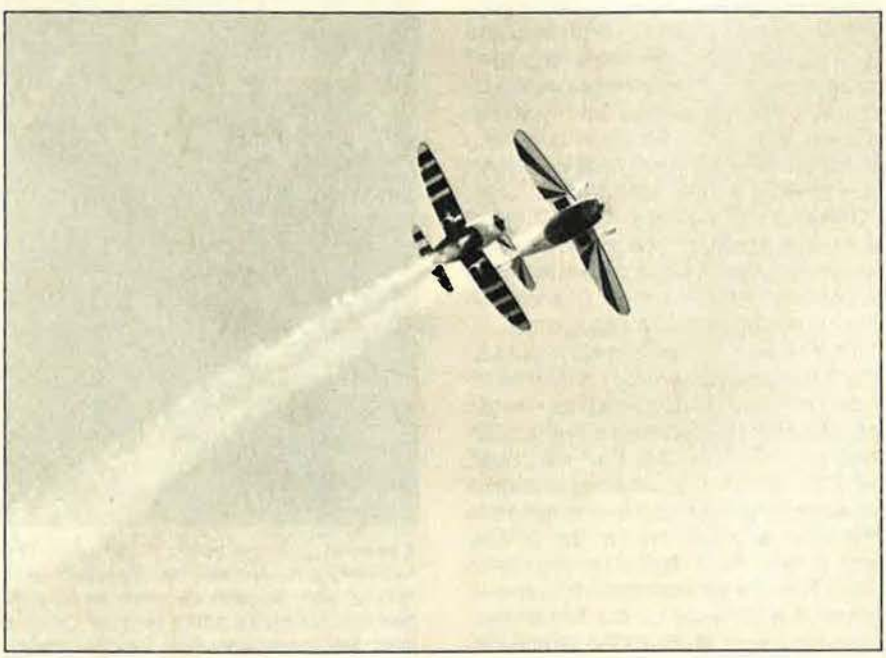
A year of planning, organizing, fund-raising, and some fretting produced a three-day anniversary bash in June that lived up to its billing as "the greatest two days in aviation history in Western Massachusetts."

It all started to jell when Dave Cummock took the reins of AFA's Maj. John S. Southrey Chapter in Westfield, Mass. He had been working on plans for the fortieth anniversary celebration of the 104th Tactical Fighter Group while serving as the 104th TFG Commander prior to his retirement last September. It was a good project for AFA's Southrey Chapter, he figured, and once he was elected Chapter President, he convinced the Chapter to take it on. In fact, the entire community became involved, which enabled Chapter officials to raise $37,000 in the first six months of this year to help fund the many events that occurred June 12–14.

"We had excellent cooperation from the city government, the Chamber of Commerce, local service clubs, and the Pioneer Valley business executives throughout the project," Mr. Cummock said.

Chapter officials devised a fund-raising plan that brought results. Companies and organizations that donated enough to become "Major Corporate Sponsors" were given space for a full-page color ad in the 144-page leather-bound unit history and received a complimentary copy of the book, which was published by the Fortieth Anniversary Committee chaired by Mr. Cummock. They also received a full-page ad in the souvenir program guide for the three-day event, tickets to gala social events, VIP parking, use of a hospitality room, listing as a corporate sponsor in all major ads, and display space for products.

"Patron Sponsors" were accorded the same visibility except for the product display space and the listings in all major ads. The Committee also sold ad space by the half page and quarter page. The remaining funding



The Maj. John S. Southrey Chapter in Massachusetts pulled out all the stops in helping to sponsor the fortieth anniversary celebration for the 104th Tactical Fighter Group. Southrey Chapter President Dave Cummock (left) spearheaded the anniversary effort, which included a two-day air show that featured performances by the French Connection, an aerial ballet team, among others (below).

category, "Contributor," enabled purchasers to have their names printed in the unit history book and in the souvenir program.

"Some of our sponsors were aerospace companies, but the vast majority of funds came from local concerns," Mr. Cummock said. Funds were used to support a full schedule of activities.

The 104th TFG's anniversary gala included a reception and dinner dance on the evening of June 12. The featured speaker that evening was Vietnam ace Col. R. Steve Ritchie, USAFR. With Colonel Ritchie are Maj. Gen. Henry Canterbury, left, Vice Commander of Ninth Air Force at Shaw AFB, S. C., and Lt. Col. Alan T. Reid, right, 104th Tactical Fighter Group Commander.

Under threatening skies and intermittent showers, 160 golfers teed off during the kickoff open golf outing at the Shaker Farms Country Club on June 12. Rather than being a competitive tournament (the golf outing did include several "closest-to-the-pin" prizes), most prizes were awarded by random drawing. All golfers were eligible to win the top prize—round-trip tickets for two to Frankfurt, Germany, donated by American Airlines.

Late that morning, the Chapter hosted a special "press preview" of some of the Air Show participants scheduled to perform at Barnes Airport over the following two days.

Performers for the media included the French Connection, a world-renowned pilot team that performs aerial ballet maneuvers in French-designed CAP-10Bs, the Barnstormers, who do a heart-pounding, old-time wingwalking routine while dressed in fashions appropriate to the 1920s, and a twin A-10 demo by the 104th TFG. The media was also on hand to cover the arrivals of Air Show performers, and WWLP-TV, the local NBC affiliate, did a one-hour live news broadcast that aired Friday night from atop the 104th's Administration Building.

"Also that evening, we staged our fortieth anniversary dinner dance in an aircraft hangar, and early in the evening, Sen. Edward M. Kennedy (D-Mass.) joined us for a short visit between other appointments," Mr. Cummock said. The Senator mingled with the guests, signed autographs, and addressed the crowd. Senator Kennedy lauded the excellent record of the 104th and underscored his support of the Air National Guard as a vital and cost-effective member of the Total Force. "He was really good," Mr. Cummock said.

The protocol group of the Air Force Band of New England from Pease AFB, N. H., provided music during the reception and dinner. A forty-five-minute entertainment segment featured a performance by a fife-and-drum corps and a color guard from the Ceremonial Platoon of the Massachusetts Army National Guard. Mr. Cummock, who served as the evening's master of ceremonies, said the performance was "a real crowd pleaser." The featured speaker for the evening was former AFA National Director Steve Ritchie, who became a fighter ace in the Vietnam War.

Also during the evening, the anni-

A special honored guest at the 104th TFG anniversary celebration was Sen. Edward M. Kennedy, who praised the Massachusetts Air National Guard unit for its outstanding record. With Senator Kennedy as he autographs an air show program for SMSgt. Jean Denoncourt of the 104th Tactical Clinic are 104th TFG Commander Lt. Col. Alan T. Reid, left, and Capt. Jose Castillo, right.

versary's leading sponsors were introduced. Honored guests at the event included Westfield Mayor George A. Varelas; all former 104th TFG commanders (except the late Brig. Gen. John Stefanik, who was represented by his widow); retired Brig. Gen. Lyle Halstead, the first commander of the original 131st Tactical Fighter Squadron (predecessor of the 104th TFG) and the officer who accepted federal recognition of the unit on February 24, 1947; and Canadian, British, and German pilots and crew members who were introduced along with the other Air Show performers.

After a jitterbug demonstration, door prizes were awarded. Sponsored by American Airlines, the prizes were tickets to the Caribbean, Florida, and California. Guests danced the night away to the big band sound of the 215th Army Dance Band. "Friday night was a big success, and it was only the beginning," Mr. Cummock said.

The community was well-prepared for the next two days of aerial drama, thanks to the publicity that attracted 30,000–35,000 spectators on Saturday and 80,000–100,000 on Sunday. Flags of Germany, Great Britain, and Canada flew beside the Stars and Stripes while bands from the Air National Guard, US Marine Corps, and the Ceremonial Platoon of the Massachusetts Air National Guard warmed up the crowd.

During the Langley Chapter's twenty-first annual "Salute to TAC," AFA National President Sam Keith, Jr., left, presented a plaque to TAC Commander Gen. Robert D. Russ that signified his investiture as a General Ira Eaker Fellow of AFA's Aerospace Education Foundation. Funds generated by the Eaker Fellowship program are used to support study of America's aerospace heritage.

Don Davidson's immaculately restored P-51 Mustang and a vintage staff car lent a cachet of nostalgia to the 104th TFG's anniversary celebration air show. The show included aerobatic performances and demonstrations by military aircraft.

"We had a great variety of static-display aircraft, company displays, food concessions, refreshment stands, and the aviation art of Virginia Bader to keep the crowd busy until showtime, which began at 11:30 a.m. and continued through 4:30 p.m.," Mr. Cummock said.

Bill FitzSimons of the Barnstormers kicked off the Air Show by leaping from the wing of Ron Shelly's glistening Stearman and floating to earth beneath his American flag canopy while the 567th ANG band played the National Anthem. The three-and-one-half-hour spectacle that followed held the crowd spellbound, Mr. Cummock said.

One of the stars of the show was Leo Loudenslager, a seven-time US National Aerobatic Champion and the 1980 World Aerobatic Champion. Considered the best aerobatic performer in the world, "he impressed the other performers as he battled G forces in his monoplane *Bud Light 200*," Mr. Cummock recalled. His teammates dubbed him "the American all the world looks up to," the AFA leader noted.

Performances by a USMC AV-8B Harrier and an F-15 Eagle thrilled the crowd, according to Mr. Cummock. Capt. Jeff McChesney (son of New Hampshire AFA President Robert N. McChesney, who attended the weekend events) piloted the F-15.

The Air Show continued on Sunday and included an F-16 demo flight. Also on Sunday, Southrey Chapter officials sponsored a ten-kilometer road race and a 1.5-mile fun run. Some 325 runners competed for the many excellent prizes. Top award was round-trip tickets for two to Paris, France, donated by American Airlines.

Media coverage was extensive, including newspaper articles and radio newscasts as well as day and evening news coverage by WFSB-TV, the CBS affiliate in Hartford, Conn.; WGGB-TV, the ABC affiliate in Springfield, Mass.; and WWLP-TV, NBC's affiliate in Springfield.

"A project of this scope requires hard work by a lot of people," Mr. Cummock said. Assisting him were 104th TFG members Lt. Col. Robert Duda, Vice Chairman of the Anniversary Committee and Vice President of the Southrey Chapter; Chapter Secretary Capt. Walter Sobczyk; Chapter Treasurer CMSgt. Richard P. Slabinski; and current 104th TFG Commander Lt. Col. Alan T. Reid. The city of Westfield and the anniversary cele-

INTERCOM

bration's many generous sponsors helped ensure the success of the 104th's fortieth anniversary, Mr. Cummock emphasized.

