NOVEMBER 1974 / $1

AIR FORCE

PUBLISHED BY THE AIR FORCE ASSOCIATION

MAGAZINE

"USAF, Your B-1 Is Ready"

NUMBER 3

SPERRY

Avionics Report

SPERRY'S AIR DATA technology has led to the development of a ground-based system which utilizes the solid-state vibrating diaphragm sensor used in its air data computers. The FAA recently awarded Sperry a contract for Digital Altimeter Setting Indicators and Sensor Translation Units to be installed in air traffic control and tower facilities at major airports throughout the United States. The system automatically monitors local atmospheric pressure settings for air traffic controllers, who transmit the information to pilots. The sensor provides altimeter setting accuracy within .005 inches. The altimeter setting is displayed in digital form using easy-to-read gas tube displays. Until this development, application for the sensor has been limited primarily to computers produced for the F-15, YF-16, and Gulfstream II.

PAVE DEUCE MILESTONE— Sperry Flight Systems, prime contractor to the Armament Development and Test Center on the Pave Deuce program, logged the first unmanned flight over the White Sands Missile Range. In the program designed to provide the Air Force with a full-size supersonic target, Sperry is modifying F-102 fighters into remotely piloted PQM-102 drones.

FIRST OFFERING FROM FORMER WILCOX LINE—Sperry is now offering as part of its STARS line of avionics the TP-114B Transponder, which was formerly designated the 1014B in the Wilcox *Grand Line.* Sperry Flight Systems acquired Wilcox's airborne equipment line in May. The TP-114B has been specified standard equipment for the Gates Learjet and is optional on many other aircraft. There are some 4000 units in service.

THE U. S. ARMY has awarded Sperry Flight Systems a $2.3 million contract for 558 ASN-43 gyro compass systems and 260 spare directional gyros for use in Bell UH-1 series helicopters. The ASN-43 system, tailored to military environmental specifications, consists of a directional gyro, magnetic compensator and flux valve.

FUTURE DC-9 SERIES aircraft will be equipped with a new Sperry air data computer and dual electric altimeters as standard equipment. The new computer features an advanced-technology vibrating diaphragm sensor. The new system will replace pneumatic static pressure plumbing to the altimeter with electronically derived coarse-fine synchro altitude information. It allows for easy transition to comply with future altitude reporting requirements. Hawaiian Airlines, with eight DC-9-50s on order, will be the first carrier to be equipped.

SPERRY
FLIGHT SYSTEMS

PHOENIX, ARIZONA 85036

a division of Sperry Rand Corporation

INTERNATIONAL OFFICES: West Drayton, England; Paris, France; Munich, Germany; and Melbourne, Australia.

AIR FORCE MAGAZINE
PUBLISHED BY THE AIR FORCE ASSOCIATION

NOVEMBER 1974
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This Month

ABOUT THE COVER

The B-1 on our cover this month is how USAF's proposed new strategic bomber looked a short time before its late-October rollout at the Palmdale, Calif., plant of Rockwell International, its maker. See p. 2 for Editor John F. Loosbrock's views on the new aircraft.

Departments

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The Case for the B-1

By John F. Loosbrock
EDITOR, AIR FORCE MAGAZINE

WE HAVE an acquaintance who is getting along in years and who recently suffered a series of personal setbacks—both physical and financial. We asked him how he was getting along.

"Great!" he replied.

"How have you managed that?" we wanted to know.

"Simple," he said. "I've just lowered my standards of greatness."

That's one way to look at it, of course, and as a personal philosophy it has some attractions. But a great nation cannot approach its responsibilities so simplistically. At least not if it has thoughts about retaining its greatness. History is littered with the remains of once-powerful states that thought they could beat the system. In most cases, their downfall came about by their becoming so preoccupied with internal problems that they forgot about the competition.

Now, no one can blame the national leadership, in both the executive and legislative branches, for being preoccupied with the economic plight of the nation. And the electorate lives with inflation every day. We have a few unpaid bills on our own desk at the moment, including one for a new roof which we didn't want but which we needed very much and which would have cost us only half as much ten years ago.

The point is that in times of economic stress, governments, like people, must put needs before wants, necessities before luxuries. Where the rub comes is in deciding the priorities.

In a family, the priority decisions are often made by your creditors. The wheel that does the squeaking gets the grease. But among nations, as among businesses, the priorities must be determined with one eye, at least, on the competition.

As Secretary of Defense James R. Schlesinger put it recently, "We match ourselves not against the Department of Defense as it might have existed ten years ago, but in relation to the preservation of a worldwide military balance in which the Soviet Union carries a very large weight. Therefore, we are comparing ourselves to a considerable extent with Soviet capabilities. . . . Soviet expenditures in real terms, in constant rubles, have been increasing three to five percent each year. The balance at the present time is gradually eroding from the standpoint of the United States. If the United States wishes to fulfill its worldwide responsibilities, it is not going to do that on four and a half percent of the GNP. We will just have to face up to the expenditure."

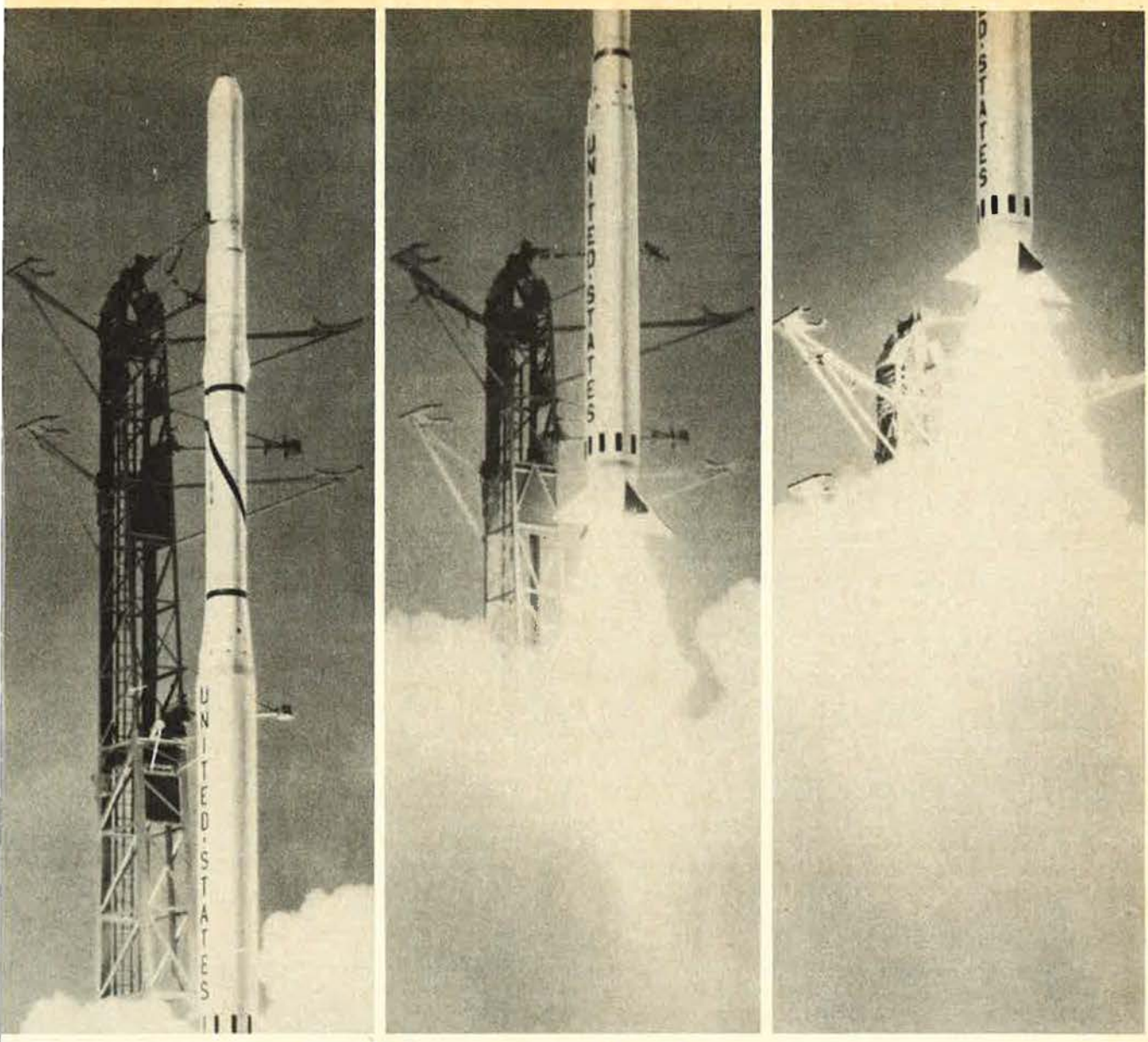
The conditional "if" in Dr. Schlesinger's statement is significant. If the United States decides, as a nation, that it does not wish to fulfill its worldwide responsibilities, presumably it is entitled to do so. Presumably, it can decide that national survival can be jeopardized. But the fearful consequences of such decisions must be recognized. What would be unforgiveable would be to delude ourselves by professing that US responsibilities will be fulfilled and national survival ensured while refusing to provide the wherewithal with which to bring about these ends. Neither our competition nor our allies would be deceived. We would fool *only* ourselves.

Nowhere in the defense budget are the economic pressures, virtually all resulting from inflation, so heavy as in the case of the Air Force's B-1 manned bomber. The mood on Capitol Hill *(see p. 16, "Airpower in the News")* borders on despair, with few legislators questioning the need for the B-1, but with an uncomfortably large number almost literally wringing their hands over the prospect of paying for it. So it is important to reiterate what options would be foreclosed to the US in the event that support for the B-1 should not be forthcoming.

The manned bomber per se is critical to Secretary Schlesinger's new approach to targeting strategy *(see "The Pentagon Looks at New Strategic Options," February '74 issue, p. 52).* It gives you a combination of selectivity, flexibility, and deliverable megatonnage that no missile system can match. You can pick both a weapon and a delivery tactic matched to your target. You have a way to use conventional weapons when those are appropriate, and neither of the other parts of the strategic Triad can make this claim. And you can use it without using it up. It's recyclable.

But why does the manned bomber of the future have to be the B-1? It doesn't, of course. Several alternatives have been examined—lengthening the operational life of the B-52; going to a smaller, cheaper aircraft; opting for standoff cruise missiles. Each imposes severe operational penalties and, in the case of the cruise missile, involves dependence on a system that is still embryonic and untested. In each alternative lies one or more elements of unsureness as to ability to penetrate sophisticated defenses, ability to take out a wide range of targets, ability to contribute to deterrence over the balance of this century. To introduce one or more such uncertainties into a strategic posture that demands certainty above all, would be placing at unwarranted risk the almost 200 years of accumulation of institutions, values, property, and people that we call the United States of America.

The B-1 currently is the No. 1 national defense priority. Let's keep it at the top of our list. ■



The trustworthy Scout.
After 32 in a row, 33 was hardly a long shot.

The Scout launch vehicle continues to add to its own NASA record for dependability.

The Scout's 33rd successful mission in a row launched a German AEROS-B satellite into a near-polar orbit. Information gathered will help build a better understanding of upper atmosphere conditions important to radio communications.

This success, however, didn't really come as a surprise.

Because since 1963, the four-stage, solid-propellant Scout has achieved an operational success rate of over 95 percent.

That's one reason the Scout is NASA's lowest-cost orbital launch vehicle, with payload capabilities that have tripled since its inception with NASA and the Department of Defense. And it also has performed missions that include probe and re-entry.

Proven dependability is why the Scout also serves Great Britain, Italy, France, the Netherlands and the 10-nation European Space Research Organization.

The stakes are too high to risk using anything else.

VOUGHT
SYSTEMS DIVISION
LTV AEROSPACE CORPORATION
DALLAS, TEXAS

By the time the YF-16 first broke ground,

That's because its engine is the proven Pratt & Whitney Aircraft F-100 which has been flying in the McDonnell Douglas F-15 for two years.

Installing it in the General Dynamics YF-16 takes only a handful of bolts and a couple of adapters.

It's an engine in production and in inventory. With spares in the pipeline. An engine with 15,000 development hours. An engine with maintenance training completed and tech manuals printed. And an engine with its Aerospace

its engine had spent 2600 hours in the air.

Ground Equipment (AGE) now being deployed.
In short, it's an engine not only with a proud heritage, but with the built-in leadership, reliability and technological excellence synonymous with our name.

An engine, in fact, that proved itself long before the first YF-16 flew.

Pratt & Whitney Aircraft, Division of United Aircraft Corporation, East Hartford, Conn. 06108.

Pratt & Whitney Aircraft DIVISION OF UNITED AIRCRAFT CORPORATION

Dependability that pays off on the bottom line.

Airmail

Calling New Zealand
Gentlemen: I subscribe to your magazine, and feel it is, indeed, a fine journal. Aside from that, I was impressed with the exchange of correspondence between you and David and Peter Gill (*see September "Airmail," p. 16).* Am sure you know what you have done for these two youngsters. We think it is great.

Intend to send them some old flight manuals, as well as a couple of additional copies of your magazine with their photos. Am also giving them the name of an old chum of mine who is Assistant Chief of Radio New Zealand.

Our hats are off to you. Great.

W. J. Fox
Vice President-Operation
Union Pacific Railroad
Omaha, Neb.

Wrong Title
Gentlemen: I call your attention to an item in "Aerospace World," on p. 20 of the August issue. Dr. Siegfried Mann, shown presenting a German decoration to Gen. David C. Jones, is *not* the "German Defense Secretary," but rather one of three State Secretaries in the Ministry of Defense. The German Minister of Defense is Herr Georg Leber, and Dr. Mann is one of his deputies.

Sorry to be so late in writing, but the August issue arrived only Saturday, 14 September. As you can see, we in the APO system are also having problems with the US mail.