"AFA's Southrey Chapter is returning to life. You'll be hearing more from us," he promised. ■

AFA's Community Partner program continues to grow by leaps and bounds. During a recent luncheon meeting of AFA's Silver & Gold Chapter in Colorado, Chapter President Jack Powell, right, presented a Community Partner plaque to Don Jesperson, President of the Space Age Federal Credit Union. The program has proven to be an excellent way for AFA chapters to generate community involvement.

An AFA Almanac 1987

AFA's "Man of the Year" Award Recipients

(State names refer to winner's home state at time of award.)

YEAR	RECIPIENT(S)
1953	Julian B. Rosenthal (New York)
1954	George A. Anderl (Illinois)
1955	Arthur C. Storz (Nebraska)
1956	Thos. F. Stack (California)
1957	George D. Hardy (Maryland)
1958	Jack B. Gross (Pennsylvania)
1959	Carl J. Long (Pennsylvania)
1960	O. Donald Olson (Colorado)
1961	Robert P. Stewart (Utah)
1962	*(no presentation)*
1963	N. W. DeBenardinis (Louisiana) and Joe L. Shosid (Texas)
1964	Maxwell A. Kriendler (New York)
1965	Milton Caniff (New York)
1966	William W. Spruance (Delaware)
1967	Sam E. Keith, Jr. (Texas)
1968	Marjorie O. Hunt (Michigan)
1969	*(no presentation)*
1970	Lester C. Curl (Florida)
1971	Paul W. Gaillard (Nebraska)
1972	J. Raymond Bell (New York) and Martin H. Harris (Florida)
1973	Joe Higgins (California)
1974	Howard T. Markey (Washington, D. C.)
1975	Martin M. Ostrow (California)
1976	Victor R. Kregel (Texas)
1977	Edward A. Stearn (California)
1978	William J. Demas (New Jersey)
1979	Alexander C. Field, Jr. (Illinois)
1980	David C. Noerr (California)
1981	Daniel F. Callahan (Florida)
1982	Thomas W. Anthony (Maryland)
1983	Richard H. Becker (Illinois)
1984	Earl D. Clark, Jr. (Kansas)
1985	George H. Chabbott (Delaware) and Hugh L. Enyart (Illinois)
1986	John P. E. Kruse (New Jersey)

AFA Units of the Year

YEAR	RECIPIENT(S)
1953	San Francisco Chapter (Calif.)
1954	Santa Monica Area Chapter (Calif.)
1955	San Fernando Valley Chapter (Calif.)
1956	Utah State AFA
1957	H. H. Arnold Chapter (N. Y.)
1958	San Diego Chapter (Calif.)
1959	Cleveland Chapter (Ohio)
1960	San Diego Chapter (Calif.)
1961	Chico Chapter (Calif.)
1962	Fort Worth Chapter (Tex.)
1963	Colin P. Kelly Chapter (N. Y.)
1964	Utah State AFA
1965	Idaho State AFA
1966	New York State AFA
1967	Utah State AFA
1968	Utah State AFA
1969	*(no presentation)*
1970	Georgia State AFA
1971	Middle Georgia Chapter (Ga.)
1972	Utah State AFA
1973	Langley Chapter (Va.)
1974	Texas State AFA
1975	Alamo Chapter (Tex.) & San Bernardino Area Chapter (Calif.)
1976	Scott Memorial Chapter (Ill.)
1977	Thomas B. McGuire, Jr., Chapter (N. J.)
1978	Thomas B. McGuire, Jr., Chapter (N. J.)
1979	Robert F. Travis Chapter (Calif.)
1980	Central Oklahoma (Gerrity) Chapter (Okla.)
1981	Alamo Chapter (Tex.)
1982	Chicagoland-O'Hare Chapter (Ill.)
1983	Charles A. Lindbergh Chapter (Conn.)
1984	Scott Memorial Chapter (Ill.) & Colorado Springs/Lance Sijan Chapter (Colo.)
1985	Cape Canaveral Chapter (Fla.)
1986	Charles A. Lindbergh Chapter (Conn.)

H. H. Arnold Award Recipients

Until 1986, AFA's highest Aerospace Award was the H. H. Arnold Award. Named for the World War II leader of the Army Air Forces, it was presented annually in recognition of the most outstanding contributions in the field of aerospace activity. In 1986, the Arnold Award was redesignated AFA's highest honor to a member of the armed forces in the field of National Security. It continues to be presented annually.

YEAR	RECIPIENT(S)
1948	Hon. W. Stuart Symington, Secretary of the Air Force
1949	Maj. Gen. William H. Tunner and the men of the Berlin Airlift
1950	Airmen of the United Nations in the Far East
1951	Gen. Curtis E. LeMay and the personnel of Strategic Air Command
1952	Senators Lyndon B. Johnson and Joseph C. O'Mahoney
1953	Gen. Hoyt S. Vandenberg, former Chief of Staff, USAF
1954	Hon. John Foster Dulles, Secretary of State
1955	Gen. Nathan F. Twining, Chief of Staff, USAF
1956	Senator W. Stuart Symington
1957	Edward P. Curtis, Special Assistant to the President
1958	Maj. Gen. Bernard A. Schriever, Commander, Ballistic Missile Division, ARDC
1959	Gen. Thomas S. Power, Commander in Chief, Strategic Air Command
1960	Gen. Thomas D. White, Chief of Staff, USAF
1961	Hon. Lyle S. Garlock, Assistant Secretary of the Air Force
1962	Dr. A. C. Dickieson and John R. Pierce, Bell Telephone Laboratories
1963	The 363d Tactical Reconnaissance Wing, TAC, and the 4080th Strategic Wing, SAC
1964	Gen. Curtis E. LeMay, Chief of Staff, USAF
1965	The 2d Air Division, PACAF
1966	The 8th, 12th, 355th, 366th, and 388th Tactical Fighter Wings and the 432d and 460th Tactical Reconnaissance Wings
1967	Gen. William W. Momyer, Commander, Seventh Air Force, PACAF
1968	Col. Frank Borman, USAF; Capt. James Lovell, USN; and Lt. Col. William Anders, USAF—Apollo-8 Crew
1969	*(no presentation)*
1970	Apollo-11 Team (J. L. Atwood, Lt. Gen. Samuel C. Phillips, USAF, and Astronauts Neil Armstrong, Col. Edwin E. Aldrin, Jr., USAF, and Col. Michael Collins, USAF)
1971	Dr. John S. Foster, Jr., Director of Defense Research and Engineering
1972	Air Units of the Allied Forces in SEA (Air Force, Navy, Army, Marine Corps, and the Vietnamese Air Force)
1973	Gen. John D. Ryan, USAF (Ret.), former Chief of Staff, USAF
1974	Gen. George S. Brown, Chairman, Joint Chiefs of Staff
1975	James R. Schlesinger, Secretary of Defense
1976	Senator Barry M. Goldwater
1977	Senator Howard W. Cannon
1978	Gen. Alexander M. Haig, Jr., USA, Supreme Allied Commander, Europe
1979	Senator John C. Stennis
1980	Gen. Richard H. Ellis, Commander in Chief, Strategic Air Command
1981	Gen. David C. Jones, Chairman, Joint Chiefs of Staff
1982	Gen. Lew Allen, Jr., USAF (Ret.), former Chief of Staff, USAF
1983	Ronald Reagan, President of the United States
1984	The President's Commission on Strategic Forces (the Scowcroft Commission)
1985	Gen. Bernard W. Rogers, USA, Supreme Allied Commander, Europe
1986	Gen. Charles A. Gabriel, USAF (Ret.), former Chief of Staff

W. Stuart Symington Award Recipients

Since 1986, AFA's highest honor to a civilian in the field of National Security has been the W. Stuart Symington Award. The award, presented annually, is named for the first Secretary of the Air Force.

YEAR	RECIPIENT
1986	Hon. Caspar W. Weinberger, US Secretary of Defense

AFA's Regions, States, and Chapters

The figures on the right indicate the number of affiliated members as of June 30, 1987. Listed below the name of each Region is the name of the National Vice President for that Region.

CENTRAL EAST REGION	**12,622**
William L. Ryon, Jr.	
Delaware	1,594
Blue Hen	30
Delaware Galaxy	1,265
Diamond State	244
Henlopen Area	31
Wilmington	24
District of Columbia	1,901
Nation's Capital	1,901
Kentucky	601
General Russell E. Dougherty	482
Lexington	119
Maryland	2,766
*Baltimore	659
Central Maryland	305
Thomas W. Anthony	1,802
Virginia	5,534
Danville	32
Donald W. Steele, Sr., Memorial	1,885
Jack Manch	79
Langley	2,768
Leigh Wade	78
Lynchburg	45
Richmond	246
Roanoke	175
Tidewater	157
William A. Jones III	69
West Virginia	226
Chuck Yeager	226
FAR WEST REGION	**39,412**
Thomas W. Henderson	
Arizona	6,753
Barry Goldwater	205
Cochise	56
Frank Luke	1,556
Green Valley	54
Phoenix Sky Harbor	1,961
Tucson	2,921
California	28,241
Antelope Valley	725
David J. Price/Beale	1,204
*Fresno	565
General Curtis E. LeMay	1,424
*General Doolittle/Los Angeles Area	3,018
General Robert F. Travis	3,502
*Golden Gate	736
Greater Los Angeles Airpower	1,546
High Desert	1,085
Maj. Gen. Charles I. Bennett, Jr.	966
Monterey Bay Area	307
Pasadena Area	435
Redwood Empire	451
Riverside County	1,331
Robert H. Goddard	2,085
Sacramento	3,936
San Bernardino Area	2,440
San Diego	1,248
Tennessee Ernie Ford	1,237
Guam	531
Guam-Arc Light	531
Hawaii	1,625
*Hawaii	1,591
Maui	34
Nevada	2,262
Dale O. Smith	346
Thunderbird	1,916
GREAT LAKES REGION	**20,861**
Hugh L. Enyart	
Illinois	5,164
Chicagoland-O'Hare	1,227
Illini	1,227
Land of Lincoln	134
Quad Cities	125
Richard E. Carver	110
Scott Memorial	2,219
West Suburban	122
Indiana	2,184
Central Indiana	375
Fort Wayne-Baer Field Area	218
Grissom Memorial	833
Gus Grissom	159
Lawrence D. Bell Museum	35
Lester W. Johnston	39
South Bend	252
Southern Indiana	167
Terre Haute-Wabash Valley	106
Michigan	3,955
Battle Creek	335
General Claire Chennault	295
Hoyt S. Vandenberg	382
Huron	658
James H. Straubel	364
Kalamazoo	154
Keweenaw	36
Lake Superior-Northland	1,246
Lloyd R. Leavitt, Jr.	82
Mount Clemens	349
PE-TO-SE-GA	54
Ohio	8,417
Buckeye Skypower	172
*Capt. Eddie Rickenbacker Memorial	675
Cincinnati	323
Cleveland	613
Frank P. Lahm	194
Mid-Ohio	356
Steel Valley	248
*Wright Memorial	5,836
Wisconsin	1,141
Badger State	185
Billy Mitchell	707
Madison	249
MIDWEST REGION	**10,799**
Donald D. Adams	
Iowa	531
All-Iowa	357
Richard D. Kisling	174
Kansas	1,193
Air Capital	888
Contrails	43
Topeka	262
Missouri	2,309
Central Missouri	591
Harry S. Truman	577
Ozark	133
Spirit of St. Louis	1,008
Nebraska	6,766
Ak-Sar-Ben	6,535
Lincoln	231
NEW ENGLAND REGION	**6,521**
Joseph R. Falcone	
Connecticut	1,551
Central Connecticut	179
Charles A. Lindbergh	259
First Connecticut	295
Flying Yankees	126
General Bennie L. Davis	43
General George C. Kenney	98
Igor Sikorsky	185
Northern Connecticut	290
Sergeant Charlton Heston	76
Maine	922
Eastern Maine	162
Major Charles J. Loring, Jr.	652
Southern Maine	108
Massachusetts	2,486
Boston	375
Laurence G. Hanscom	523
*Major John S. Southrey	352
Minuteman	176
Otis	178
Paul Revere	397
Pioneer Valley	67
Robert V. Pace	111
Taunton	113
*Worcester	194
New Hampshire	1,160
Amoskeag	150
Pease	1,010
Rhode Island	198
Metro Rhode Island	198
Vermont	204
Burlington	204
NORTH CENTRAL REGION	**3,836**
Paul G. Markgraf	
Minnesota	705
General E. W. Rawlings	621
Richard Bong	84
North Dakota	1,905
Concrete Mixers	9
General David C. Jones	786
Happy Hooligan	103
Red River Valley	1,007
South Dakota	1,226
Dacotah	201
Rushmore	1,025
NORTHEAST REGION	**14,730**
Jack Flaig	
New Jersey	5,357
Admiral Charles E. Rosendahl	163
Aerospace Founders	41
Atlantic City Area	204
Garden State	34
Hangar One	143
High Point	65
*Hudson	105
John Currie Memorial	71
Mercer County	121
Middlesex	99
New Jersey Public Affairs	43
*Passaic-Bergen	340
Sal Capriglione	136
Teterboro-Bendix	87
Thomas B. McGuire, Jr.	3,033
Tri-County	53
Union Morris	404
West Jersey	172
Wings	43
New York	5,871
*Albany	238
Brooklyn "Key"	538
Chautauqua	85
Colin P. Kelly	1,219
Forrest L. Vosler	274
General Daniel "Chappie" James, Jr., Memorial	167
Genesee Valley	228
H. H. Arnold	342
Hudson Valley	141
Iron Gate	358
Lawrence D. Bell	490
Lloyd Schloen-Empire	68
Nassau-Mitchel	345
New York Air Reserve & CAP	56
Niagara Frontier	184
Plattsburgh	358
Queens	236
Suffolk County	229
Thomas Watson, Sr., Memorial	115
Westchester-Falcon	200
Pennsylvania	3,502
Airport Number One	294
Altoona	70
Beaver Valley	88
Brandywine	113
Bucks County	26
Colonel Stuart E. Kane, Jr.	163
Eagle	68
Erie	101
*Greater Pittsburgh	553
Jimmy Stewart	32
Joe Walker	118
Laurel Highlands	70
Lehigh Valley	206
*Metropolitan Philadelphia	460
*Mifflin County	119
Montgomery-Delaware Valley	281
Olmsted	367
Pocono Northeast	94
Steel Valley	114
York-Lancaster	165
NORTHWEST REGION	**8,872**
Philip G. Saxton	
Alaska	2,100
Anchorage	1,426
Fairbanks Midnight Sun	674
Idaho	1,068
Boise Valley	536
Magic Valley	95
Snake River Valley	437
Montana	738
Big Sky	685
Bozeman	53
Oregon	1,003
Eugene	236
Klamath Basin	31
*Portland	736
Washington	3,963
Central Washington	79
Greater Seattle	1,111
Inland Empire	995
Tacoma	1,778
ROCKY MOUNTAIN REGION	**9,573**
William J. Gibson	
Colorado	5,716
Blue Barons	92
Colorado Springs/Lance Sijan	3,125
Flatirons	143
Front Range	1,490
General Robert E. Huyser	76
Long's Peak	155
Pueblo	119
Silver and Gold	444
Weld County	72
Utah	3,004
Gold Card	299
Ogden	732
Rocky Mountain	333
Salt Lake	461
Ute	876
Wasatch	303
Wyoming	853
Cheyenne	853
SOUTH CENTRAL REGION	**13,333**
James P. LeBlanc	
Alabama	2,608
Birmingham	377
Gadsden	28
Mobile	298
Montgomery	1,565
Selma	76
Tennessee Valley	264
Arkansas	2,831
Blytheville	1,083
David D. Terry, Jr.	1,505
Fort Smith	105
Razorback	138
Louisiana	2,514
Alexandria	433
Ark-La-Tex	1,437
Baton Rouge	240
Greater New Orleans	404
Mississippi	3,440
Golden Triangle	902
Jackson	160
John C. Stennis	2,378
Tennessee	1,940
Chattanooga	147
Everett R. Cook	359
General Bruce K. Holloway	469
H. H. Arnold Memorial	478
Lt. Gen. Frank Maxwell Andrews	487

SOUTHEAST REGION **26,457**
H. Lake Hamrick

Florida	13,193
Cape Canaveral	1,412
Central Florida	1,304
Citrus Belt	162
Eglin	2,409
Falcon	299
Florida Gulf Coast	264
Florida Highlands	360
Florida Suncoast	246
Gainesville	109
General James R. McCarthy	196
General Nathan F. Twining	78
Gold Coast	436
Homestead	641
Jerry Waterman	1,892
John C. Meyer	240
Miami	391
Morgan S. Tyler	233
Panama City	1,532
Peace River	44
Southwest Florida	230
Tallahassee	218
West Palm Beach	497
Georgia	6,171
Athens	89
Atlanta	405
Carl Vinson Memorial	3,815
Chattahoochee Valley	50
Coosa Valley	51
Dobbins	815
Savannah	320
South Georgia	566
Southeast Georgia	60
North Carolina	3,413
Blue Ridge	159
Kitty Hawk	81
Piedmont	297
Pope	1,193
Scott Berkeley	1,229
Tarheel	253
Triad	201
Puerto Rico	153
San Juan	153
South Carolina	3,527
Charleston	1,293
Clemson	200
Columbia	438
Ladewig-Shine Memorial	713
Swamp Fox	883

SOUTHWEST REGION **40,837**
Bryan L. Murphy, Jr.

New Mexico	3,856
Albuquerque	1,764
Fran Parker	1,161
Llano Estacado	931
Oklahoma	7,734
Altus	1,091
Central Oklahoma (Gerrity)	5,082
Enid	1,159
Tulsa	402
Texas	29,247
Abilene	1,157
Aggieland	163
Alamo	11,436
Austin	2,058
Concho	532
Corpus Christi	159
Dallas	1,229
Del Rio	641
Denton	98
Fort Worth	5,752
Ghost Squadron	120
Greater Amarillo Area	133
Heart of the Hills	173
Houston	1,280
Lee Glasgow-Waco	165
Lubbock	1,079
Northeast Texas	228
Paso Del Norte	197
Permian Basin	301
Wichita Falls	2,346

*These Chapters were chartered prior to December 31, 1948, and are considered original charter chapters; the Major John S. Southrey Chapter of Massachusetts was formerly the Chicopee Chapter.

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(1947)


C. R. Smith
(1948)


Robert S. Johnson
(1949–50)


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(1951)


Arthur F. Kelly
(1952)


George C. Kenney
(1953)


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(1954)


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(1955)


John P. Henebry
(1956)


Peter J. Schenk
(1957–58)


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(1959)


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(1960)


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(1961)


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(1962)


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(1963)


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(1964–66)


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(1967–68)


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(1969–70)


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(1971–72)


Joe L. Shosid
(1973–74)


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(1975–76)


Gerald V. Hasler
(1954)


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(1979–80)


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(1981–82)


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(1985–86)


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(1987)

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(Pictured are Chairmen who never served as National President)


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(1946)


Carl A. Spaatz
(1950)


James M. Trail
(1958)


Julian B. Rosenthal
(1959)


Jack B. Gross
(1963)


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(1979–80)


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(1985–86)

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(This panel of officers and directors acted temporarily until a representative group was democratically elected by the membership at the first National Convention.)

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AFA's Expanding Network of Active Units Overseas

AFA UNIT	LOCATION
United States Air Forces in Europe (USAFE)	
Ankara	Ankara AS, Turkey
Appia	San Vito AS, Italy
Athens	Hellenikon AB, Greece
Charlemagne	Brunssum, The Netherlands
Cotswold	RAF Fairford, United Kingdom
Dolomiti	Aviano AB, Italy
Eifel	Bitburg AB, Germany
Fens	RAF Alconbury, United Kingdom
Florennes	Florennes AB, Belgium
Gateway to Freedom	Berlin, Germany
Gregory E. Miller	Incirlik AB, Turkey
Hahn AB	Hahn AB, Germany
Izmir	Izmir AS, Turkey
Maj. Gen. Robert M. White	Heidelberg, Germany
Netherlands Eagle	Soesterberg AB, The Netherlands
RAF Bentwaters	RAF Bentwaters, United Kingdom
RAF Greenham Common/Welford	RAF Greenham Common, United Kingdom
RAF Mildenhall	RAF Mildenhall, United Kingdom
RAF Upper Heyford	RAF Upper Heyford, United Kingdom
Red Raider	Torrejon AB, Spain
Rheinpfalz	Ramstein AB, Germany
Sembach	Sembach AB, Germany
Wiesbaden	Lindsey AS, Germany
Zaragoza	Zaragoza AB, Spain
Zweibrücken AB Warrior	Zweibrücken AB, Germany
Pacific Air Forces	
Bataan Memorial	Clark AB, Philippines
Captain Joseph McConnell, Jr.	Osan AB, Korea
Keystone	Kadena AB, Japan
Manila	Manila, Philippines
Misawa	Misawa AB, Japan
Tokyo	Tokyo, Japan
Wolf Pack	Kunsan AB, Korea
Woomera	Australia
Supreme Headquarters Allied Powers, Europe (SHAPE)	
General Lauris Norstad	Mons, Belgium