Col. Stuart M. Bloss, USAF
Air Attaché
Embassy of the USA
Bonn, Germany

• *Our apologies to Minister of Defense Georg Leber, and to Dr. Mann.*—THE EDITORS

Pilot to Nav: Right on!
Gentlemen: I would like to rebut the "There I Was . . ." feature by Bob Stevens which appeared in the July 1974 issue of your magazine. I am a Command Pilot currently assigned in Thailand and feel that a rebuttal by a pilot would be most appropriate. . . . *[For what the navigators had to say, see this month's "There I Was . . ."]*

I completed pilot training in 1956 and have flown in the Military Airlift Command since. The C/HC-54, C-141, and VC-135 are the aircraft in which I have accumulated 7,600 hours. In each of these aircraft, the navigator was an essential and most important crew member, fully earning the respect of all concerned. I am a member of the AFA and look forward to the arrival of each issue of your informative magazine.

Lt. Col. Harold G. Colson, USAF
Chief, Joint Rescue
Coordination Center
APO San Francisco 96310

Where Is Lee Crabtree?
Gentlemen: During World War II, as a Free French radio operator, I fought with the Underground called "Marquis" in a zone delimited by the towns of Ussel, Eygurande, and the French Military installation of La Courtine (Department of Correze, country located in the center of France) where the underground was particularly active in the year 1943.

There was a time of intense bombardment by the US Air Force, and during an air raid, a Flying Fortress was shot down by German flak batteries around the town of Montlucon. Some members of its crew bailed out, and one of them landed safely in our zone. We kept him with us, during some months. He was the pilot of the B-17 and a member of the Eighth Air Force.

When the war ended in 1945, he returned to his home in Columbus, Ind., and later moved to Nashville, also in Indiana. His name is Lee Dan Crabtree, and when we met him after his landing, he was a lieutenant. His last letter was mailed to a friend in May 1948. Can you, through your Association, try to find his actual location? I will appreciate your help in this matter; your address was given to me by a reader of *Aerospace International.*

Pierre Lassalle
Residence "Les Fauveltes"
36 bis, rue des Bénards
92260 Fontenay aux Roses, France

P-39 and P-63
Gentlemen: I am gathering material for a book on the P-39 Bell Airacobra and the P-63 Kingcobra. . . . Information on these two planes is very hard to come by these days as they never had the appeal of the P-51, P-38, and P-47, just to name a few. Any help from your members will be greatly appreciated.

E. F. Furler, Jr.
2831 Jarrard
Houston, Tex. 77005

Early Volumes
Gentlemen: Our Department of History is missing the volumes of AIR FORCE Magazine prior to 1962. Would anyone like to donate such a collection to Kansas State University?

Dr. Robin Higham
Editor, *Aerospace Historian*
Department of History
Kansas State University
Manhattan, Kan. 66506

306th Bomb Gp. Members
Gentlemen: I am trying to locate wartime associates of my father, 1st Lt. Charles U. Rapp, Jr., who

PHOTOCHART

There were two notable omissions in the Photochart in the September issue. Under Lt. Gen. Robert E. Huyser, DCS/Plans and Operations, two Assistants should have appeared, as follows:

Assistant for Automation
Col. Leo Danielian

Assistant for Congressional Hearings
Col. Donald B. Swenholt

In addition, effective October 1, 1974, a new Assistant's slot has been added under this DCS:

Assistant for Strategic Initiatives
Brig. Gen. Jasper A. Welch, Jr.

AIR FORCE Magazine regrets the omissions.

was killed in action during World War II. He was a member of the 368th Squadron, 306th Bomb Group (H) from June through August 1944. I would appreciate it if members of that unit will contact me.

Ernest C. Rapp
1952 Antietam St.
Pittsburgh, Pa. 15206

F-107A Test Pilots

Gentlemen: I am currently collecting information on the North American (now Rockwell International) F-107A program. I have been able to obtain a list of Air Force pilots who flew the aircraft at Edwards AFB and I hope that perhaps one of them reads your fine magazine. They are, listed by their 1956 grades:

General Boyd
Colonel Hanes
Captain Carson
Major Childs
Captain White
Major Lane
General Holtner
Major Sonnenberg
Colonel Scott
Captain Ellis
Major Good

I hope that with their help I can obtain first-hand information on this aircraft from the pilot's view.

I am also interested in hearing from anyone who worked on the F-107A project.

2d Lt. William J. Simone, USAF
10780 Coloma Rd. #54
Rancho Cordova, Calif. 95670

Fort Pepperrell Tokens

Gentlemen: Some years ago, a token was minted bearing the following inscription:

SERGEANTS CLUB BASE
COMMAND, NEWFOUNDLAND,
GOOD FOR 5¢ IN TRADE

With the help of the Department of Treasury, Smithsonian Institution, National Archives and Records Service, and the Department of the Air Force, I have been able to find out that this token was used at Fort Pepperrell, Newfoundland. . . .

With the help of your magazine, I might locate someone who ordered these tokens to be made, and who knows where they were minted and why they were used. The Department of Air Force suggested you since your magazine is circulated to many personnel who served in the Air Force and the old Army Air Corps.

I do hope some favorable information can turn up with your help.

Gary Patterson
R. D. #3
Box 350-B
Toms River, N. J. 08753

Whereabouts of Newspapermen

Gentlemen: I am very anxious to contact the following AAF personnel assigned to the AAF Navigation School Post newspaper TRUE DRIFT, published at Selman Field, Monroe, La., during 1943–44: 1st Lt. Clint R. Pace, Publisher, and Cpl. Seymour A. Stern, Editor.

Jose R. Sanchez (former S/Sgt.)
RPO Box 95
Kingston, N. Y. 12401

"Bloody 100th" History

Gentlemen: I am writing a history of the 100th Bombardment Group (H) of the Eighth Air Force, World War II. Would like to hear from all former members who wish to contribute stories and photos.

Jack Bennett
1362 Feather St.
Thousand Oaks, Calif. 91360

Bouquet

Gentlemen: I wonder if very many AFA members nationwide have had the many opportunities that I have had to view AFA's highly talented, multiskilled and totally professional national headquarters staff over the years.

I have been a member of AFA since 1961 and have been at the Chapter, state, regional, and unaffiliated levels at various times in those years. Until the past few years I have also been able to participate in attending the national conventions and no matter where I am, Wyoming, Colorado, or California, the excellence and load of work I have observed the national staff handling with apparent ease is staggering.

I'm a career secretary who's been blessed with some fantastically professional "bosses," so I feel I am more than qualified in that field of endeavor which has taken me into a varied set of experiences of my own, as well as being simply a dedicated member of AFA who has had firsthand knowledge of the AFA staff, to observe the AFA scene.

With nearly 130,000 members in AFA, I think attention ought to be called to the national staff and the very fine job they all do for AFA, its leaders, its members, the nation itself, and last but not least, for the Air Force!

Jeannine R. Stallings, (Mrs.)
Cheyenne Wyoming Chapter AFA
Cheyenne, Wyo.

UNIT REUNIONS

4th Fighter Wing

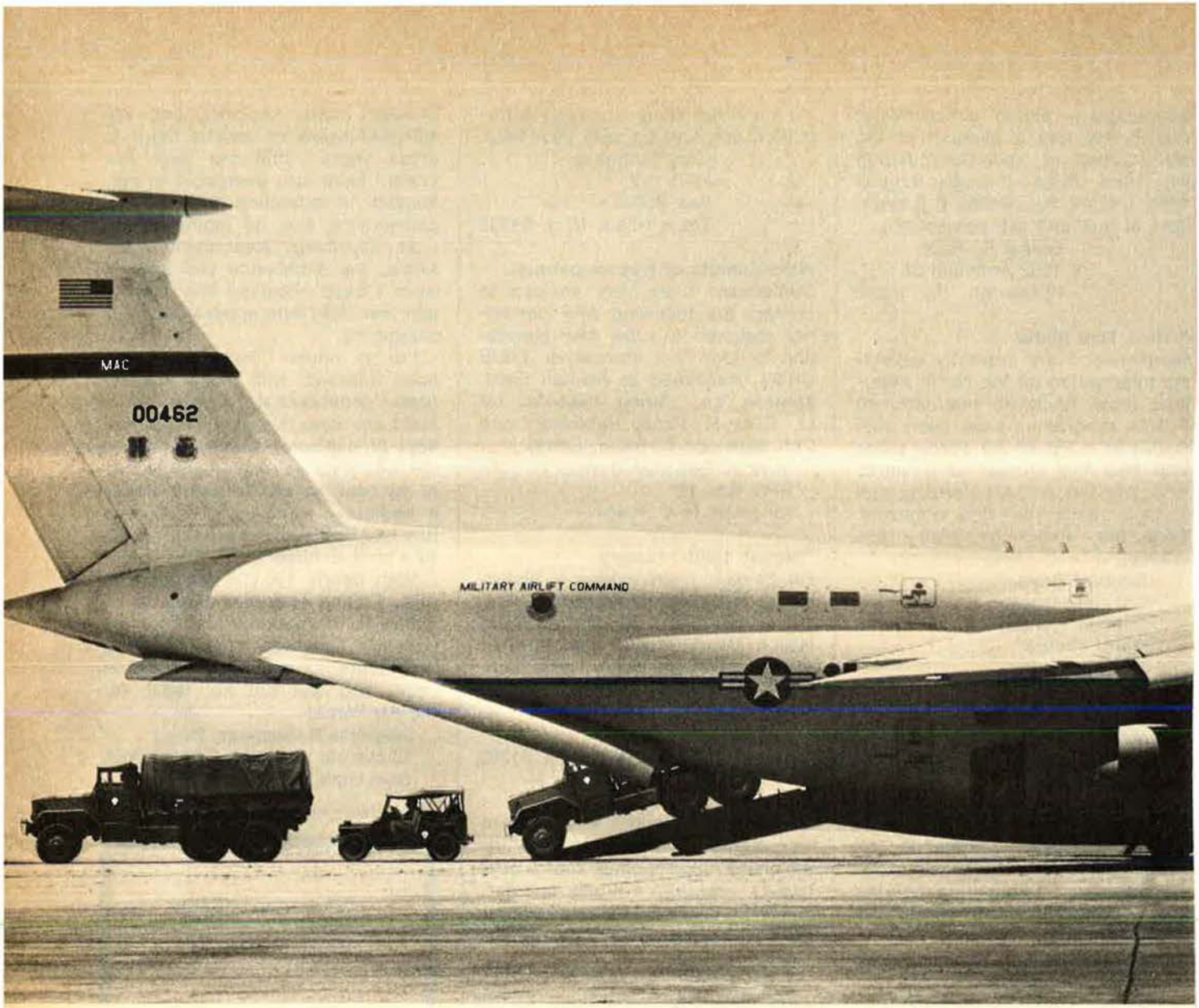
Reunion and Association forming. The Historian and Editor of the Association of the 4th Fighter Group, WW II, is planning a 1975 reunion of post-WW II 4th Fighter vets. 4th FW members who served post-WW II, 1946 to 1974, Korean War, Vietnam conflict, to present, are asked to write (please enclose a stamped, self-addressed envelope) to

Garry L. Fry
174 Pauline Dr.
Elgin, Ill. 60120

351st Bomb Group (H)

Former members of the 351st Bomb Group stationed at Polebrook, England, during WW II who would be interested in a group reunion contact

Lt. Col. Donald B. Drought, USAF (Ret.)
2449 University Blvd. West
Jacksonville, Fla. 32217
Phone: (904) 733-8833
(904) 733-8294



When you're built like this, you

When time's your biggest enemy, the C-5A can get you in and out in a hurry. It can unload typical infantry vehicles and air mobile loads twice as fast as any other transport. And when it comes to palletized loads, it's 3½ times faster.

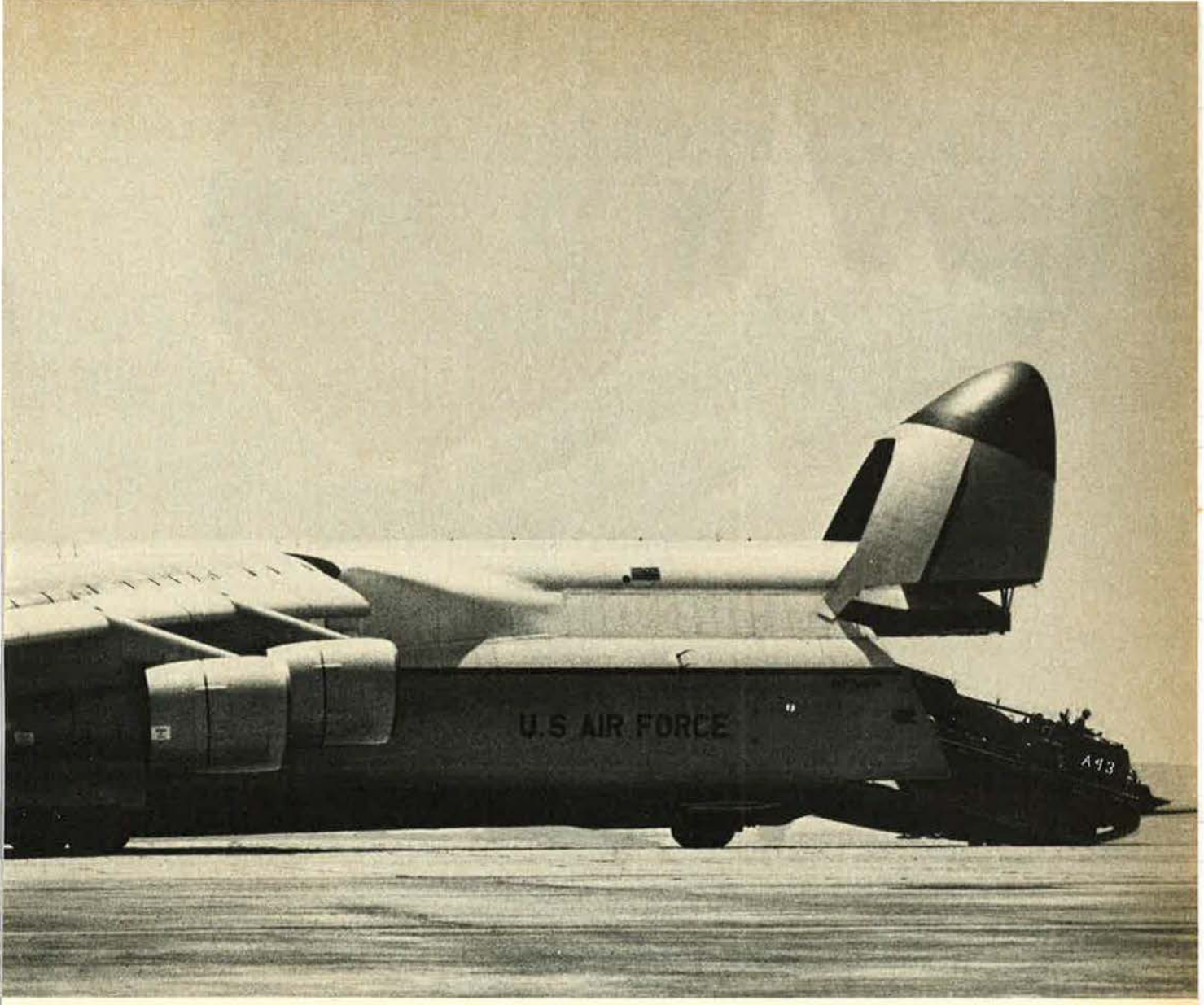
The C-5A provides this cargo-handling speed because it was conceived and designed to be a military airlifter able to carry cargo impossible for other planes.