Aerospace Education Foundation

Aerospace Education Foundation Officers

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1966–67	Dr. B. Frank Brown	Dr. Walter J. Hesse
1967–68	Dr. Leon M. Lessinger	Dr. Walter J. Hesse
1968–69	Dr. L. V. Rasmussen	Dr. Walter J. Hesse
1969–71	Dr. L. V. Rasmussen	J. Gilbert Nettleton, Jr.
1971–73	Dr. Leon M. Lessinger	J. Gilbert Nettleton, Jr.
1973–74	Dr. Wayne O. Reed	George D. Hardy
1974–75	Dr. William L. Ramsey	George D. Hardy
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1984–86	George D. Hardy	Sen. Barry Goldwater
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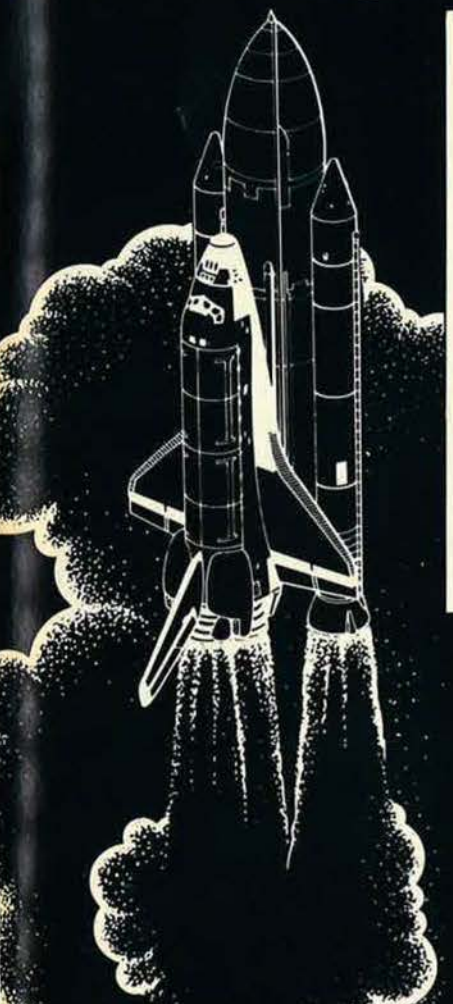

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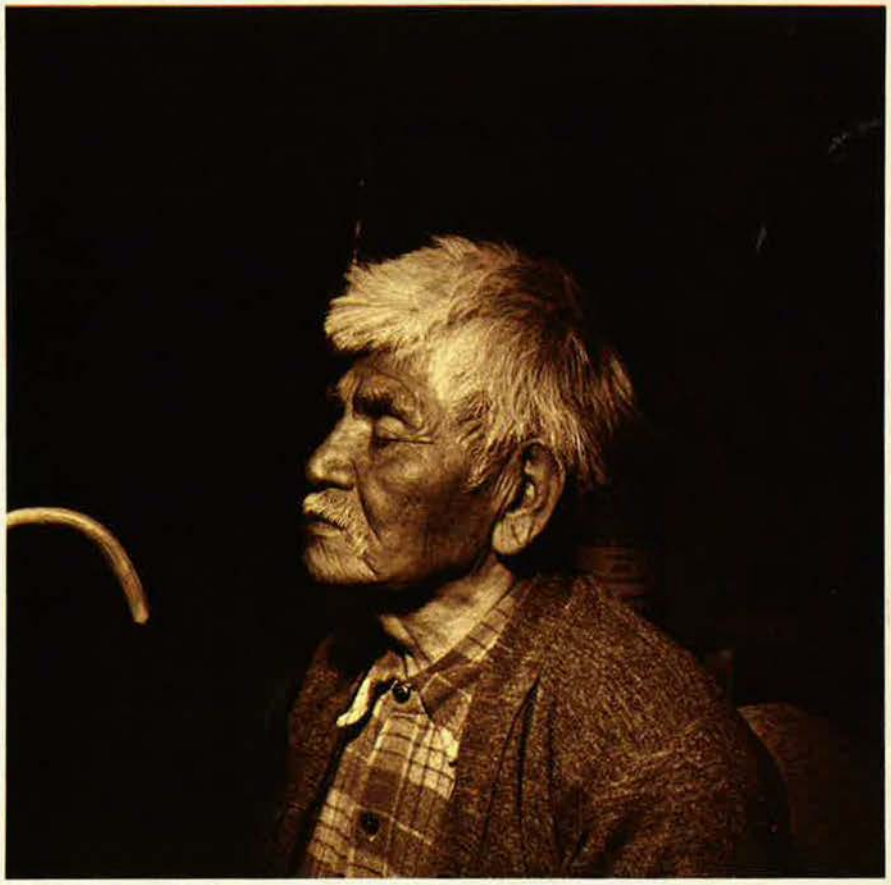

You are cordially invited to further the goals and mission of the Air Force Association and its Aerospace Education Foundation by participating in the newly established Barry Goldwater Fellowship Program. Senator Goldwater will present the first Goldwater Fellowship Awards at the Aerospace Education Foundation luncheon on September 14 during AFA's National Convention in Washington, D. C.

Senator Goldwater, a man of many dimensions and accomplishments, has more than fifty years of experience in photography. Many of his photographs have been exhibited in national and international galleries. His photographic excellence led to his election as an associate in the Royal Photographic Society of Great Britain and the Photographic Society of America.

The above photograph (signed, matted, and framed) serves as the prestigious Barry Goldwater Fellowship Award. The award is presented to both the sponsor and the honoree. Senator Goldwater has given AEF exclusive use of this photograph, which will be limited to 200 Fellowships.

A similar photograph, taken at the same time (1938), is part of a collection of the Senator's photographs titled The Face of Arizona. This volume was published in 1964 during his Presidential election campaign, was limited to 1,500 copies, and is now a collector's item. The published version of the above portrait is titled "Hualapai Scout."

Barry Goldwater

The Barry Goldwater Fellowship program invites a $5,000 contribution to the Aerospace Education Foundation to help finance its educational outreach activities. Barry Goldwater Fellows may be invested at any AFA/AEF State or Chapter function or the National AFA Convention. For more information, please call Arthur Hyland at 703-247-5839 or write to the Aerospace Education Foundation at 1501 Lee Highway, Arlington, Va. 22209-1198.

AFA

Aerospace Education Foundation

Aerospace Education Foundation Fellows

(The following is a listing of Individual Fellows who have become Fellows since the last such listing in the September 1986 issue of this magazine.)

Individual Jimmy Doolittle Fellows

(in order of affiliation)

NAME	SPONSOR
(1986)	
C. Cliff Ball	States and Chapters of the South Central Region
Mabel V. McCoy	Ak-Sar-Ben Chapter and Russell E. Dougherty
Gen. and Mrs. E. W. Rawlings	AFA/AEF Friends
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Lloyd G. Nelson *(in memoriam)*	Northeast Region and New Jersey State AFA
Henry Coffin	Northeast Region and Pennsylvania State AFA
Dorothea V. Barnes	William W. Spruance
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Gen. Robert D. Russ, USAF	Iron Gate Chapter
Charles H. Church	Midwest Region
Martin H. Harris	Central Florida Chapter
Florence Borchert Bartling	Bill Borchert Larson
Dr. Ronald E. McNair *(in memoriam)*	Tuskegee Airmen, Inc.
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Nancy Reagan	Bob Hope AFA Charity Golf Tournament
Bonnie J. Dunbar, Ph.D.	Arnold Air Society/Angel Flight
Capt. Jack Bruning, USAF (Ret.) *(in memoriam)*	Frank Luke Chapter
Enrico M. Carnicelli	Personal
Jack R. Carnicelli	Enrico M. Carnicelli
Brig. Gen. Walter Vartan, USAF	Chicagoland-O'Hare Chapter
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Hon. Joseph P. Addabbo *(in memoriam)*	H. H. Arnold Chapter
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James M. Ensign	Golden Gate Chapter
Gen. Earl T. O'Loughlin, USAF	Iron Gate Chapter
(1987)	
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Col. Roy D. Bridges, USAF	Cape Canaveral Chapter
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Denis R. Brown	Iron Gate Chapter
Sid Birns	Iron Gate Chapter
Bruce M. Bullock	Iron Gate Chapter
Richard A. Freytag	Iron Gate Chapter
Walter M. Hartung	Iron Gate Chapter
Lt. Gen. Winfield W. Scott, USAF	Iron Gate Chapter
Willodean Bauman	Jack Manch Chapter and Dr. Ben M. Bauman
Maj. Emerson W. Pittman, USAF	Cleveland Chapter
Lt. Col. William G. Morley, USAF (Ret.), and Elise Morley	Arnold Air Society/Angel Flight
Lloyd K. Mosemann II	H. H. Arnold Chapter
The *Voyager* Team	California State AFA
Col. Jerold L. Weiss, USAF	Thomas B. McGuire, Jr., Chapter
Rev. Russell White	New Jersey State AFA
Gen. Franco Pisano	New York State AFA and Associazione Arma Aeronautica
Harold K. McCard	Paul Revere Chapter
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Maj. Gen. Cuthbert A. "Bill" Pattillo, USAF (Ret.)	Florida State AFA
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Lt. Gen. Melvin F. Chubb, Jr., USAF	Iron Gate Chapter
Maj. Gen. Edward C. McFarland, USAFR	Iron Gate Chapter
Mamie Kinsley	AEF New Jersey
Joseph J. Bendetto	AEF New Jersey
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Dr. Frank M. Lugo	Mobile Chapter
Alfred R. Musi	AFA/AEF

Individual Ira Eaker Fellows

(in order of affiliation)

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Eric Doten	William W. Spruance
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Washington Air Force Association	Washington State AFA
CMSAF James C. Binnicker, USAF	Nation's Capital Chapter
Robert J. Beatson	Thomas W. Anthony Chapter
Hon. Bill Chappell, Jr.	Nation's Capital Chapter
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Brig. Gen. Robert L. Scott, USAF (Ret.)	Carl Vinson Memorial Chapter
Maj. Gen. Donald J. Kutyna, USAF	Iron Gate Chapter
Gen. Robert T. Herres, USAF	Iron Gate Chapter
Gen. Robert E. "Dutch" Huyser, USAF (Ret.)	Greater Seattle Chapter
Hon. Beverly Byron	Nation's Capital Chapter
Catheryn Strack Corwin	Brig. Gen. and Mrs. Harold A. Strack
Gen. Robert D. Russ, USAF	Langley Chapter
John O. Gray	Nation's Capital Chapter
Hon. Howard Cannon	Nation's Capital Chapter
Bryan L. Murphy	Southwest Region
A. Thomas Young	Central Florida Chapter
Enrico M. Carnicelli	AEF New Jersey
James P. Grazioso *(in memoriam)*	AEF New Jersey
Edgar E. Ulsamer	AFA/AEF

Individual Barry Goldwater Fellows

(in order of affiliation)

NAME	SPONSOR
(1987)	
Sen. Barry Goldwater	Air Force Association and Aerospace Education Foundation
Bill Borchert Larson	Florence Borchert Bartling
Meryll M. Frost	Arizona State AFA
Gen. James H. Doolittle, USAF (Ret.)	California State AFA
Mrs. James H. Doolittle	California State AFA
Lt. Gen. Kenneth L. Tallman, USAF (Ret.)	Brig. Gen. William W. Spruance, USAF (Ret.)

UNIT REUNIONS

Air-Sea Rescue Squadrons
On p. 125 of the June 1987 issue, we announced that Air-Sea Rescue Squadrons would hold a reunion on September 10–13, 1987, at the Regency Resort Hotel in Scottsdale, Ariz. The notice should have said that the reunion will be held at the *Registry* Resort Hotel. **Contact:** Harry B. "Hap" Arnold III, 4411 Crestwood Way, Sacramento, Calif. 95822. Phone: (916) 441-0811.

Morocco Military Personnel
US military personnel who served in Morocco during the time that US bases operated there will hold a reunion on September 27–29, 1987, in Kansas City, Mo. **Contact:** Gen. Horace M. Wade, USAF (Ret.), 4980 N. Calle Bujia, Tucson, Ariz. 85718.

SAC/USAFSS
Combat Apple veterans of the 82d Strategic Reconnaissance Squadron (SAC) and the 6990th Security Squadron (USAFSS) who served between 1967 and 1976 will hold a reunion on September 25–26, 1987, in San Antonio, Tex. **Contact:** Lt. Col. Jerry McKenna, USAF, Hq. Electronic Security Command/CSX, San Antonio, Tex. 78243-5000.

Sherman Field
Veterans of Sherman Field will hold their tenth annual reunion on September 11–12, 1987, at the Ramada Inn in Leavenworth, Kan. **Contact:** Roscoe Swenson, 2053 Highland, Salina, Kan. 67401.

Spectre Ass'n
Members of the AC-130 Spectre Association will hold a reunion on October 9–12, 1987, at the Hurlburt Field NCO Club at Hurlburt Field, Fla. **Contact:** Jack Hollyfield or Gary Thompson, P. O. Box 707, Mary Esther, Fla. 32569. Phone: (904) 884-7511. AUTOVON: 579-7511.

Tactical Reconnaissance
The eleventh annual reunion for Tactical Reconnaissance veterans (RB-26, RB-57, RB–66, RF-4, RF-80, RF-84, and RF-101) will be held on October 2–4, 1987, at the Holiday Inn Holidome in Hampton, Va. **Contact:** Verne D. Gardina, P. O. Box 7280, Hampton, Va. 23666. Phone: (804) 838-5476 (office) or (804) 826-9660 (home).

7th Troop Carrier Squadron
The 7th Troop Carrier Squadron will hold a reunion in conjunction with the 62d Troop Carrier Group on October 25–28, 1987, in Las Vegas, Nev. **Contact:** Jack Lesher, 3051 Octavia Pl., Doraville, Ga. 30340. Phone: (404) 938-4270.

9th Bomb Group
Members of the 9th Bomb Group based on Tinian during 1945 will hold a reunion on October 22–25, 1987, in Tucson, Ariz. **Contact:** Herbert Hobler, 295 Mercer Rd., Princeton, N. J. 08540. Phone: (609) 924-4389. Maurice Ashland, 7909 E. Sandalwood, Scottsdale, Ariz. 85253. Phone: (602) 947-6854.

20th Bomb Squadron
The 20th Bomb Squadron (Barksdale and Carswell AFBs) will hold a reunion on October 9–11, 1987, at Carswell AFB, Tex. **Contact:** Charlie Yates, 6513 Winifred, Fort Worth, Tex. 76133. Phone: (817) 355-5694 or (817) 292-5900.

29th Bomb Group Ass'n
The 29th Bomb Group will hold a reunion

Reunion Notices

Readers wishing to submit reunion notices to "Unit Reunions" should mail their 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.

This Is AFA

The Air Force Association is an independent, nonprofit, aerospace organization serving no personal, political, or commercial interests; established January 26, 1946; incorporated February 4, 1946.

OBJECTIVES: The Association provides an organization through which we as a free people may unite to address the defense responsibilities of our nation imposed by the dramatic advance of aerospace technology; to educate the members and the public at large in what that technology can contribute to the security of free people and the betterment of mankind; and to advocate military preparedness of the United States and its allies adequate to maintain the security of the United States and the free world.

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P. O. Box 67
Cabin John, Md. 20818
(703) 362-7772
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Maryland, Delaware, District of Columbia, Virginia, West Virginia, Kentucky

H. Lake Hamrick
206 Sotir Ave., N. W.
Ft. Walton Beach, Fla. 32548
(904) 651-2010
Southeast Region
North Carolina, South Carolina, Georgia, Florida, Puerto Rico

Philip G. Saxton
16346 NE Tillamook St.
Portland, Ore. 97230
(503) 255-7872
Northwest Region
Montana, Washington, Idaho, Oregon, Alaska

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Arnold Air Society
Auburn, Ala.

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Following each state name are the names of the communities in which AFA Chapters are located. Information regarding these Chapters, or any place of AFA's activities within the state, may be obtained from the appropriate contact.

ALABAMA (Birmingham, Gadsden, Huntsville, Mobile, Montgomery, Selma): **Robie Hackworth,** 206 Dublin Circle, Madison, Ala. 35758 (phone 205-539-4920).

ALASKA (Anchorage, Fairbanks): **Theron L. Jenne,** 2501 Banbury Dr., Anchorage, Alaska 99504 (phone 907-377-3360).

ARIZONA (Green Valley, Phoenix, Sedona, Sierra Vista, Sun City, Tucson): **Robert A. Munn,** 7042 Calle Bellatrix, Tucson, Ariz. 85710 (phone 602-747-9649).

ARKANSAS (Blytheville, Fayetteville, Fort Smith, Little Rock): **Thomas P. Williams,** 4404 Dawson Dr., North Little Rock, Ark. 72116 (phone 501-758-6885).

CALIFORNIA (Apple Valley, Edwards, Fairfield, Fresno, Los Angeles, Merced, Monterey, Novato, Orange County, Pasadena, Riverside, Sacramento, San Bernardino, San Diego, San Francisco, Sunnyvale, Vandenberg AFB, Yuba City): **Robert L. Griffin,** P. O. Box 5008, Vandenberg AFB, Calif. 93437 (phone 805-866-3501).

COLORADO (Boulder, Colorado Springs, Denver, Fort Collins, Grand Junction, Greeley, Littleton, Pueblo): **Jack G. Powell,** AFAFC/AJ, Denver, Colo. 80279-5000 (phone 303-370-4787).

CONNECTICUT (Brookfield, East Hartford, Middletown, Storrs, Stratford, Torrington, Waterbury, Westport, Windsor Locks): **Joseph Zaranka,** 9 S. Barn Hill Rd., Bloomfield, Conn. 06002 (phone 203-242-2092).

DELAWARE (Dover, Milford, Rehoboth Beach, Wilmington): **Horace W. Cook,** 112 Foxhall Dr., Dover, Del. 19901 (phone 302-674-1051).

DISTRICT OF COLUMBIA (Washington, D. C.): **Denny Sharon,** 1501 Lee Highway, Arlington, Va. 22209-1198 (phone 703-247-5820).

FLORIDA (Avon Park, Brandon, Broward County, Cape Coral, Daytona Beach, Gainesville, Homestead, Jacksonville, Leesburg, Miami, Naples, New Port Richey, Orlando, Palm Harbor, Panama City, Patrick AFB, Port Charlotte, Redington Beach, Sarasota, Tallahassee, Tampa, West Palm Beach, Winter Haven): **Donald T. Beck,** 1150 Covina St., Cocoa, Fla. 32927 (phone 305-636-7648).

GEORGIA (Athens, Atlanta, Columbus, Rome, Savannah, St. Simons Island, Valdosta, Warner Robins): **Robert W. Marsh, Jr.,** P. O. Box 542, Springfield, Ga. 31329 (phone 912-964-1941, ext. 254).

GUAM (Agana): **Michael C. Wilkins,** Box CV, Agana, Guam 96910 (phone 671-646-5259).

HAWAII (Honolulu, Puunene): **Don J. Daley,** P. O. Box 3200, Honolulu, Hawaii 96847 (phone 808-525-6296).

IDAHO (Boise, Mountain Home, Twin Falls): **Chester A. Walborn,** P. O. Box 729, Mountain Home, Idaho 83647 (phone 208-587-7185).

ILLINOIS (Belleville, Champaign, Chicago, Elmhurst, Moline, Peoria, Springfield-Decatur): **Walter G. Vartan,** 230 W. Superior Court, Chicago, Ill. 60610 (phone 312-477-7503).

INDIANA (Bloomfield, Fort Wayne, Grissom AFB, Indianapolis, Lafayette, Marion, Mentone, South Bend, Terre Haute): **Bill Cummings,** 12031 Mahogany Dr., Fort Wayne, Ind. 46804 (phone 219-672-2728).

IOWA (Des Moines, Sioux City): **Carl B. Zimmerman,** 608 Waterloo Bldg., Waterloo, Iowa 50701 (phone 319-232-2650).

KANSAS (Garden City, Topeka, Wichita): **Cletus J. Pottebaum,** 6503 E. Murdock, Wichita, Kan. 67206 (phone 316-683-3963).

KENTUCKY (Lexington, Louisville): **Bryan J. Sifford,** % Ronnie W. McGill, 3409 Brunswick Rd., Lexington, Ky. 40503-4310 (phone 606-234-1642).

LOUISIANA (Alexandria, Baton Rouge, Bossier City, Monroe, New Orleans, Shreveport): **Paul J. Johnston,** 1703 W. Medalist Dr., Pineville, La. 71360.

MAINE (Bangor, Loring AFB, North Berwick): **Alban E. Cyr, Sr.,** P. O. Box 160, Caribou, Me. 04736 (phone 207-496-3331).

MARYLAND (Andrews AFB area, Baltimore, Rockville): **William T. Reynolds,** 11903 Chesterton Dr., Upper Marlboro, Md. 20772 (phone 301-249-5438).

MASSACHUSETTS (Bedford, Boston, East Longmeadow, Falmouth, Florence, Hanscom AFB, Lexington, Taunton, Worcester): **Leo O'Halloran,** 420 Bedford St., Suite 290, Lexington, Mass. 02173 (phone 617-264-4603).

MICHIGAN (Alpena, Battle Creek, Calumet, Detroit, Kalamazoo, Marquette, Mount Clemens, Oscoda, Petoskey, Southfield): **William Stone,** 7357 Lakewood Dr., Oscoda, Mich. 48750 (phone 517-724-6266).