It's the only plane that can be loaded and unloaded simultaneously through two huge cargo openings, front and back. The landing gear kneels so the cargo deck is close to the ground. The integral shoulder-high ramps permit vehicles to be driven on and off, equipment to be loaded and unloaded, without sophisticated ground equipment.

Thanks to these capabilities, the C-5A has been unloaded in only 30 minutes in actual operation.

The C-5A also saves precious time en route

If you want more information about the C-5A, "The Saga of Fat Albert" is available upon request.



can load and unload twice as fast.

because it can be refueled in midair.

It can find its destination in the worst weather with one of the world's most advanced navigational systems.

Moreover, the C-5A can land closer to where the cargo's needed because it has a high-flotation landing gear that enables it to operate on unimproved runways, stop in under 1200 feet, take off in less than 3000 feet.

The C-5A can also carry cargo other planes can't. From giant Chinook helicopters to 50-ton M-60 tanks.

The capability of the C-5A goes far beyond logistics airlift on an enormous scale. This proven plane can handle many other missions that call for large size and superb flying characteristics.

In fact, no other plane can match the C-5A in capability. After all, it was built to be the world's greatest airlifter.

Lockheed Lockheed Aircraft Corporation

It was printed in the National Aeronautics magazine. Write Lockheed-Georgia Company, Marietta, Ga. 30063.

Flag Ship.

This is the Northrop F-5E Tiger II. Designated the International Fighter. Because it proved to be the realistic answer to the urgent defense needs of many nations.

Winner in a stringent U.S. Air Force competition, it now joins the F-5, on duty, or on order with the air forces of 22 nations.

The F-5E Tiger II is a high-performance fighter. Yet its cost permits procurement in necessary quantities. It delivers astonishing combat agility: combining high maneuverability with rapid acceleration. Extended endurance. Air-to-air, as well as air-to-ground versatility. Plus the F-5 family's reputation for easy maintainability.

We're building F-5Es now. Moving forward with the two-seat F-5F tactical trainer. Working with USAF and NATO allies and others on the Cobra tactical fighter program. And flight testing the YF-17 air combat fighter for the U.S. Air Force.

The Northrop family of high-performance, low-cost fighters—pound-for-pound, the best in the world.

Northrop Corporation, 1800 Century Park East, Los Angeles, California 90067, U.S.A.

NORTHROP

ADOPTED AT THE WASHINGTON CONVENTION . . .

THE AIR FORCE ASSOCIATION'S STATEMENT OF POLICY FOR 1974-75

Following is the text of the Air Force Association's annual Statement of Policy, as unanimously adopted on September 16, 1974, by delegates to AFA's twenty-eighth annual National Convention, meeting in Washington, D. C.

The Air Force Association, whose membership includes tens of thousands of men and women who have seen war at first hand, consistently has supported efforts to reduce the risks of war, to bring about a stable international climate, and to attain a durable peace. Likewise, the Association has never opposed the search for safe, equitable, and verifiable arms-limitation agreements with the Soviet Union. Hence, we are deeply concerned that, two years after the SALT I agreements were signed, *the basic purpose of these agreements is not being met.*

Fundamental to any real hope of meaningful strategic arms-limitation negotiations is hard evidence of Soviet sincerity. The evidence to date, incontrovertible and substantial, is quite the reverse. *Rather, SALT I and the ensuing détente have served to cloak an unrestrained, unprecedented Soviet arms development and deployment effort.* As a result, the validity of the five-year interim offensive arms agreement of SALT I must be reviewed critically. Should this accord expire without comprehensive follow-on agreements, the resulting imbalance would be untenable. To grant the USSR a permanent forty percent advantage in the number of missile launchers and a potential five-to-one advantage in missile throw-weight would place the United States in a position of assured strategic inferiority. The notion that a momentary qualitative US advantage could offset permanent and decisive USSR advantages in numbers of launchers and throw-weight was unrealistic from the outset. It loses all validity as US technological improvement programs in both warhead accuracy and weapon yields approach the immutable physical limits of such improvement and as these programs are further curtailed by political constraints.

Strategic arms-limitation agreements must be anchored in unequivocal definitions, not in tenuous approximations and assumptions. Assuring compliance with the terms of SALT currently is limited to independent national verification, mainly through satellite observation. Future compliance can only be assured by augmenting such observation by direct verification and by openness between the two negotiating countries. Such critical factors as a re-fire capability for ICBMs, and the existence of mobile or transportable ICBMs and antiballistic missile systems cannot be reliably detected from satellites. Yet, these capabilities are being developed by the Soviet Union and could even be in the process of deployment right now.

US government spokesmen have indicated that the future of strategic arms-limitation negotiations will depend on a conceptual breakthrough. Such a breakthrough, in our view, must begin with a fundamental change in the Soviet Union's interpretation of the purposes of SALT. The Soviet quest for military-technical superiority is hard to reconcile with this country's understanding of détente. Meanwhile, the United States for many years has underestimated Soviet offensive weapons development and deployment, steadily decreased its own investment in strategic forces, and reduced the megatonnage of its strategic nuclear arsenal.

We view with deep apprehension Soviet pursuit of a capability to strike first, pivoting on what Foy D. Kohler, former US Ambassador to the Soviet Union, described in a recent analysis as the "capability to launch a first counterforce nuclear strike which would seek not only to disarm an opponent but simultaneously to destroy his defense industry and major industrial complexes, as well as his administrative, military-political command and control, and vital communications and transportation centers."

Further, the USSR is committed to the development of what its leaders call "fundamentally new weapons." This is no idle threat. US scientific experts see increasing evidence of massive Soviet R&D efforts in high-energy weapons. These appear to have a potential killing power vastly greater than that of the most advanced laser systems being developed in the Western world. Moreover, as US investment in advanced research is curtailed in the interest of economy and further shrunken by inflation, our ability to analyze and interpret advanced Soviet research programs diminishes, thereby increasing the danger of destabilizing technological surprises.

Aware of the inherent disadvantages accruing to a free society in dealing with a totalitarian regime, the Air Force Association vigorously opposes the current practice of granting Soviet experts free access to advanced US research projects and sophisticated production technology. Members of the US academic community and other nongovernmental scientists are exposing to Soviet visitors such highly sensitive areas as computer and guidance technology and microelectronics, on which the United States has spent untold national treasure to achieve preeminence. Similarly, some US corporations, lured by the prospect of profitable business arrangements with the USSR, have briefed Soviet experts on advanced US production technology, another area in which this country excels and the USSR is deficient. We believe these practices must be curbed by direct action at the highest levels of the Administration.

Overall, we see intolerable imbalances emerging which, in the future, will widen the Soviet lead in strategic capability to an extent that can imperil US deterrence. We cite here only selected examples in support of this position:

- Evidence that the Soviets have flight tested and are ready to deploy four new ICBM systems premised on advanced technology. Two of these include the ability to rapidly re-fire, and three involve MIRVed warheads.
- Evidence of an equally broad modernization of the USSR's sea-based strategic forces, including pending deployment of a nuclear-armed, medium-range missile that can home on moving naval targets.
- Evidence that the Soviet Union has developed and may have surreptitiously deployed a transportable antiballistic missile system.
- Evidence that the Soviet Union has deployed more than thirty improved models of the new supersonic Backfire strategic bomber and is continuing this deployment.
- Evidence that the Soviet Union is developing bomber defense weapons utilizing high-energy laser systems.
- Evidence that the USSR is engaged—on a broad scale—in research and development of "fundamentally new weapons," such as charged particle beam systems.
- Evidence that Soviet investment in its military forces now is higher in absolute terms than that of the US, standing at the equivalent of some $90 billion in FY 1973. This investment is increasing, especially in the area of offensive nuclear weapons, where the USSR has tripled its effort in each of the preceding three years; and,
- *NO* evidence that the Soviet Union, since the signing of SALT I, has reduced her efforts to expand her influence by instigating and nourishing political crises around the world.

In the face of such Soviet exploitation of the US spirit of détente, we believe the United States has no choice but to reshape its negotiating posture vis-à-vis the USSR. Fundamental, in our view, is a nonnegotiable position requiring essentially equivalent throw-weight capabilities in the two sides' central launch systems. We believe that throw-weight equivalence need apply only to the aggregate megatonnage, giving each country the option of mixing its delivery systems to its best perceived advantage. At this time we see no value in a MIRV limitation agreement which would be neither verifiable nor in accord with US strategic requirements.

At a time when US expenditures in strategic weapons need to be efficiently invested, we see a clear need to exploit to the fullest the nation's most cost-effective strategic weapon system, Minuteman III. The entire Minuteman force should be upgraded to Minuteman III levels while incorporating the accuracy and warhead improvements initiated by the Department of Defense and approved by the Congress in the current fiscal year. We see further potential for extending the deterrent value of Minuteman through advanced hardening technologies as well as additional improvements that are being explored through the M-X and related programs.

We view as equally pressing the Department of Defense's program to expand this nation's capability to deter war at various levels of intensity by increasing stategic mobility and airlift as well as in-theater conventional and nuclear forces.

A central element of US deterrence and a key factor in preventing technological surprise is the Air Force's B-1 strategic bomber, which recent DoD studies have confirmed as an essential, effective, and economical instrument of flexible deterrence. Its expeditious development and deployment are vital.

The Administration has called for a major public debate on the issues involved in matching Soviet strategic capabilities. The Air Force Association welcomes such a debate and urges that it be conducted with openness and candor. We vigorously support the Administration in its pledge to "maintain the nuclear balance by unilateral action if we must, and by negotiation, if possible." ■

AFA'S POLICY RESOLUTIONS FOR 1974-75

The following resolutions were unanimously adopted by delegates to AFA's twenty-eighth annual National Convention in Washington, D. C., on September 16, 1974.

1. MINUTEMAN MISSILE FORCE

WHEREAS, the interim SALT I agreement limits the United States to a smaller number of strategic offensive ballistic missiles than the Soviet Union, with the Soviet Union retaining a substantial advantage in missile throw-weight as well; and

WHEREAS, except for the size of ICBM silos, the SALT agreement placed no significant constraints on the qualitative characteristics of the missiles or the launchers; and

WHEREAS, the Soviet Union is engaged in intensive research and development programs to improve its existing missile systems; and

WHEREAS, the USSR has already tested four new ICBMs since SALT I, and three of these missiles were MIRVed; and

WHEREAS, it is paramount that the missiles permitted the United States under the SALT I agreement be made highly survivable and effective as a key element of TRIAD; and

WHEREAS, it is vital to the national security that all Minuteman II missiles be replaced by Minuteman III missiles and that research and development be continued and intensified to take advantage of technological gains in the state of the art to ensure the greatest survivability and effectiveness of the intercontinental ballistic missiles;

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the Administration and the Congress to support fully Air Force programs designed to improve the survivability and effectiveness of our Minuteman force as an integral part of the TRIAD concept, and specifically urges the Air Force to replace all Minuteman II missiles with Minuteman III missiles and continue with advanced research, development, and procurement of advanced missiles, including flight test of air-launched ICBMs, without sacrificing numerical and throw-weight capacity.

2. STRATEGIC AIRLIFT

WHEREAS, the crucial importance of immediately available strategic airlift forces and aerial refueling capability, particularly when some overseas bases may not be available or some sea lanes are vulnerable, was demonstrated convincingly once again during the Middle East conflict of 1973; and

WHEREAS, the ability of the United States to resupply the Israeli armed forces promptly and in sufficient quantity restored the military balance and was a decisive factor in bringing about the cease-fire; and

WHEREAS, one of the most urgent requirements of the US general-purpose force structure is an increase in total strategic airlift capacity to make it possible to rapidly move large reinforcements to Europe during the critical early weeks of a NATO-Warsaw Pact conflict; and

WHEREAS, enhanced strategic airlift capabilities will help deter aggression against ourselves and our allies; and

WHEREAS, various proposals have been submitted by the Air Force and the Defense Department to improve our strategic airlift and aerial refueling capability, including modification of some of the C-141 aircraft currently in the inventory, and modification for Defense requirements of certain commercial aircraft in the Civil Reserve Air Fleet, and increased aerial refueling capabilities;

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the Congress to authorize and appropriate the funds required to ensure that sufficient airlift and refueling capability will be available for the United States to meet its future military commitments.