MINNESOTA (Duluth, Minneapolis-St. Paul): **Earl M. Rogers, Jr.,** 325 Lake Ave., S., Duluth, Minn. 55802 (phone 218-727-8711).

MISSISSIPPI (Biloxi, Columbus, Jackson): **R. E. Smith,** Rte. 3, Box 282, Columbus, Miss. 39701 (phone 601-327-4071).

MISSOURI (Kansas City, Richards-Gebaur AFB, Springfield, St. Louis, Whiteman AFB): **Raymond W. Peterman,** 11315 Applewood Dr., Kansas City, Mo. 64134 (phone 816-761-7453).

MONTANA (Bozeman, Great Falls): **Ed White,** 2333 6th Ave., South Great Falls, Mont. 59405 (phone 406-453-2054).

NEBRASKA (Lincoln, Omaha): **Ralph Bradley,** 3902 Davenport, Omaha, Neb. 68131.

NEVADA (Las Vegas, Reno): **Victor Hollandsworth,** 3720 Falcon Way, Reno, Nev. 89509 (phone 702-826-1326).

NEW HAMPSHIRE (Manchester, Pease AFB): **Robert N. McChesney,** Scruton Pond Rd., Barrington, N. H. 03825 (phone 603-664-5090).

NEW JERSEY (Andover, Atlantic City, Belleville, Camden, Chatham, Cherry Hill, East Rutherford, Forked River, Fort Monmouth, Jersey City, McGuire AFB, Middlesex County, Newark, Old Bridge, Trenton, Wallington, West Orange, Whitehouse Station): **Jim Young,** 513 Old Mill Rd., Spring Lake Heights, N. J. 07762 (phone 201-449-8637).

NEW MEXICO (Alamogordo, Albuquerque, Clovis): **Louie T. Evers,** P. O. Box 1946, Clovis, N. M. 88101 (phone 505-762-1798).

NEW YORK (Albany, Bethpage, Brooklyn, Buffalo, Chautauqua, Griffiss AFB, Hudson Valley, Nassau County, New York City, Niagara Falls, Patchogue, Plattsburgh, Queens, Rochester, Rome/Utica, Suffolk County, Syosset, Syracuse, Westchester, Westhampton Beach, White Plains): **Maxine Z. Donnelly,** 18 Jackson Place, Massapequa, N. Y. 11758 (phone 516-795-2746).

NORTH CAROLINA (Asheville, Charlotte, Fayetteville, Goldsboro, Greensboro, Kitty Hawk, Raleigh): **J. E. Smith,** P. O. Box 765, Princeton, N. C. 27569 (phone 919-936-9361).

NORTH DAKOTA (Concrete, Fargo, Grand Forks, Minot): **Ruth Ziegler,** #5 16th St., N. W., Minot, N. D. 58701 (phone 701-839-2465).

OHIO (Akron, Cincinnati, Cleveland, Columbus, Dayton, Mansfield, Newark, Youngstown): **John Boeman,** 10608 Lake Shore Blvd., Bratenal, Ohio 44108 (phone 216-249-8970).

OKLAHOMA (Altus, Enid, Oklahoma City, Tulsa): **Terry Little,** 4150 Timerlane, Enid, Okla. 73703. (phone 405-234-9624).

OREGON (Eugene, Klamath Falls, Portland): **Hal Langerud,** 10515 S. W. Clydesdale Terrace, Beaverton, Ore. 97005 (phone 503-644-0645).

PENNSYLVANIA (Allentown, Altoona, Beaver Falls, Bensalem, Coraopolis, Drexel Hill, Erie, Harrisburg, Homestead, Indiana, Johnstown, Lewistown, Mon-Valley, Philadelphia, Pittsburgh, Scranton, Shiremanstown, State College, Willow Grove, York): **David L. Jannetta,** P. O. Box 643, Altoona, Pa. 16603 (phone 814-943-8023).

PUERTO RICO (San Juan): **Fred Brown,** 1991 Jose F. Diaz, Rio Piedras, P. R. 00928 (phone 809-790-5288).

RHODE ISLAND (Warwick): **Thomas R. Portesi,** 102d Tactical Control Squadron, North Smithfield ANG Station, Slatersville, R. I. 02889 (phone 401-762-9100).

SOUTH CAROLINA (Charleston, Clemson, Columbia, Myrtle Beach, Sumter): **Harry E. Lavin,** 28 Little Creek Rd., The Forest, Myrtle Beach, S. C. 29577 (phone 803-272-8440).

SOUTH DAKOTA (Rapid City, Sioux Falls): **Jim England,** Rte. 8, Box 3980, Rapid City, S. D. 57702 (phone 605-342-2200).

TENNESSEE (Chattanooga, Knoxville, Memphis, Nashville, Tri-Cities Area, Tullahoma): **Jack K. Westbrook,** P. O. Box 1801, Knoxville, Tenn. 37901 (phone 615-523-6000).

TEXAS (Abilene, Amarillo, Austin, Big Spring, College Station, Commerce, Corpus Christi, Dallas, Del Rio, Denton, El Paso, Fort Worth, Harlingen, Houston, Kerrville, Laredo, Lubbock, San Angelo, San Antonio, Waco, Wichita Falls): **Ollie R. Crawford,** P. O. Box 202470, Austin, Tex. 78720 (phone 512-331-5367).

UTAH (Brigham City, Clearfield, Ogden, Provo, Salt Lake City): **Marcus C. Williams,** 4286 S. 2300 West, Roy, Utah 84067 (phone 801-627-4490).

VERMONT (Burlington): **Ralph R. Goss,** 8 Summit Circle, Shelburn, Vt. 05482 (phone 802-985-2257).

VIRGINIA (Arlington, Charlottesville, Danville, Harrisonburg, Langley AFB, Lynchburg, Norfolk, Petersburg, Richmond, Roanoke): **Charles G. Durazo,** 1725 Jefferson Davis Highway, Suite 510, Arlington, Va. 22202 (phone 703-892-0331).

WASHINGTON (Seattle, Spokane, Tacoma, Yakima): **Charles Burdulis,** N. 5715 Sutherlin, Spokane, Wash. 99208 (phone 509-327-8902).

WEST VIRGINIA (Huntington): **Ron Harmon,** 1600 Core Rd., Parkersburg, W. Va. 26101 (phone 304-485-2088).

WISCONSIN (Madison, Milwaukee): **Gilbert Kwiatkowski,** 8260 W. Sheridan Ave., Milwaukee, Wis. 53218 (phone 414-463-1849).

WYOMING (Cheyenne): **Irene G. Johnigan,** 503 Notre Dame Court, Cheyenne, Wyo. 82009 (phone 307-775-3641).

UNIT REUNIONS

on October 2–4, 1987, at the Hyatt Regency Hotel in Fort Worth, Tex. **Contact:** Dr. Jack Burton, 1211 Loma Alta Pl., Cleburne, Tex. 76031. Phone: (817) 645-6743 or (817) 645-0167.

49th Fighter Group
Members of the 49th Fighter Group will hold a reunion on October 8–10, 1987, in Albuquerque, N. M. **Contact:** Daniel A. Engelhardt, P. O. Box 1732, Dunedin, Fla. 34697. Phone: (813) 797-1147 or Wesley I. McKee at (817) 772-4243.

70th Air Refueling Squadron Ass'n
Former KC-97 crew members and maintenance, staff, and support personnel of the 70th Air Refueling Squadron from the 1955–63 era will hold a reunion on October 1–4, 1987, at Little Rock AFB, Ark. **Contact:** Jack Loomis, 9204 Peach Tree, North Little Rock, Ark. 72116. Phone: (501) 835-7747.

F-100F "Misty Fast FACs"
Members of the Commando Sabre "Misty Fast FACs" will hold a reunion on September 18–19, 1987, at Davis-Monthan AFB, Ariz. **Contact:** Col. James D. Weidman, USAF, 355th TTW/DO, Davis-Monthan AFB, Ariz. 85707. Phone: (602) 748-5436. AUTOVON: 361-5436.

320th Bomb Group Ass'n
The 320th Bomb Group will hold a reunion on October 15–17, 1987, at the Marriott Hotel in Irving, Tex. **Contact:** Stu Rowan, 108 Aspen, Hereford, Tex. 79045. Phone: (806) 364-4015.

486th Bomb Group Ass'n
The 486th Bomb Group will hold a reunion on October 14–18, 1987, in Pittsburgh, Pa. **Contact:** Robert H. Nolan, 2676 Augusta Dr. N., Clearwater, Fla. 33519.

2953d CLSS
Personnel of the 2953d Combat Logistics Support Squadron will hold a twentieth anniversary reunion on December 4–5, 1987, at Tinker AFB, Okla. **Contact:** MSgt. Gingras, 2953d CLSS/MAA, Tinker AFB, Okla. 73145-5000. Phone: (405) 739-2115.

Air Weather Ass'n
Air Weather Service veterans are planning to hold a reunion in Sacramento, Calif. Please contact the address below for additional information.

Maj. Gen. John W. Collens, USAF (Ret.)
5301 Reservation Rd.
Placerville, Calif. 95667

AFA's CHAMPLUS® . . . With the

Exceptional Basic Benefits

1. Four year basic benefit. Benefits for most injuries or illnesses are paid for up to a four-year period.

2. Up to 45 consecutive days of in-hospital care for mental, nervous or emotional disorders. Outpatient care for these disorders may include up to 20 visits by a physician or $500.00 per insured person each year.

3. Up to 30 days per year for each insured person confined in a Skilled Nursing Facility.

4. Up to 30 days per year (to a 60-day life-time maximum) for each insured person receiving care through a CHAMPUS-approved Residential Treatment Center.

5. Up to 30 days per year (to a 60-day life-time maximum) for each insured person receiving care through a CHAMPUS-approved Special Treatment Facility.

6. Up to five visits per year for each insured person to Marriage and Family Counselors under conditions defined by CHAMPUS.

And the New 'Expense Protector' Benefit

While CHAMPUS Supplement coverage was originally intended to cover the cost of medical services not provided by CHAMPUS, practitioners and service institutions may charge fees that are considerably greater than those approved for payment by CHAMPUS. And, because Supplement policies traditionally base their payments on the amount paid by CHAMPUS, the insured can be left with sizable out-of-pocket expenses. AFA's ChamPLUS® coverage includes a special feature which places a limit on these out-of-pocket expenses.

Called the 'Expense Protector' Benefit, this program limits out-of-pocket expenses for CHAMPUS covered charges in any single calendar year to $1,000 for any one insured person (or $2,000 for all insured family members combined). Once those out-of-pocket expense maximums are reached, ChamPLUS® will pay 100% of CHAMPUS covered charges for the remainder of that year.

An example of the way the 'Expense Protector' works follows. Assume you are hospitalized for 35 days, that the hospital charges you $330 per day and that this is $75 per day *more* than allowed by CHAMPUS. This would mean that you have an out-of-pocket expense of $2,625. With AFA's 'Expense Protector' benefit, your cost would be limited to $1,000. All covered costs over this amount—for the whole calendar year—would be paid by ChamPLUS®!

It's an important benefit that can mean significant savings to you and your family.

Who Is Eligible?

1. All AFA members under 65 years of age who are currently receiving retired pay based upon their military service and who are eligible for benefits under Public Law 89-614 (CHAMPUS), their spouses under age 65 and their unmarried dependent children under age 21, or age 23 if in college.

2. All eligible dependents of AFA members on active duty. Eligible dependents are spouses under age 65 and unmarried dependent children under age 21 (or age 23 if in college). (There are some exceptions for older age children. See "Exceptions and Limitations.")

Renewal Provision

As long as you remain eligible for CHAMPUS benefits and the Master Policy with AFA remains

AFA ChamPLUS® Benefit Schedule

Care	CHAMPUS Pays	AFA CHAMPLUS® PAYS
For Military Retirees Under Age 65 and Their Dependents		
Inpatient civilian hospital care	CHAMPUS pays 75% of allowable charges	CHAMPLUS® pays the 25% of allowable charges not paid by CHAMPUS . . . plus 100% of covered charges after out-of-pocket expenses exceed $1,000 per person (or $2,000 per family) during any single calendar year.
Inpatient military hospital care	The only charge normally made is a $7.55 per day subsistence fee, not paid by CHAMPUS.	CHAMPLUS® pays the $7.55 per day subsistence fee.
Outpatient care	CHAMPUS covers 75% of outpatient care fees after an annual deductible of $50 per person ($100 maximum per family) is satisfied.	CHAMPLUS® pays the 25% of allowable charges not paid by CHAMPUS after the deductible has been satisfied . . . plus 100% of covered charges after out-of-pocket expenses exceed $1,000 per person (or $2,000 per family) during any single calendar year.
For dependents of Active Duty Military Personnel		
Inpatient civilian hospital care	CHAMPUS pays all covered services and supplies furnished by a hospital less $25 or $7.55 per day, whichever is greater.	CHAMPLUS® pays the greater of $7.55 per day or the $25 hospital charge not paid by CHAMPUS.
Inpatient military hospital care	The only charge normally made is a $7.55 per day subsistence fee, not paid by CHAMPUS.	CHAMPLUS® pays the $7.55 per day subsistence fee.
Outpatient care	CHAMPUS covers 80% of outpatient care fees after an annual deductible of $50 per person ($100 maximum per family) is satisfied.	CHAMPLUS® pays the 20% of allowable charges not paid by CHAMPUS after the deductible has been satisfied . . . plus 100% of covered charges after out-of-pocket expenses exceed $1,000 per person (or $2,000 per family) during any single calendar year.

NOTE: Outpatient benefits cover emergency room treatment, doctor bills, pharmaceuticals, and other professional services. There are some reasonable limitation and exclusions for both inpatient and outpatient coverage. Please note these elsewhere in the plan description.

New 'Expense Protector' Benefit!

in force, termination of your coverage can occur only if premiums for coverage are due and unpaid, or if you are no longer an AFA member. Your certificate cannot be terminated because of the number of times you receive benefits.

Exceptions and Limitations

Coverage will not be provided for conditions for which treatment has been received during the 12-month period prior to the effective date of insurance until the expiration of 12 consecutive months of insurance coverage without further treatment. After coverage has been in force for 24 consecutive months, pre-existing conditions will be covered regardless of prior treatment. Children of active duty members over age 21 (age 23 if in college) will continue to be eligible if they have been declared incapacitated and if they are insured under CHAMPLUS® on the date so declared. Coverage for these older age children will only be provided upon a) notification to AFA and b) payment of a special premium amount.

Plan 1
For Military Retirees and Dependents
QUARTERLY PREMIUM SCHEDULE

In-Patient Benefits Only

Member's Attained Age*	Member	Spouse	Each Child
Under 50	$22.97	$ 45.12	$16.34
50-54	$34.33	$ 56.21	$16.34
55-59	$50.32	$ 60.17	$16.34
60-64	$62.98	$ 69.27	$16.34

In-Patient and Out-Patient Benefits

Under 50	$33.90	$ 61.02	$40.84
50-54	$46.59	$ 69.87	$40.84
55-59	$64.41	$ 96.11	$40.84
60-64	$77.38	$102.15	$40.84

*Note: Premium amounts increase with the member's attained age

Plan 2
For Dependents of Active Duty Personnel
ANNUAL PREMIUM SCHEDULE

In-Patient Benefits Only

	Member	Spouse	Each Child
All Ages	None	$ 9.68	$ 5.94

In-Patient and Out-Patient Benefits

All Ages	None	$38.72	$29.70

CHAMPLUS®

Coverage After Age 65

Upon attainment of age 65, the coverage of members insured under CHAMPLUS® will automatically be converted to AFA's Medicare Supplement program so that there will be no lapse in coverage. Members not wishing this automatic coverage should notify AFA prior to their attainment of age 65.

Exclusions

This plan does not cover and no payment shall be made for:

- routine physical examinations or immunizations
- domiciliary or custodial care
- dental care (except as required as a necessary adjunct to medical or surgical treatment)
- routine care of the newborn or well-baby care
- injuries or sickness resulting from declared or undeclared war or any act thereof
- injuries or sickness due to acts of intentional self-destruction or attempted suicide, while sane or insane
- treatment for prevention or cure of alcoholism or drug addiction
- eye refraction examinations
- prosthetic devices (other than artificial limbs and artificial eyes), hearing aids, orthopedic footwear, eyeglasses and contact lenses
- expenses for which benefits are or may be payable under Public Law 89-614 (CHAMPUS)

APPLICATION FOR AFA CHAMPLUS*

Group Policy GMG-FC70
Mutual of Omaha Insurance Company
Home Office: Omaha, Nebraska

Full name of Member _____
Rank Last First Middle

Address _____
Number and Street City State ZIP Code

Date of Birth _____ Current Age ____ Height ____ Weight ____ Soc. Sec. No. _____
Month/Day/Year

This insurance coverage may only be issued to AFA members. Please check the appropriate box below:

☐ I am currently an AFA Member.

☐ I enclose $18 for annual AFA membership dues (includes subscription ($14) to AIR FORCE Magazine).

PLAN & TYPE OF COVERAGE REQUESTED

Plan Requested (Check One)
☐ AFA CHAMPLUS* PLAN I (for military retirees & dependents)
☐ AFA CHAMPLUS* PLAN II (for dependents of active-duty personnel)

Coverage Requested (Check One)
☐ Inpatient Benefits Only
☐ Inpatient and Outpatient Benefits

Person(s) to be insured (Check One)
☐ Member Only
☐ Spouse Only
☐ Member & Spouse
☐ Member & Children
☐ Spouse & Children
☐ Member, Spouse & Children

PREMIUM CALCULATION

All premiums are based on the attained age of the AFA member applying for this coverage. Plan I premium payments are normally paid on a quarterly basis but, if desired, they may be made on either a semi-annual (multiply by 2), or annual (multiply by 4) basis.

Quarterly (annual) premium for member (age ____) $_____

Quarterly (annual) premium for spouse (based on member's age) $_____

Quarterly (annual) premium for ____ children @ $ $_____

Total premium enclosed $_____

If this application requests coverage for your spouse and/or eligible children, please complete the following information for each person for whom you are requesting coverage.

Names of Dependents to be Insured	Relationship to Member	Date of Birth (Month/Day/Year)

(To list additional dependents, please use a separate sheet.)

In applying for this coverage, I understand and agree that (a) coverage shall become effective on the last day of the calendar month during which my application together with the proper amount is mailed to AFA, (b) only hospital confinements (both inpatient and outpatient) or other CHAMPUS-approved services commencing after the effective date of insurance are covered and (c) any conditions for which I or my eligible dependents received medical treatment or advice or have taken prescribed drugs or medicine within 12 months prior to the effective date of this insurance coverage will not be covered until the expiration of 12 consecutive months of insurance coverage without medical treatment or advice or having taken prescribed drugs or medicine for such conditions. I also understand and agree that all such pre-existing conditions will be covered after this insurance has been in effect for 24 consecutive months.

Date _____, 19____ _____
Member's Signature

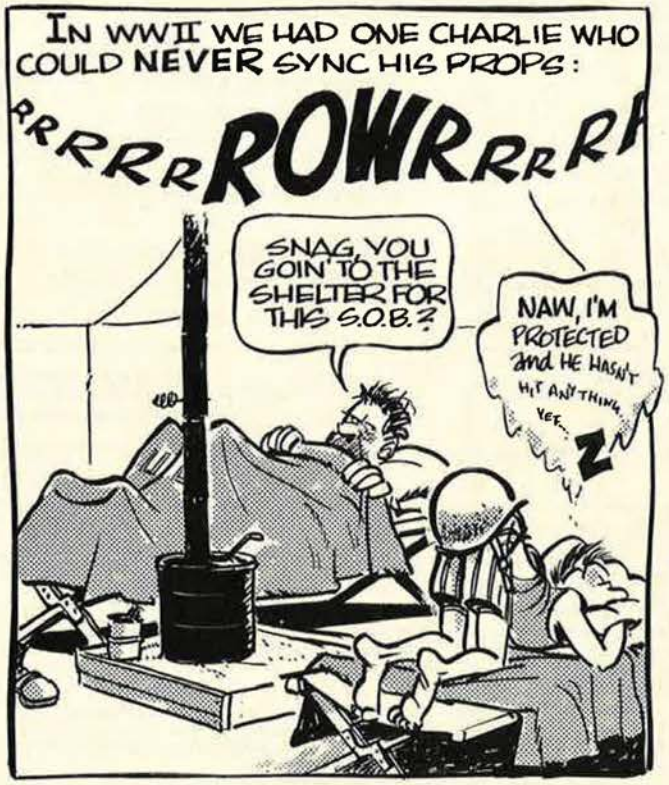
Form 6173GH App.
9/87

Application must be accompanied by a check or money order. Send remittance to: Air Force Association, Insurance Division, 1501 Lee Highway, Arlington, VA 22209-1198

Bob Stevens'

"There I was..."