3. TACTICAL AIRLIFT

WHEREAS, the Air Force has initiated development of prototype versions of an Advanced Medium STOL Transport, designated YC-14 and YC-15, to demonstrate the application of technology needed to alleviate deficiencies apparent in the current tactical airlift fleet of propeller-driven aircraft; and

WHEREAS, the AMST will have the ability to carry many items of outsize military equipment that can now only be airlifted in the C-5A; and

WHEREAS, the ability to airland this equipment in short, unprepared landing zones will enhance Army fighting effectiveness; and

WHEREAS, recent events such as the Israeli airlift have highlighted the importance of the AMST's potential ability to augment our strategic airlift capability; and

WHEREAS, modern turbofan transports provide significant improvements in productivity, reliability, and operating economics over the aircraft presently used in tactical airlift;

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the orderly and speedy transition from the prototype program to full-scale development and production of an Advanced Medium STOL transport.

4. REMOTELY PILOTED VEHICLES

WHEREAS, the future tactical capability of the US Air Force can be greatly improved by the employment of unmanned aircraft, specifically Remotely Piloted Vehicles (RPVs), in various roles; and

WHEREAS, the application of RPVs for reconnaissance and electromagnetic warfare purposes has already demonstrated cost-saving and life-saving capabilities in recent military tactical operations; and

WHEREAS, the future application of unmanned flight vehicles remotely piloted offers unique and cost-effective operational capabilities in support of reconnaissance, weapon delivery, electronic warfare, and meteorological missions; and

WHEREAS, use of unmanned flight vehicles to penetrate heavily defended areas can reduce the loss of human lives and possible capture of highly trained personnel; and

WHEREAS, the life-cycle cost of Remotely Piloted Vehicles and drones is considerably reduced by eliminating crew support systems and by incorporating reduced life span, simplicity in manufacture, lower flyaway cost per flight system, and reduced storage and training cost;

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the Administration and the Congress to support the US Air Force development and production of Remotely Piloted Vehicles to complement its manned aircraft forces.

5. ADVANCED SPACE DEFENSE

WHEREAS, Soviet use of satellites in support of strategic and tactical military operations is rapidly accelerating; and

WHEREAS, the strategic and tactical support which space systems provide to military decision-makers can strongly influence the outcome of hostilities at virtually every level of conflict;

NOW, THEREFORE, BE IT RESOLVED that the Air Force

Association urges the development and deployment of US space defense capabilities, to include a nonnuclear anti-satellite weapon, to provide for defense of US space systems, and to defend against the Soviet military space threat.

6. SLBM WARNING SYSTEM

WHEREAS, the Soviet Union has deployed the new 4,200-mile-range Submarine Launched Ballistic Missile (SLBM)—the SS-N-8; and

WHEREAS, the current US SLBM Detection and Warning System is antiquated and ineffective against such missiles; and

WHEREAS, recent changes in national policy concerning strategic deterrence which emphasize the need for limited counterforce capabilities make the requirement for attack assessment categoric;

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the deployment of a phased-array SLBM warning system as requested by the Air Force and the Department of Defense.

7. LIGHTWEIGHT FIGHTER

WHEREAS, the Air Force initiated development of, and is flight testing, two competitive lightweight fighter prototypes incorporating advanced flight control systems, innovative aerodynamics, and high thrust-to-weight ratios to achieve cost-effective air-to-air and air-to-ground combat capabilities superior to similar aircraft in existence or under development abroad; and

WHEREAS, the Air Force intends to select one of these two prototypes to serve as its Air Combat Fighter, thereby providing USAF with an advantageous high/low mix of high-performance F-15s and lower-cost, lightweight fighters; and

WHEREAS, the acquisition of such an aircraft by NATO and other allied air forces would greatly aid in achieving equipment uniformity, thereby increasing the operational effectiveness of allied air forces;

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association commends the Air Force and the Department of Defense for vigorously pursuing this development and acquisition program and urges the Congress to provide the support required to assure its expeditious completion.

AFA'S CONTINUING POLICY RESOLUTIONS

In addition to the seven new Policy Resolutions shown above and on the preceding page, delegates to the AFA Convention also took action on these eleven continuing policy resolutions:

No. 1. B-1 ADVANCED BOMBER

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association strongly urges the President, the Secretary of Defense, and the Congress to support the Air Force request for the B-1 development and procurement program as a critical and urgent requirement in maintaining the effectiveness and credibility of the strategic deterrent TRIAD.

No. 2. F-15 ADVANCED FIGHTER

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the Congress and the Administration to support full production and deployment of the F-15 as projected by the Air Force.

No. 3. A-10 AIRCRAFT

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the Administration and the Congress to support the Air Force in its efforts to develop and produce the A-10 weapon system at the earliest possible date so as to enable the Air Force to fulfill in the most effective manner possible its assigned role of providing close air support for ground forces.

No. 4. AIR DEFENSE

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association calls for reinforcement and modernization of our present air defense structure to cope with the existing threat; and

BE IT FURTHER RESOLVED that current programs designed to modernize and improve our air defenses be accelerated, to include the Airborne Warning and Control System (AWACS), a follow-on interceptor to replace the F-106, and complete over-the-horizon backscatter (OTH-B) radar coverage.

No. 5. ADVANCED AIRBORNE COMMAND POST

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association supports the development program and follow-on procurement of modified 747 aircraft with a view to achieving an Advanced Airborne Command Post capability at the earliest practicable date.

No. 6. AWACS

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges completion of the AWACS development program and the implementation of AWACS for joint use in both tactical air operations and strategic air defense operations.

No. 7. DEFENSE R&D PROGRAM

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the Administration and the Congress of the United States to increase the nation's defense R&D to a level second to none.

No. 8. AMNESTY

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association opposes any amnesty for those who have unlawfully avoided military service; and

BE IT FURTHER RESOLVED that each case of potential amnesty should eventually be examined and adjudicated on an individual basis according to presently existing laws and regulations.

No. 9. STATUS OF MIAs AND POWs IN SOUTHEAST ASIA

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association call upon the President of the United States to take whatever steps may be necessary to force the North Vietnamese government to account as fully as possible for all Americans identified as Missing in Action or Prisoners of War in Southeast Asia; and

BE IT FURTHER RESOLVED that the Association call upon the Congress of the United States to affirm its support of such an effort, including the passage of appropriate legislation, if required.

No. 10. ADVANCED TECHNOLOGY FOR MISSILE AND SPACE SYSTEMS

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association urges the continuation and expansion of technology programs in the fields of ballistic missile and military space systems.

No. 11. SPACE SHUTTLE

NOW, THEREFORE, BE IT RESOLVED that the Air Force Association endorses and supports the US Space Shuttle program and calls upon the Administration, the Congress, and the American people to provide the authorization and the funds needed to support the technological, operational, and organizational aspects of the Space Shuttle as determined by NASA and the Department of Defense. ■

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Airpower in the News

By Claude Witze
SENIOR EDITOR, AIR FORCE MAGAZINE

Austerity, Yes, But Where?

Washington, D. C., October 7

"Mr. Speaker, the B-1 is in trouble. . . . This plane could cost about $100 million per copy. I do not think the Congress and the country will tolerate this kind of cost for an aircraft."—Rep. George H. Mahon (D-Tex.), Chairman of the House Committee on Appropriations, on the floor, September 23.

* * *

"Let me disabuse you of any lingering misconceptions about the bloated, swollen, inflated defense budget. We have suffered a serious erosion of purchasing power as a result of the inflation to which the Department of Defense is no more immune than any other individual or institution."—Defense Secretary James R. Schlesinger, before the Economic Summit Conference, September 29.

The truth is that Congress has voted a cut of $4.5 billion in the Defense Department's appropriations requests for Fiscal 1975, but it is of little consequence compared to the slash imposed by inflation.

Congress has the figures. The projected cost of forty-two major weapon systems has been increased by $16.9 *billion*. All but $87.7 *million* of this is due to the depreciated buying power of the dollar. Devastating as this is, not a single critic, this time, has accused the Pentagon of incurring overruns.

The projection, of course, covers a period of about five years, not Fiscal 1975 alone. And, with Watergate out of the way, Congress now is paying heed to the economic plight of the nation. Hubert H. Humphrey has even made a floor speech complaining about the increase in the cost of a cheeseburger in the Senate cafeteria. In the Pentagon, there is gloomy talk about how inflation, not defense budget cutters, can bring about unilateral disarmament.

The bill cleared by Congress on September 24 was the largest appropriations bill ever passed. The total is $86.2 billion. No major weapon systems were eliminated or sharply reduced. The final bill, which came out of the customary conference, was $817.3 million less than the House had approved and $478.4 million more than the Senate had approved. Congress already was in the mood to combat inflation. The House conferees did not fight hard; Appropriations Chairman Mahon said the final bill was simply the best possible under the circumstances.

In view of the larger problem imposed by inflation, the Fiscal 1975 appropriations can be summarized briefly. For the development of the B-1 bomber, there is $445 million. This is $45 million more than the Senate voted the first time around, $10 million less than in the House version.

Tied closely to this decision, and provoking more floor debate, is the provision of $205.5 million for a dozen F-111F fighter bombers that the Air Force did not ask for. The Senate had deleted this item from the bill.

In the House debate, Rep. Samuel S. Stratton, a Democrat from upstate New York, defended the F-111F purchase and said "if there is anybody to be blamed . . . I am the guy." It was a confession that did not still his colleagues who believe the order was forced on USAF by Texans in Congress. They can cite the fact that the Senate Appropriations Committee, which tried to kill the idea, does not include either Senator from Texas. Mr. Mahon, for his part, argues (1) the General Dynamics F-111 plant is not in his district, and (2) only ten percent of the F-111 money is spent in Texas.

Secretary Schlesinger, in a press conference at SAC headquarters, Offutt AFB, Neb., said he would not single out the B-1 as a victim of the inflation crisis. In constant dollars, he said, it will be about sixty or seventy percent more expensive than the B-52, but "the costs, when one takes into account inflated dollars, are not unreasonably high." He continued:

"We are dealing with a far smaller bomber force structure than we had two decades ago or a decade ago, and consequently we would be contingently prepared to go ahead with acquisition of the B-1 provided that any technical tests are satisfactorily resolved. At this point we remain in the R&D phase. But we are prepared, should tests be satisfactory, to go on to the acquisition phase."

At the acquisition point, the Secretary will need a new approval from Congress.

The real argument, it was made clear, but not in blunt language, is that the B-1 is in serious jeopardy because of cost, and the F-111 is the only alternative however deficient it may be in some parameters o the required flight regime.

Another item of interest to USAF is that the final bil included $370.7 million for six Boeing AWACS systems. The Senate had voted to provide only four Another $210 million was included for AWACS research. The Senate bill called for $190 million and th House bill for $219.7 million.

Another compromise was on the Fairchild A-1 ground-support aircraft. The House voted to buy thirt and the Senate to buy twenty. We will buy twenty-five with the Fiscal 1975 figure at $138 million.

A victory for Dr. Schlesinger: funding was provide for the improvement of our missiles; we will work t make them more accurate and more lethal. The idea

of course, is that a nuclear war, if we must have it, could be confined to military targets. Critics have accused the Secretary of hawkishness because of his retargeting program, but they have failed to slow it down.

So far as the Fiscal 1975 defense budget is concerned, the congressional cuts, plus the effect of inflation for the single year, leaves the checkbook out of balance by about $11 billion. The five-year outlook, which says that inflation alone will boost the weapon-system bill by $16 billion (the figure is conservative), probably is more serious for the Navy than it is for USAF.

The new appropriations bill allows $3 billion for shipbuilding, more than half of it for submarines. That figure will have to be doubled in the future if the Navy is to go ahead on schedule with modernization. One Pentagon spokesman told AIR FORCE Magazine that the Air Force's projects are responsible for about $6 billion of the projected $16 billion shortfall due to inflation. The Navy's share is nearly a billion more than USAF's, "if the Navy is being honest, and many of us believe the Navy is not." All services now know they are responsible for realistic estimates of the inflation factor, and that it is easily possible honest arithmetic can result in termination.

Is anyone fighting back?

Secretary Schlesinger is increasingly frank about his problem, which differs from that of a shopping housewife only in its magnitude. Also, in response to a press conference question, he has said Soviet Russia continues to increase military outlays at a pace exceeding the inflation lag. Also, they have "budgetary flexibility" that we cannot achieve.

At another meeting, he said:

"If we are to continue to reduce our military establishment, let us do so consciously, accepting secondary status consciously, rather than through a continual erosion of the resources available to the department."

An outstanding effort to keep the record straight was made in the House of Representatives by Congressman Chet Holifield of California, who is nearing the end of his service in the Capitol. In a long speech, almost studiously ignored by the press, Mr. Holifield destroyed some myths, including the one that says federal spending is responsible for our inflation.

For the total national economy, Mr. Holifield uses a figure of $1,387 billion. It is all involved in inflation. He sees no prospect of controlling inflation in an economy of that size by cutting $7 billion or even $10 billion off the federal budget.

As a matter of fact, in the last fiscal year the federal government's purchases of goods and services, which is where the pinch hurts, amounted to $114.3 billion. Nonfederal governments (cities, states, counties, etc.) spent $190.1 billion, but nobody has suggested this is inflationary, in part. As for the rest of us, the private consumers, we tossed in $869.1 billion, plus an investment in factories, equipment, and homes that came to $211.8 billion. The percentage of the total US economy derived from the federal budget is about eight percent, assuming that if Uncle Sam had no employees, these people still would have jobs elsewhere and continue to contribute to the consumer economy.

Queries Mr. Holifield:

"Would cutting the federal budget in any way accomplish its advertised end? Would it slow inflation?"

—Wide World Photos

Defense Secretary Schlesinger, up against a budgetary wall, fears inflation will erode our military stature. Congressman Holifield, right, argues inflation cannot be controlled by simple cuts in the federal budget, which contributes relatively little spending.

He thinks not. Wholesale food prices rose at the annual rate of forty-six percent in August, and federal spending had nothing to do with it. He concludes that "the federal budget cannot be manipulated in such a way as to halt the forces of inflation."

The Congressman from California has support. One source is economist Walter Heller, now a professor at the University of Minnesota. Writing in *The Wall Street Journal*, Dr. Heller blames the bulk of 1973–74 inflation on skyrocketing food, fuel, and commodity prices, coupled with devaluation of the dollar. The real volume of total federal spending, in constant dollars, is lower today than it was at the end of 1972. Cutting federal spending by $5 billion would cut only 0.1 percent or less off the rate of inflation. A crash program at this time to get the Fiscal 1975 budget below $300 billion would be inefficient. It would bring slashes in programs that are easy to hit, not those that are wasteful or of low priority. Defense Department projects are most vulnerable.

This year's defense authorization and appropriations debate in the House and Senate actually provided no surprises, unless it was the weakness shown by the perennial critics. Even the Members of Congress for Peace Through Law noted in their August *MCPL Report* that willingness "to act in the capacity of defense budget watchdog" was "little in evidence" in the 93d Congress. The report went on to list a number of amendments offered on the floor of both houses that met with defeat.

In AIR FORCE Magazine last July, it was reported in this space that MCPL had circulated a report, under the authorship of Sen. George S. McGovern and Rep. John F. Seiberling, attacking the B-1 bomber project.

The July report said that MCPL "shrouds itself in some secrecy." This was based on the fact that AIR FORCE Magazine, in the past, had been refused information on MCPL's membership. The roster also had been denied to the Library of Congress.

Mr. Seiberling, who is current chairman of MCPL, protested that there is no secrecy involved and that MCPL in fact releases its reports and prints a membership list.

Airpower in the News

Stanford Z. Persons, executive director of MCPL, informs us that under Mr. Seiberling, the former policy of withholding the membership list has been dropped. He forwarded a list of thirty-six senators and 122 representatives who belong to MCPL.

The list includes one member of the Senate Armed Services Committee, Sen. Harold E. Hughes, Democrat of Iowa. From the House Armed Services Committee, there are five members in MCPL, all Democrats. They are Otis G. Pike of New York, Robert L. Leggett of California, Les Aspin of Wisconsin, Ronald V. Dellums of California, and Patricia Schroeder of Colorado.

MCPL says its goals are "the substitution of law for war as the means for resolving conflicts between nations, improved institutions for the just and peaceful settlement of international disputes, strengthening of the United Nations, reduction of armaments, advancement of basic human rights and equal justice under law for all men, and development of a global economy where no person lacks the material necessities of life."

So far, the goals appear elusive, as witnessed in the daily headlines. There is irony in the situation that gives MCPL more support from the economic plight of the nation than it can muster in votes on the Hill.

If what they want is austerity in the defense budget, they have it. But it is austerity in a small place. In Representative Holifield's words, it is expecting a very small tail to wag a very large dog. ■

The Wayward Press

This trial balloon won't go up, but it is high time someone told the television networks they should forget Show Biz at the White House and cover the news at the Pentagon.

There are reasons why press conferences with James R. Schlesinger, the Defense Secretary, should be nationally televised. One is that they are important; the public is interested, and national security is of increasing criticality in our daily concern about America's priorities. It is impossible to find anything of equal concern in the shows put on these days at 1600 Pennsylvania Ave.

The truth is that the Pentagon press corps, when it is not contaminated by bellicose visitors from the White House press corps, puts on a superior performance. It may be because the cameras are absent. But the fact is these newsmen do not behave like demagogues. As we pointed out last month, President Gerald R. Ford has to face reporters who want to abuse, malign, and indict. But, at the Pentagon, they do not insult the Secretary. They ask questions that are designed to elicit information. The Pentagon press effort stands in contrast to the ham show put on at the White House by a group described by Nicholas von Hoffman, accurately, as "high-status/low-enterprise journalists."

Our own experience in the Defense Department's briefing room goes back more than twenty years, to the administration of Charles E. Wilson. Dr. Schlesinger, today's Secretary, is masterful in his conduct of the press conference, but has a high standard of antecedence to meet. McElroy, Gates, McNamara, Clifford, Laird, and, for a short time, Richardson were no slouches, either.

On September 25, Dr. Schlesinger opened his press conference with a statement about clemency (he is getting mail from people who favor it) and the appropriations bill (inflation is doing more damage to his budget than the cuts imposed by Congress). Then there were questions.

There were follow-up questions on the clemency matter from an Associated Press reporter who tried to find out, without belligerency, why deserters may escape the "alternative public service" imposed on draft evaders. The Secretary discussed the subject at length; the problem is one of legal control over a man who has a discharge, even if it is an undesirable discharge.

A representative of the New York *Times* asked an intelligent question about the impact of inflation on national security programs, and wondered whether Russia has the same problem. There were other queries, obviously from well-informed newsmen, about the Calley case, the situation in the Middle East and Persian Gulf, the SALT talks, arms sales, and the security and proliferation of nuclear weapons.

The atmosphere was similar to that of a university seminar, with a good professor discussing issues with graduate students who had done their reading.

In sharp contrast is the Presidential press conference of September 16, put on the air from the White House. For the most part, these reporters behaved like prosecuting attorneys.

Columnist von Hoffman, cited above, wrote that "the impression left by the press conference is that it is easier to puff up and play the Conscience of America—and certainly more satisfying—than to do the homework needed to ask useful questions. Assuming a posture of high-headed moral outrage demands little thought and less study."

Von Hoffman finds the White House press corps, unlike the one in the Pentagon, does not ask questions to elicit information. Their questions are "statements by self-righteous journalists" who "accidentally enjoy a power and prestige few of them have earned." He went so far as to suggest President Ford could be justified in abolishing the press conference. It is a suggestion that will shake the foundations of the National Press Club, which last year put its imprint on a long report that tried to tell the White House how to conduct business with the media.

David S. Broder, a political reporter of esteem and von Hoffman's colleague on the Washington *Post*, was out of town the day of the Ford press conference. He was appalled when he saw the transcript. After all the buildup these scribes had given Mr. Ford when he took office, they turned on him like jackals. Screamed Broder, as best you can scream in type: "Where the devil is our sense of perspective?"

It is a strange thing, having von Hoffman and Broder sound so much like Spiro Agnew, but it is a good thing. Never again will Walter Cronkite, or any other pontificator, charge there is a conspiracy to discredit the press. As we have said before, the press discredits itself.

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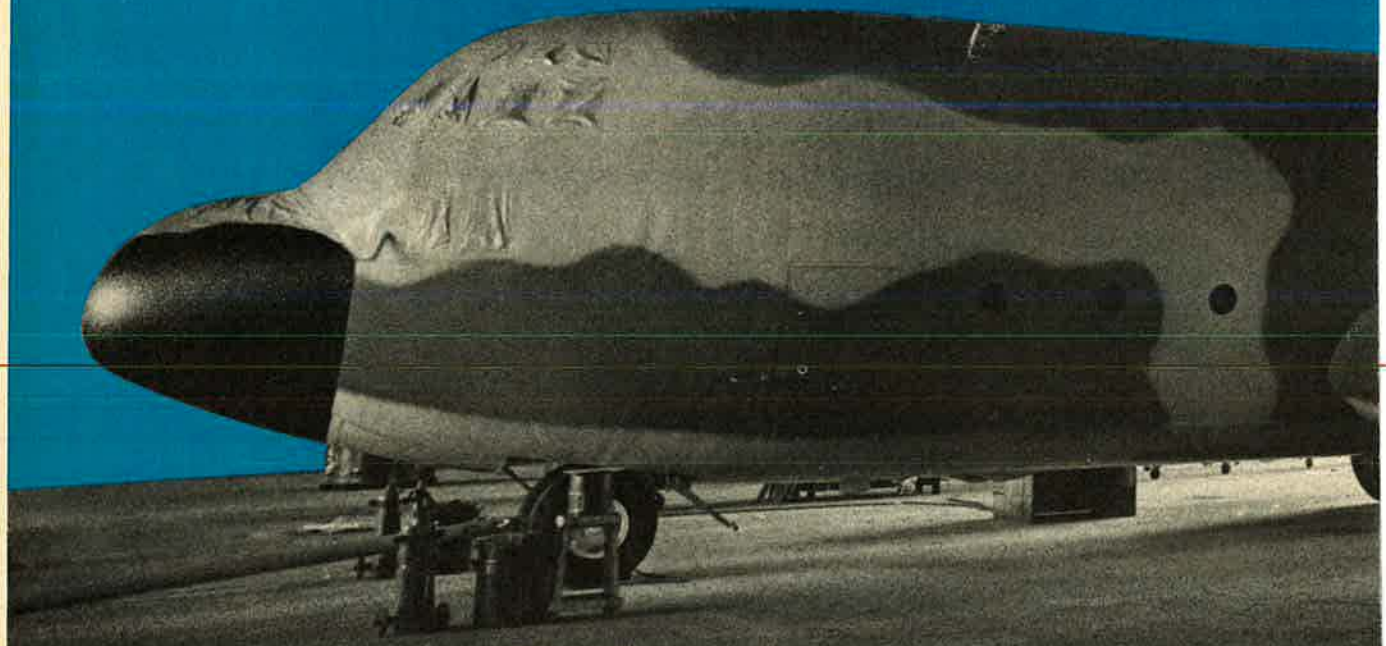

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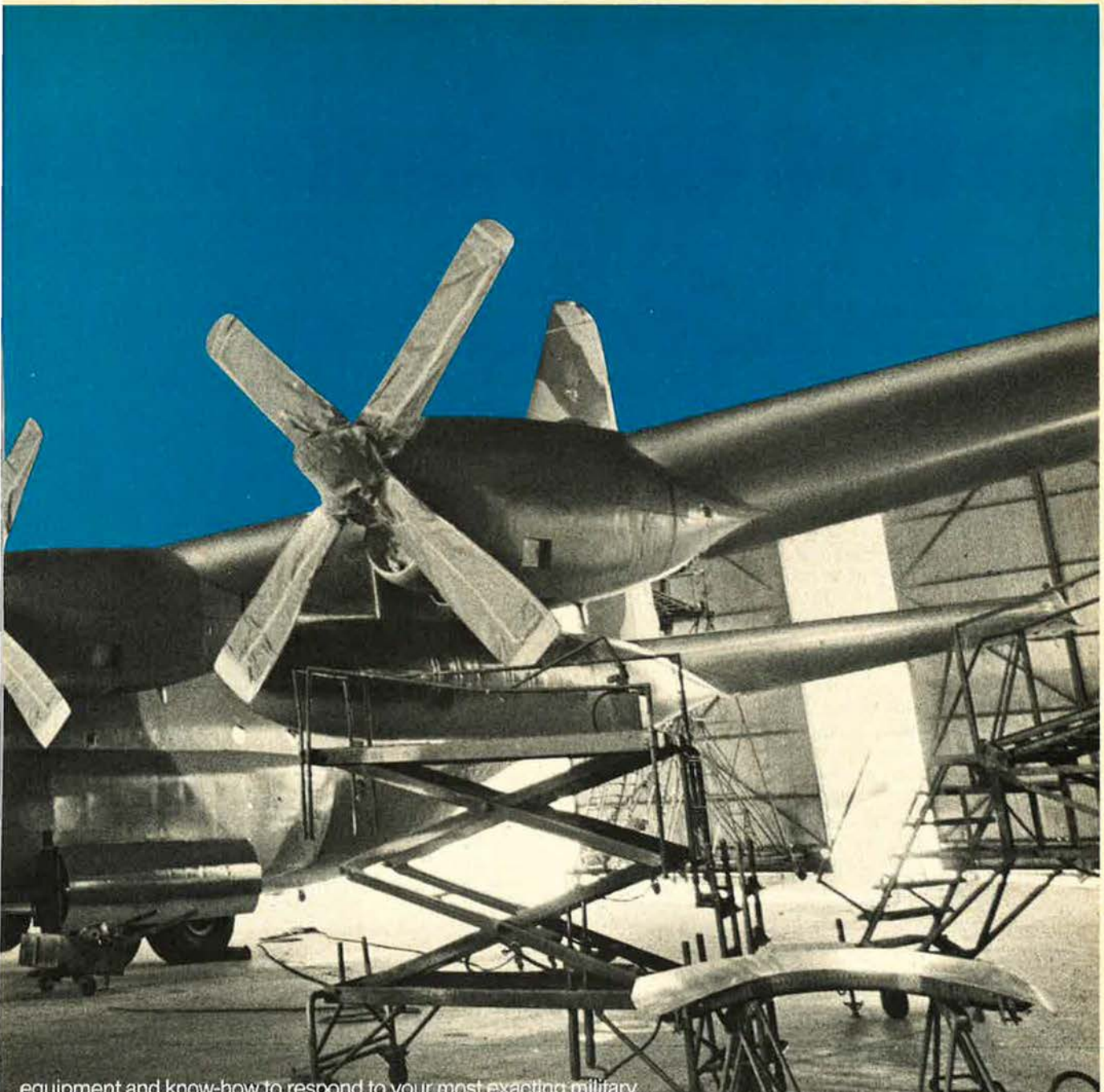

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The Great Fighter Sweepstakes

Sometime in the next few months, and almost certainly by next summer, the great fighter sweepstakes will be over. And while it might not be precisely a case of winner-take-all, it will be the nearest thing to it.

The sweepstakes is all about a successor to the F-104 in the NATO European air forces. The Netherlands, Belgium, Norway, and Denmark are—more or less in the order named—the most immediate customers. These four countries have agreed, at NATO's urging, to seek a single choice for the important reason of standardization. There will be other customer countries later, but the winner in this first competition will be the likely choice of most of the others.