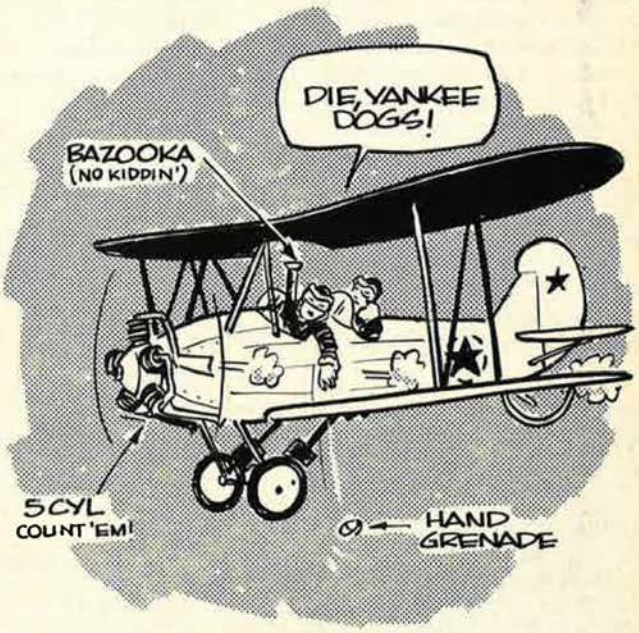
IN WWII WE HAD ONE CHARLIE WHO COULD NEVER SYNC HIS PROPS:



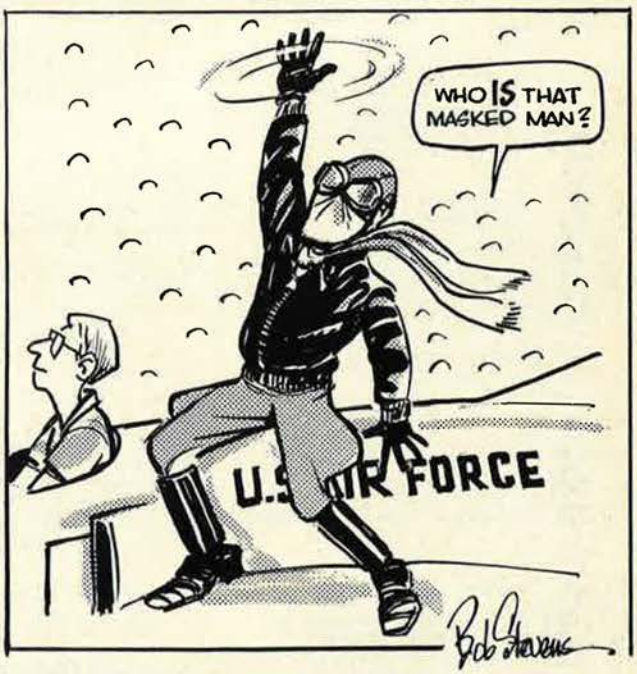
TRYIN' TO NAIL ONE OF THESE GAD-FLYS BLAZING ALONG AT TREETOP LEVEL AT 90 mph WAS ANOTHER THING-

"BEDCHECK CHARLIES"- NIGHT INTRUDERS- HAVE MADE LIFE MISERABLE FOR PEOPLE ON THE GROUND SINCE AIR COMBAT BEGAN. SOMETIMES THEY INFLICTED GREAT DAMAGE, BUT MORE OFTEN THAN NOT THEY JUST BUGGED THE HELL OUT OF YOU...

DURING KOREA, THE REDS USED THE VENERABLE Po-2 (CIRCA 1928) TO TERRORIZE THE TROOPS-

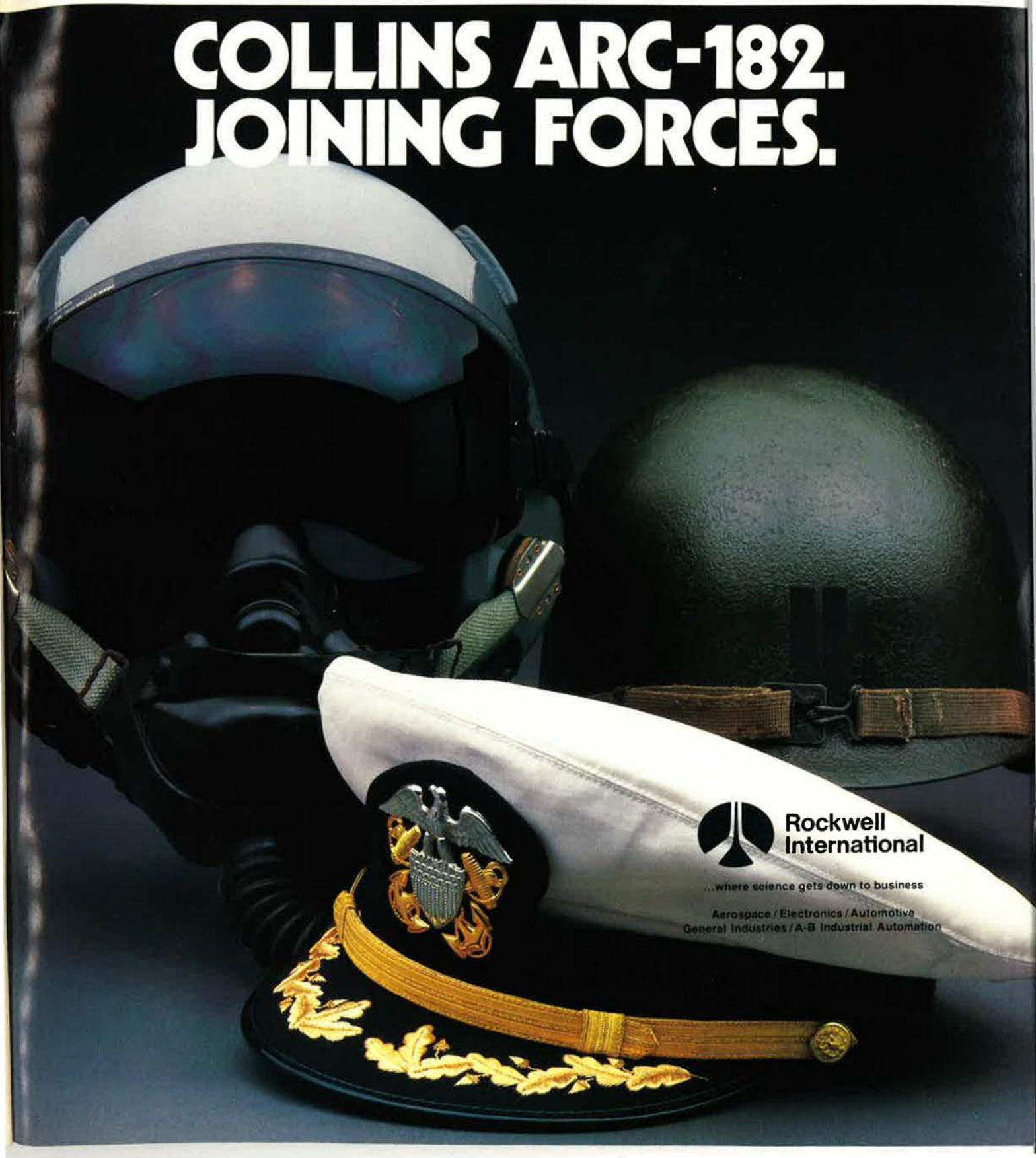


"BEDCHECK CHARLIE" LIVES ON AT THE AF ACADEMY WHERE HE MAKES HIS ROUNDS AT- AMONG OTHER PLACES- FALCON FOOTBALL GAMES.



The multimode Collins ARC-182 replaces four separate radios to provide a single tri-service communications terminal. ■ Widely used in Navy aircraft, the ARC-182 delivers multiband coverage of VHF-FM/AM and UHF-FM/AM frequencies. Available options enable multi-channel scanning and/or voice satcom. It has 11,960 channels in the 30 to 400 MHz AM/FM frequency range. ■ The compact Collins ARC-182 completely integrates communications with close air support, air traffic control, military and NATO forces and maritime operations. ■ The unit offers built-in or remote control operation. Optional configurations can be controlled from a MIL-STD-1553 multiplex data bus. It features built-in test to the module level for quick, easy maintenance. Dual installations provide redundant, full-band coverage. ■ For information contact: Collins Defense Communications, Rockwell International, 350 Collins Road N.E., MS 120-131, Cedar Rapids, Iowa 52498, U.S.A. (319) 395-1600, Telex 464-435. **Collins ACCD: The Electronic Combat Specialists.**

COLLINS ARC-182. JOINING FORCES.



Rockwell International

...where science gets down to business

Aerospace / Electronics / Automotive
General Industries / A-B Industrial Automation

THE F-15: KEY PLAYER ON THE USAF TEAM.

THE MISSION: FLY FAR BEHIND THE BATTLE AREA TO DENY AN ENEMY THE MEANS AND WILL TO CONTINUE AN ATTACK.

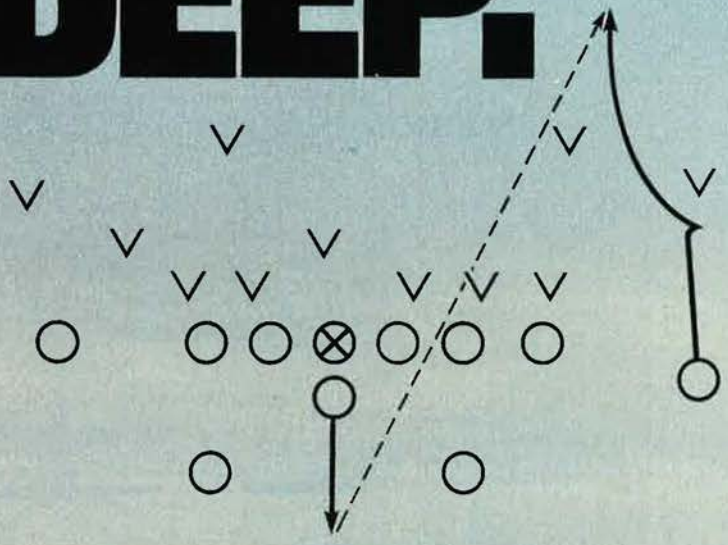
Deep interdiction is a crucial U.S. Air Force mission. Why? Because hostile forces are brought closer to defeat when denied the resources to continue.

A strong defense for America means that the Air Force must be able to go deep when necessary. The mission requires a plane that can fight its way to and from the target through hostile skies, in any weather, day or night, then deliver its payload with precision on high-value, rear-echelon targets.

The Air Force chose the F-15E for this deep interdiction mission. The Eagle's range gets it deep. Its sensors guide it over enemy terrain in any weather, day or night, with a payload large enough to do the job. Its speed, maneuverability, countermeasures and air-to-air weapons get it back safely.

For a strong defense, America counts on the Air Force. And the Air Force counts on the F-15 Eagle.

GOING DEEP.



McDONNELL DOUGLAS