There are a number of competitors: Sweden, with its Saab Viggen, and the Anglo-French Jaguar, not really a fighter but a capable fighter-bomber. But the real choice almost certainly lies among the French F.1, or Super Mirage, and the two American candidates, the Northrop Cobra and the General Dynamics YF-16. The situation is further complicated by the fact that Northrop has, in the YF-17, a lightweight fighter presently engaged in a flyoff with the YF-16. And while the Northrop Cobra and the Northrop YF-17 look remarkably alike to the casual eye, there are significant differences.

As a further complication to this European decision, Secretary of Defense James R. Schlesinger has announced that the USAF will buy the winner of the lightweight fighter flyoff in quantity as first-line equipment. In the olden days this would have signaled the end of the game. The advantages in sharing production, and support, with the USAF would have been overwhelming.

Perhaps they will be yet, but there are other forces at work these days, and they make the outcome of this contest less predictable.

There is, first of all, French pressure on their European neighbors —French pressure to buy European, French pressure to keep European technology alive, and veiled French threats of economic reprisals if an American entry wins. These French pressures are most keenly felt in Belgium, and it would not be a surprise if Belgium, for any or all of these reasons, chose the Mirage F.1. The other countries, however, are not so vulnerable to this kind of salesmanship. And so, you might conclude, they will choose on such basic and reasonable grounds as aircraft performance, cost, production sharing, and general suitability for the NATO task.

A year or so ago you would have been right. Now, things are not so plain.

Along with the decline in the value of the dollar, Watergate, and raging inflation came a decline of confidence in the once unquestioned American leadership in defense matters. There is now a certain speculative element in any European appraisal of US long-range prospects. It could not come at a worse time for, make no mistake about it, this decision on a new fighter is of transcending importance in both economic and political terms. If it goes wrong—which is to say, if we lose—then there will be hell to pay in Congress and in American support for NATO. And again, if we lose, there will be a cutting of the close ties that come with the sharing of common equipment and training. There will also be the loss of a very big market—$3 billion in the next five to eight years, and perhaps as much as $10 billion eventually.

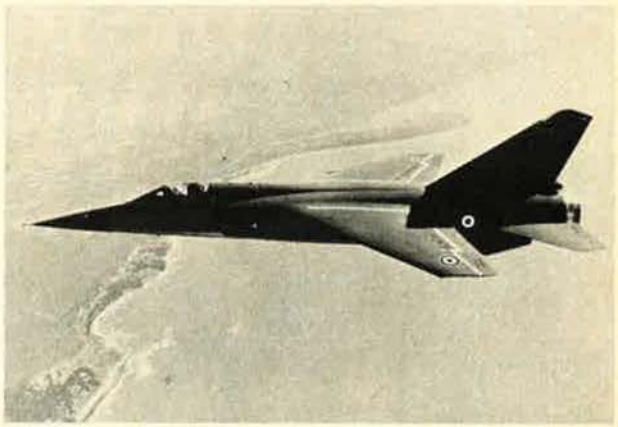
On any reasonably objective basis there would not be much doubt as to the technical superiority of the American entry. From what we know of the financial proposals, the American offers are, in the long run, equal to or better than the European proposals. The fact that the USAF will itself fly either the Northrop or General Dynamics bird as first-line equipment ruins the persuasive French argument that the United States was trying to sell its friends an airplane not good enough for its own Air Force—providing, that is, that the Europeans choose the same US contestant that we do.

There is, meanwhile, another fighter aircraft in development for NATO—the swingwing MRCA, or Multi-Role Combat Aircraft. It is being developed jointly by Britain, Germany, and Italy, although with restrained enthusiasm by the Italians, who seem to be entertaining thoughts of producing their own F-104 replacement. At any rate, the MRCA is too sophisticated and much too costly for the smaller NATO countries.

So, of course, are the F-14 and F-15. And since these countries are determined to have air forces that can perform in the air combat

The author, Gen. T. R. Milton, was US Representative to NATO's Military Committee until his retirement earlier this year. He examined NATO's problems and its future in an AIR FORCE Magazine article last month.

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



Competing for purchase by NATO nations to replace the F-104 in their air forces are these fighters. Top, left to right, are the General Dynamics YF-16, the Northrop YF-17, and the French Mirage F.1. Bottom, from left, are the Anglo-French Jaguar and Sweden's Saab Viggen.

role, they clearly need a fighter and a good one at that. One that will still be useful in the 1980s.

If NATO were a more closely knit bureaucracy, it might have a decisive role in making this choice. Or if Europe were more closely integrated, there might be a united European aircraft industry to stand off the American competition. However, neither of these conditions exists. NATO can only make generalized recommendations as to the capabilities a new airplane should have, and the Europeans have made little progress toward any real aircraft industry partnership. The indifferent success to date of the Concorde, in fact, will not accelerate the forming of new consortiums.

And so the choice of a fighter that meets both the mission requirements and the budget lies among the French, the Americans, and theoretically, the Swedes—theoretically, because no NATO nation, with the possible exception of Denmark, would be likely to tie itself so tightly to neutral Sweden.

The race is nearing the final lap. The Defense Ministers of Holland, Belgium, Norway, and Denmark are, as this is written, in the United States, for talks with Secretary of Defense Schlesinger. They have just come from France where, by a happy coincidence, there had been an announcement that the French Air Force was ordering forty Super Mirage F.1s.

In this troubled world, there is probably a remaining market for the loser in this fighter sweepstakes. But it will be a matter of picking up the crumbs. The winner will have an insuperable advantage in the competition down the road for the world market. Everyone involved knows this—the companies, the governments, everyone—and is making sure all the arguments are clearly made and understood: arguments having to do with performance, cost, production sharing, and the like.

There is one more argument that cannot, in all decency, really be advanced by our side. It is, nevertheless, one of the most persuasive of all and it goes something like this:

It is only through NATO that these small European air forces have any real capability, or for that matter, make any real sense. Individually, they cannot function in combat against the acknowledged threat. NATO, in turn, can only function effectively with full US support and participation. That support and participation is becoming increasingly difficult to sell in this country and in the Congress.

And so you might argue, if it were not in such bad taste, that the Europeans could perhaps be better off by saving their money than by making the wrong choice. No airplane at all rather than an alienated United States.

But that, of course, is not the sort of argument a gentleman could use. ■

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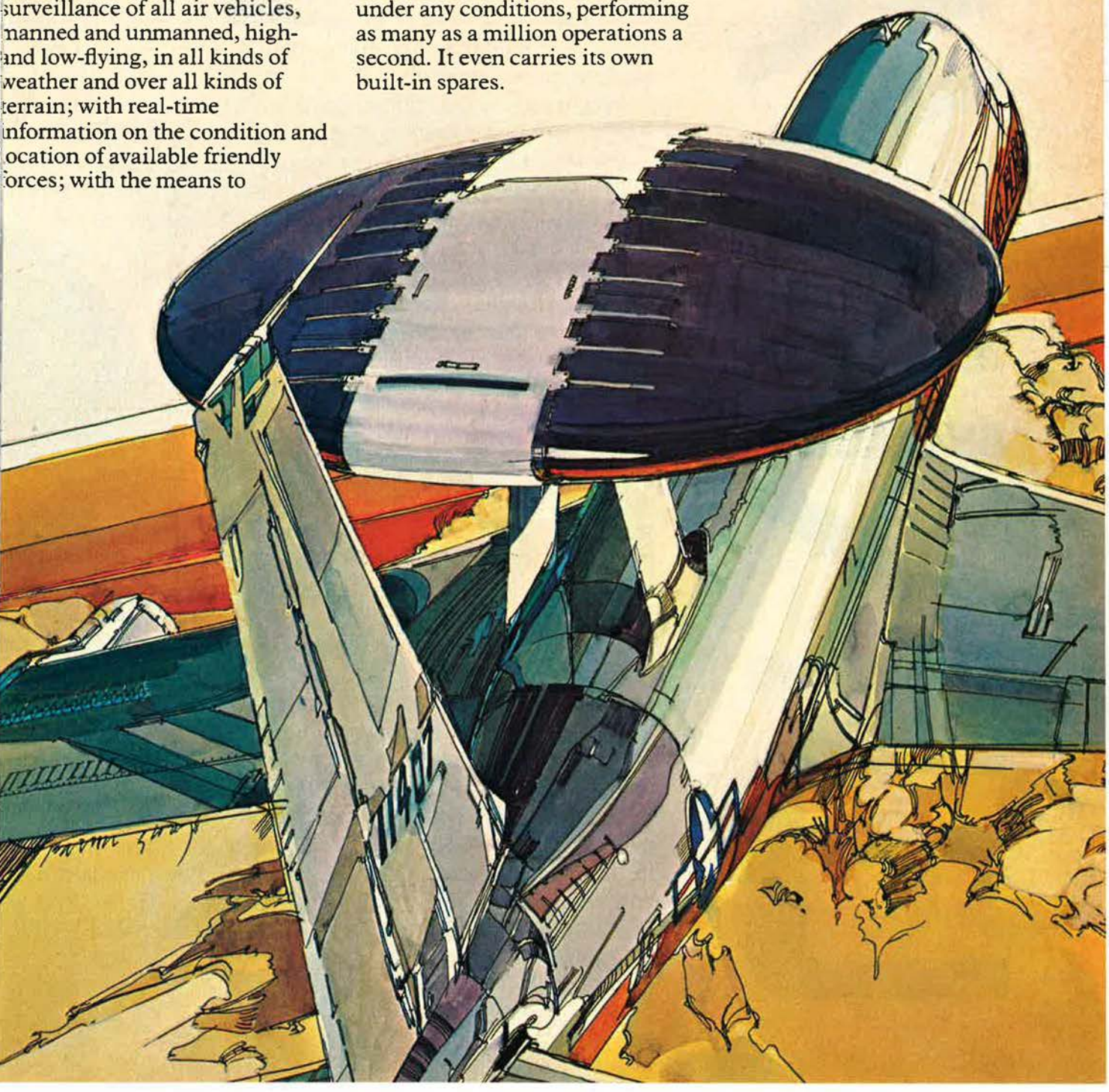

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Aerospace World

News, Views & Comments

By William P. Schlitz

ASSISTANT MANAGING EDITOR, AIR FORCE MAGAZINE

Washington, D. C., Oct. 7

On or about January 15, 1975, according to present plans, the Air Force will select either General Dynamics' YF-16 or Northrop's YF-17 as its new Air Combat Fighter. Eventually, 650 of these high-performance, lightweight fighters are to enter TAC's inventory, where they are to provide new capabilities in the air-superiority and ground-support roles by replacing the aging F-4s and complementing the new F-15s.

Additionally, this aircraft, along with the F-15 and F-111, is a candidate for the Air Force's future interceptor, replacing the F-106. (The mission radius of the Air Combat Fighter, if not encumbered by time-on-station and dogfight requirements, is about 1,000 nautical miles, quite adequate for a modern interceptor.)

Further, the Air Combat Fighter is to provide at least the technological basis if not the basic airframe for the US Navy's proposed new lightweight fighter, augmenting the F-14 in the fleet defense role. Finally, and most important to the nation's economy, the ACF is a strong candidate to replace the F-104Gs in the inventory of NATO countries. Senior Air Force officials told AIR FORCE Magazine at a recent press showing of the YF-16 and YF-17 that the worldwide market for a lightweight fighter is now estimated "to exceed 3,000" during the next few years.

The US entry is competing against the Mirage F.1, built in France, and the Swedish Saab Viggen. Neither of these aircraft employs the sophisticated engine and energy-maneuverability technologies of the YF-16 and YF-17. In addition, both the Mirage F.1 and the Viggen appear to be more costly than either of the US designs.

In the view of US officials, the effect of political considerations on the government of Belgium, the Netherlands, Norway, and Denmark —which are about to make a source selection—is, however, difficult to predict. (*See also p. 22.*) These four countries are expected to place an initial order for about 350 lightweight fighters. The US has offered the consortium that oversees the acquisition of these aircraft a special incentive package that provides for coproduction with up to 100 percent, offset by sharing in the production of aircraft sold to third countries.

The Air Force's source selection is to be completed by the end of this year and, as a ranking Air Force spokesman told AIR FORCE Magazine, "will involve considerable misery of choice," since both aircraft have received excellent marks from both the test pilots and technical experts evaluating them. Both have already pulled more than eight Gs—9.3 in the case of the YF-16 and 8.7 in the case of the YF-17. The latter, at this writing, has flown at speeds of up to Mach 1.82, and the former, which started flight testing four months earlier, has already exceeded Mach 2.

☆

On October 1, the Pentagon announced that, for the three months ending on June 30, the estimated cost for weapon systems under development rose $16.9 billion *(for more on budget woes, see p. 16).*

DoD, in issuing its report on the cost increase, said that the figure was on the conservative side and may even be higher. The cause: inflation.

According to Pentagon spokesmen, there are two ways of dealing with the budget problem concerning the on-going forty-two aircraft,

—*Official White House photo*

At far left (head turned), AF Secretary John L. McLucas has President Gerald Ford's undivided attention. Next, seated clockwise, SR-71 New York-to-London crew, Maj. James V. Sullivan and Maj. Noel F. Widdifield; AFA Executive Director James H. Straubel and Board Chairman Martin M. Ostrow; USAF Chief of Staff Gen. David C. Jones; AFA President Joe L. Shosid; and SR-71 London-to-Los Angeles crew, Maj. W. C. Machorek and Capt. H. B. Adams. Standing, from left, Presidential aide Maj. Gen. R. L. Lawson; AFA's John O. Gray; and Presidential aide Lt. Col. R. E. Blake. Oval Room visit took place during AFA's National Convention in September.

ship, missile, and other programs: congressional approval of more funds in the next fiscal year, or a drastic cutback or even cancellation of some development efforts.

Without doubt, the economic realities are certain to dictate some hard decisions on the part of our defense leaders.

☆

At this writing, the first flight-test B-1 strategic bomber was undergoing last structural tests before rollout in October and first flight, set for early December.

On the production end, at least, things were developing smoothly. *(For a rundown on how Capitol Hill views the new aircraft, see p. 16. An editorial on the subject is on p. 2.)*

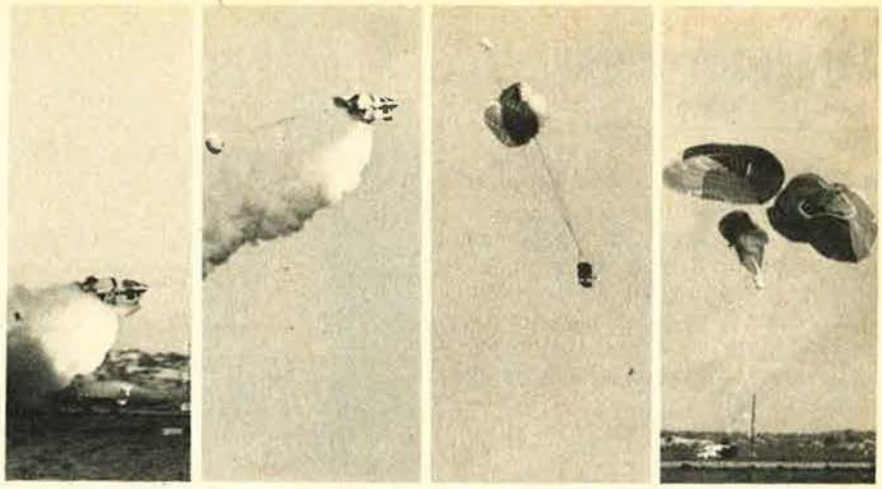
Rockwell International's Los Angeles-based B-1 Division is to build a total of three flight-test B-1s.

In a related event in September, the first high-speed test of the aircraft's crew compartment/escape capsule was completed without problems.

The capsule was boosted from a mockup B-1 forward fuselage mounted on a sled moving at 355 mph along a special test track at Holloman AFB, N. M. Propulsion was supplied by two small solid-fuel rocket motors that lofted the capsule to about 500 feet, where three large chutes were deployed. The entire test—from rocket motor ignition to soft landing—took about twenty seconds.

Inside the capsule were mannequins representing the four-man crew. These and the capsule structure itself were instrumented to record stresses encountered during the short flight.

The crew escape system for the B-1 uses technology devised for Apollo spacecraft recoveries.



The first high-speed test of the B-1 bomber's crew compartment/escape capsule is shown in this photo sequence taken at Holloman AFB, N. M. From left, two solid-fuel rocket motors boost capsule from sled traveling at 355 mph on special track. At about 500 feet, chutes deploy and lower the crew compartment gently to earth (see adjacent item).

☆

Cameras aboard US spacecraft are ranging near and far.

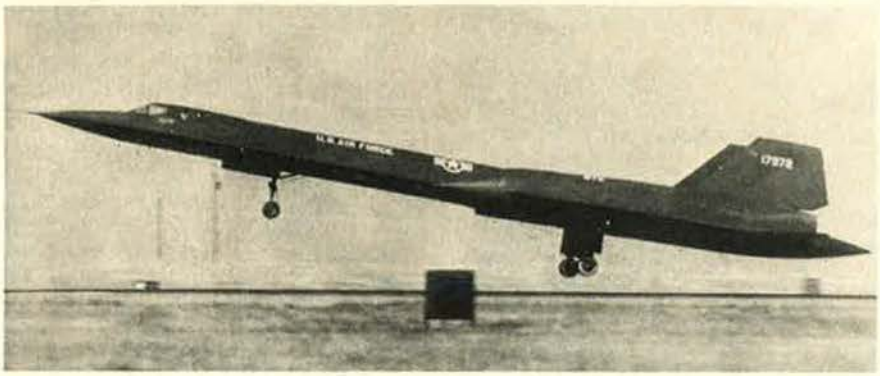
In late September, Mariner-10 took another photographic closeup of the planet Mercury as the spacecraft swept by at a distance of 30,000 miles. This followed the first encounter, in March, when a flight past Mercury's dark side yielded a wealth of photographic data. A third flyby is postulated for March 1975.

Since its launch in November 1973, Mariner-10 has traveled nearly 350,000,000 miles; it visited Venus in February 1974, as a first step in its epic voyage.

And, according to space agency officials, NASA scientists "are delighted" with initial tests of the cameras to be carried aboard two Viking Project spacecraft that are scheduled to soft land on Mars in 1976. The camera system was tested at geologic sites similar to those expected to be encountered on the Red Planet. Both closeup and panoramic views will be possible. Of more than casual interest will be the stereoscopic—three-dimensional—shots being planned. The trip to Mars will take eleven months.

Closer to home, the joint Apollo/

—Wide World Photos



—Wide World Photos

Establishing a record for the first such flight, an Air Force SR-71 sets down at Beale AFB, Calif., after its epic trip from London to Los Angeles. The 5,645-mile distance was covered in three hours, forty-seven minutes. Right, Capt. Harold B. Adams and Maj. William C. Machorek report on flight (also see October '74 issue, pp. 12 and 29).

Aerospace World

Soyuz crews will have their cameras ready when they go aloft in July 1975. A new twist: the spacemen will tape-record their observations of conditions on earth as they film. The human eye—combined with the human brain—is better in many instances at observing finite detail than is a camera.

Under consideration for study during the mission:

- Fault systems in the earth's crust.
- Closed-basin water circulation and shore lines; snow-cover phenomena.
- Tropical weather where possible, including frontal waves, tornadoes, storm centers, and localized atmospheric circulations.

☆

NASA has begun developing mobile robots that could well bring science-fiction fantasies of generations past into reality.

As visualized by the space agency's Jet Propulsion Laboratory and the California Institute of Technology, the first "smart" robot, currently being assembled, will have two TV cameras and a laser for "eyes." It will be equipped with a computer brain, into which will be programmed thousands of commands to provide a considerable degree of self-reliance, making unnecessary step-by-step instructions from a remote directing facility.

NASA has high hopes for the robots as essential instruments in the exploration of such planets as Mars. Here on earth, however, they could be put to use in such hostile environments as the ocean bottom, radioactive areas, and in fighting fires.

The robot undertaking is ambitious. NASA is presupposing the increasing miniaturization of computers to provide the robots with ever-widening capabilities and autonomy. For planet exploration, the advanced robots should be ready by the mid-1980s, the space agency said.

Discussing the F-15 Eagle's debut in Europe are, left, Col. Wendell Shawler, 4950th Test Wing, and Gen. John W. Vogt, Commander, Fourth ATAF, and Commander, USAFE. General Vogt was the first USAFE pilot to fly the F-15, which was flown nonstop and unrefueled across the Atlantic by Colonel Shawler. It was then displayed at Farnborough.

☆

NATO authorities plan to establish a principal new subordinate command—Hq. Allied Air Forces Central Europe—within the Central Region of the alliance's Allied Command Europe.

The command is to have at its head USAF Gen. John W. Vogt, Jr., who in July assumed the double duties of Commander in Chief, USAFE, and Commander, Fourth Allied Tactical Air Force. In his additional role, General Vogt will operate directly under CINCENT.

The new command will provide integrated command and control of Belgian, Dutch, German, and British air forces of the 2d ATAF, and Canadian, German, and US air forces of the 4th ATAF. In substance, the move is simply an administrative realignment of existing resources and was made to "improve the operational flexibility and to increase the overall efficiency" of the forces involved, 4th ATAF said.

Headquarters will initially be at Ramstein AB, Germany.

Incidentally, this summer General Vogt became the first USAFE pilot to fly the Air Force's new F-15 air-

A Pleasant Flight

On the surface, it was all very casual and reminiscent of fledgling airliner service of the '20s and '30s. The copilot arrived thirty minutes before flight time to open the office, a little prefab building by the water's edge. He accepted payment for the flight and loaded the luggage himself. No reservations, ticket lines, security checks, or harried trip to the airport.

The copilot simply strapped in beside the pilot and we were off, the de Havilland Twin Otter STOL seaplane lifting lightly from the Anacostia River near Southwest Washington, D. C., bound for Philadelphia and New York City. It was a crisp, sun-drenched morning in October, with excellent visibility. Perfect flying weather.

Actually, Downtown Airlines has had scheduled service between New York and Philadelphia since mid-1972. Only recently has it extended twice-daily weekday flights to and from the Nation's Capital.

The nineteen-passenger Twin Otter flight between the three cities takes an hour and a half, cruising at four thousand feet. There are no stewardesses, no in-flight food or drinks—and no holding patterns. Just an interesting and visually enjoyable flight as the landscape unfolds beneath. The cost: $47 between New York and Washington; $27 between New York and Philadelphia; and $37 between Washington and Philadelphia. Discounts are available.

On the New York approach, the plane skimmed over the majestic Verrazano Narrows Bridge, over Brooklyn and its waterfront piers, and onto the East River. Docking and unloading at the foot of Manhattan's Wall Street took but a few minutes more. Downtown Airlines couldn't be more appropriately named. —WPS

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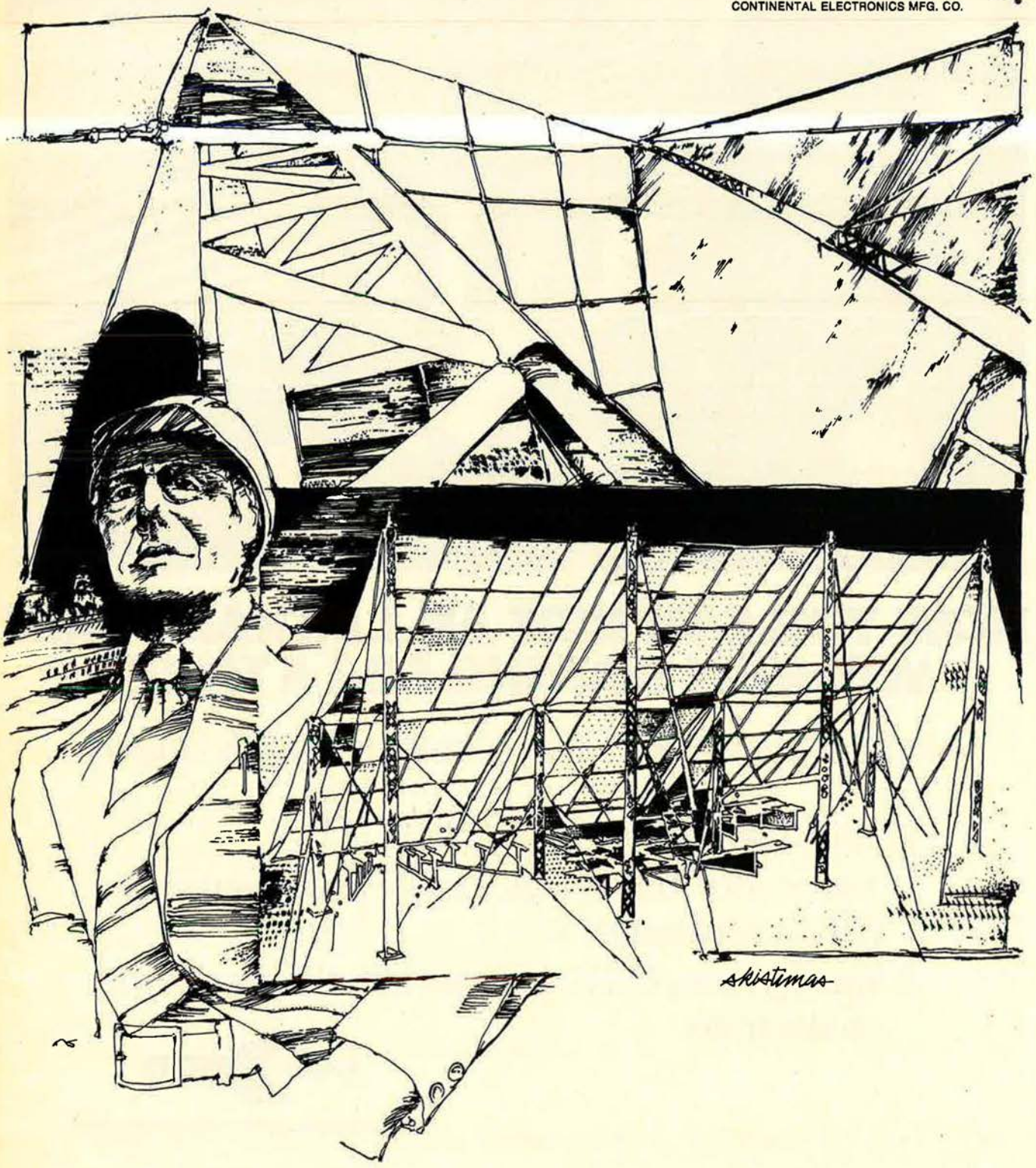

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Aerospace World

superiority fighter during the aircraft's first appearance in Europe.

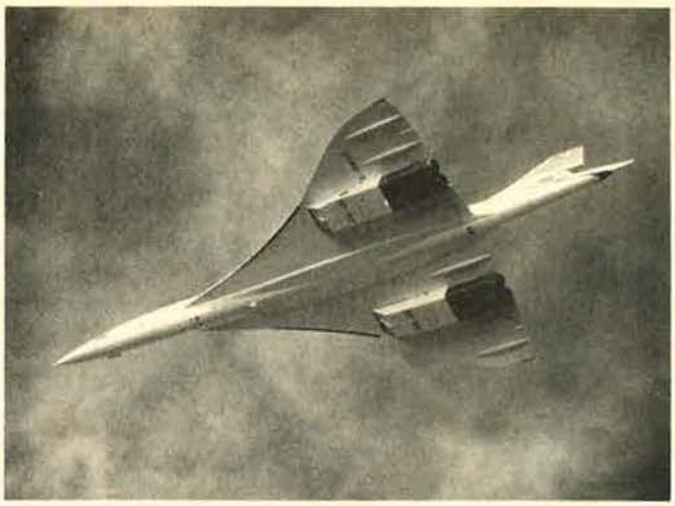
☆

If Soviet news agency Tass is to be believed, the USSR has attained at least a partial sucess with its Salyut-3 space station.

Tass said that a module containing scientific data has been returned to earth from the unmanned vehicle, and, since operations were running smoothly aboard Salyut-3, the mission would be continued beyond the ninety-day planned duration. [In reference to the failure of the two-man Soyuz-15 crew to board the station during the proposed attempt in August, Soviet officials reported that a malfunctioning rendezvous radar was the culprit.]

Since both the Soyuz-14 crew, which visited the space station for a successful two-week stay in July, and the two Soyuz-15 cosmonauts were all military, some speculation arose in the West that perhaps the Salyut-3 mission itself was military in nature.

Regarding space activity generally, the Soviets have been busy of late, according to NORAD's Space Defense Center. In August alone, they orbited six Cosmos satellites.



The Anglo-French-developed Concorde "will be the most thoroughly tested aircraft in the world," according to its builders. (For further details, see item on the SST below.)

☆

The Anglo-French Concorde SST "will be the most thoroughly tested aircraft in the world when it is awarded its airworthiness certificate next year," the plane's builders said.

Thus far, they contend, six Concordes have flown a total of nearly 3,000 hours, including almost 1,000 supersonically, in 1,360 sorties that have taken the aircraft to the far reaches of the world—from Latin America and Alaska to the Mideast. Another 1,000 hours of flying time will be needed to complete the program.

The testing process is utilizing three different categories of SST: Prototypes 001 and 002 have handled the lion's share—nearly 850 flight hours apiece; preproduction 01 and 02 are running a close second; and production aircraft 1 and 2 will wrap up final elements in the certification effort. Production aircraft 3 and 4 are scheduled for endurance flying and training of Air France and British Airways crews—the first two airlines set to put the SSTs in service.

With the conclusion of the mighty SST development program, the British and French aircraft industries have asserted "their determination to recapture a share of the world long-haul airliner market," a spokesman said.

☆

Dr. Richard T. Whitcomb, fifty-three, internationally renowned aerospace scientist, is to receive the Wright Brothers Memorial Trophy for 1974, according to the National Aeronautic Association, sponsor of the award.

In 1954, Dr. Whitcomb received NAA's Robert J. Collier Trophy for his invention of the revolutionary "area-rule" concept of aircraft design that since has been put to use by aircraft designers worldwide. It allows aircraft increased speed and range without a corresponding addition of power.

More recently, Dr. Whitcomb devised the supercritical wing, another extraordinary innovation that NASA is readying for application to a new fleet of high-performance commercial transports expected to

Index to Advertisers

Aerospace World

For his work as Capsule Communicator in guiding the 1973 Skylab crew in making repairs on the damaged spacecraft, Lt. Col. Henry W. Hartsfield, Jr., has been awarded the General Thomas D. White Space Trophy, sponsored by the National Geographic Society.

Smithsonian Aviation Posters

The Smithsonian Institution is offering the first in a series of posters devoted to aviation history. It measures fifteen by twenty inches and features a photo of Douglas Round-the-World Cruisers, data about the first globe-circling flight by the aircraft in 1924 (*see cover story, March '74 issue),* and, what's more, a unique two-inch square of the original fabric that covered the Douglas Cruiser *Chicago,* one of two aircraft to complete that historic journey. (The fabric became available when the aircraft was re-covered.)

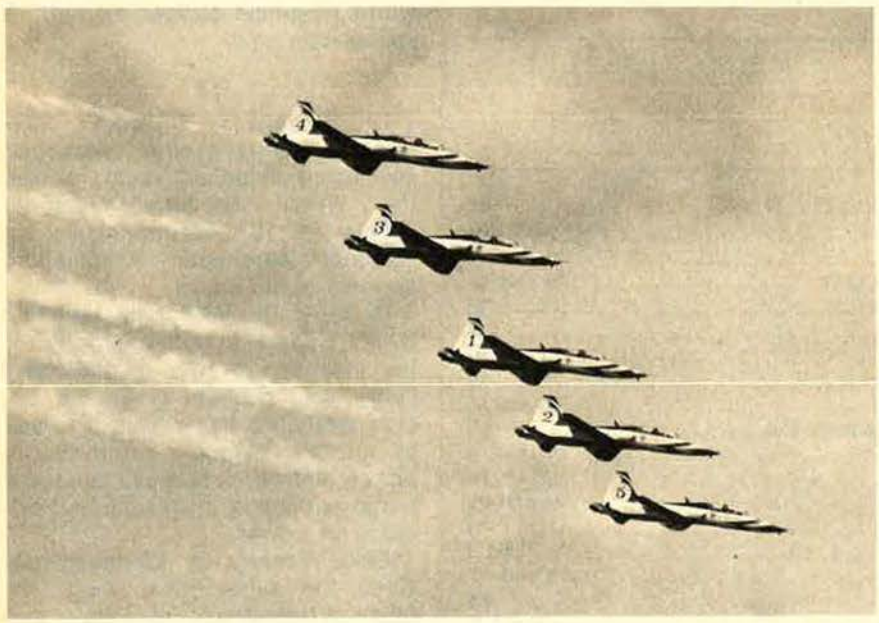
The *Chicago* is now part of the Smithsonian's aeronautical collection, which is to be housed in the new Air and Space Museum facility currently a-building on the Mall in the Nation's Capital. (A preview of the Museum's new home, scheduled to open in July 1976 at the height of the nation's bicentennial celebration, will appear in a future issue.)

A second poster, depicting the Fokker D-7 of World War I and Red Baron fame, is under preparation and will be followed by a third, highlighting the first coast-to-coast, nonstop flight of a Fokker T-2 in 1923. All will display a sample of the original aircraft fabric.

The Smithsonian posters, suitable for framing and in limited numbers, are priced at $10 and can be ordered from the Historic Aviation Series, National Air and Space Museum, Room 1168, Smithsonian Institution, Washington, D. C. 20560.

emerge in the near future. Simply put, Dr. Whitcomb's wing design permits jet aircraft to fly farther and faster but with reduced fuel consumption and operating costs.

Dr. Whitcomb is currently conducting basic and applied research in the field of high-speed flight at NASA's Langley Research Center, Hampton, Va. The trophy will be presented December 13 in Washington, D. C.



USAF Thunderbirds in a tight formation. Their aircraft, the Northrop T-38 Talon, recently passed the 5,000,000-hour flying mark. More than 29,000 USAF pilots have earned their wings in the twin-engine T-38 since 1961.

☆

NEWS NOTES—Released from captivity by rebel Laotian forces—Emmett Kay, a civilian pilot and the **last known American** to be held POW in SEA—during a mutually agreed-upon but long-delayed exchange of Laotian and Thai prisoners. Kay, set free September 18, had been held since May 1973.

Lt. Gen. Duward L. Crow, USAF (Ret.), is the new Assistant Administrator for NASA's Office of DoD and Interagency Affairs and Special Assistant to NASA chief **Dr. James C. Fletcher.** He succeeds **Gen. Bruce K. Holloway,** USAF (Ret.).

Dr. John E. Naugle, NASA Deputy Associate Administrator, has been awarded the National Civil Service League's Career Service Award for Sustained Excellence.

Retiring: Dr. Kurt H. Debus, Director of the NASA Kennedy Space Center since its inception in 1962. Among other things in his long career in the missile field, Dr. Debus directed the launch of the first US earth satellite—Explorer—in 1958.

A basic US jet tralner—**Northrop's T-38**—recently logged its five millionth flying hour. The firm built 1,187 of the supersonic trainers, the last being delivered to USAF in 1972. ■

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October 26, 1974, marked a significant step toward a stronger defense system for America. It was the day of the B-1 roll-out.

The B-1 is designed to operate effectively at tree-top heights at nearly sonic speeds. It also has the ability to fly high-level missions at supersonic speeds. With its low altitude capabilities and small radar cross section, the B-1 will be better able to penetrate future defenses and complete its missions.

The B-1 will be able to carry about twice the payload of today's B-52. Its swing wing will allow the B-1 to utilize shorter runways. It will be a "quick reaction" aircraft, capable of leaving its base in less than five minutes.

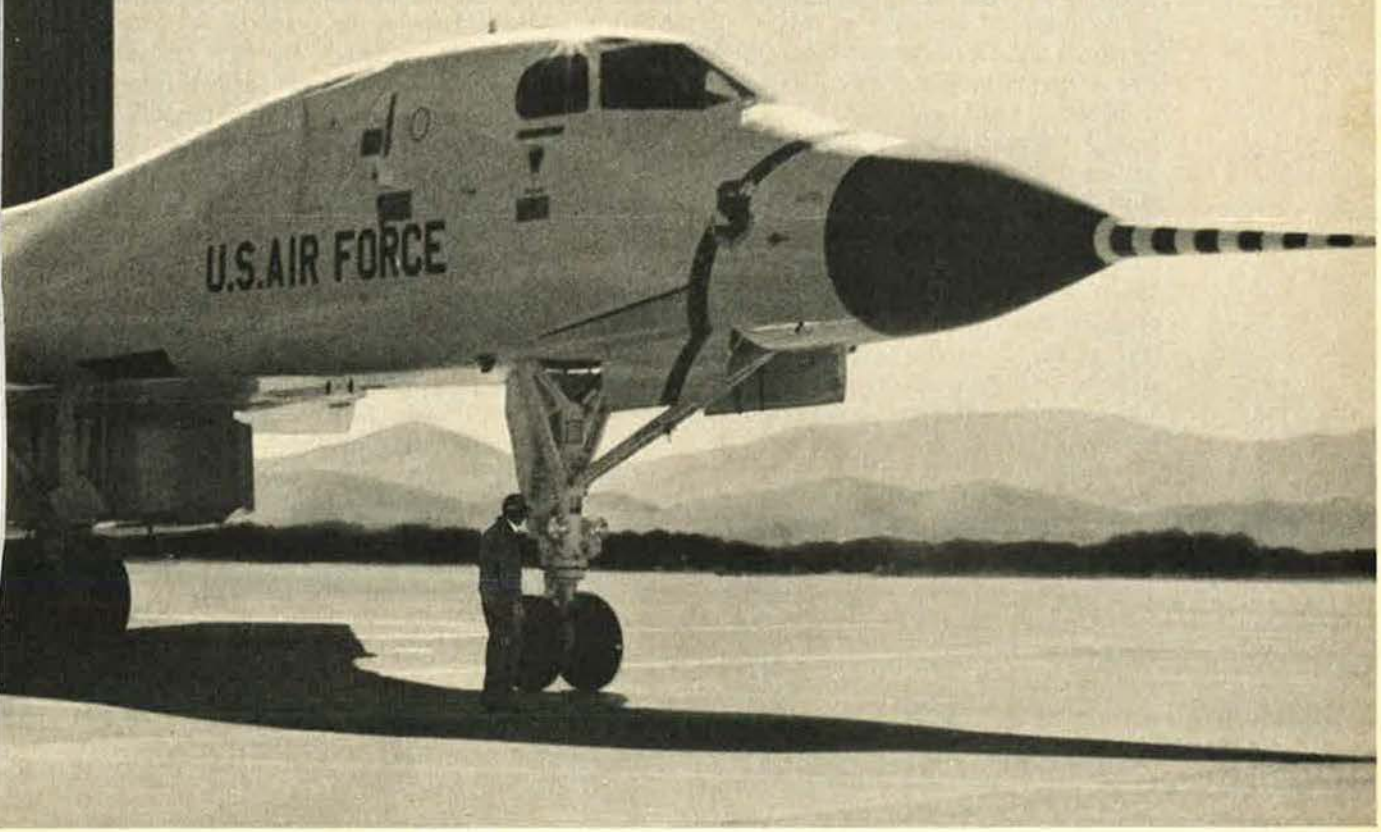
The B-1 bomber is expected to be one of our key strategic deterrent forces into the next century. It will be able to add new flexibility to the nation's triad of land-based missiles, sea-based missiles and manned aircraft.

The B-1 program is moving ahead according to plan. Roll-out will be followed by an extensive flight test program beginning with first flight later this year. This is consistent with the Department of Defense try-before-buy policy. In building the B-1, the man hours per pound to manufacture the first airframe were less than for any Mach 2 aircraft ever built for the U.S. Air Force.

With roll-out, the B-1 has taken an important step toward fulfilling a vital role in our nation's future security. Rockwell International is the system contractor to the Air Force for the B-1.

Rockwell International

The B-1.
Designed for a vital role in America's future.



AIR FORCE
NOVEMBER 1974 MAGAZINE

At a time when Soviet military R&D efforts are intensifying, our own shrinking budgets are decimated by inflation. The combination causes serious problems for USAF R&D managers.

USAF'S R&D RIDDLE
How to Do More With Less

BY EDGAR ULSAMER
SENIOR EDITOR, AIR FORCE MAGAZINE

THE urgency behind USAF's advanced strategic systems technology programs—including airborne test launches of Minuteman I ICBMs—is based on simple arithmetic, according to Assistant Secretary of the Air Force for Research and Development Walter B. LaBerge: The gestation period of new strategic weapons is between eight and ten years for both the United States and the USSR. During the first half of that development cycle, the Soviets usually confine their work to laboratory and ground tests that can't be observed by the United States; the first hard evidence of a new Soviet strategic system shows up after their program has reached the halfway mark. At that point, it would take the United States eight to ten years to come up with an equivalent capability—if there is nothing comparable in the technological pipeline. During the four- to five-year gap, the USSR could enjoy a clear technological advantage.

The only way to beat this situation, Dr. LaBerge said, is for the US to maintain an active technology effort that is so broad and imaginative that "when we actually see the first Soviet tests, we can react on the same time schedule." In his view, Congress has not yet accepted the position that "doing the first four years' worth of work—although quite expensive—is obligatory" if the US is to preserve the strategic balance. Dr. LaBerge characterized current Soviet ICBM efforts as "substantially greater than ours, measured by any standard—money, people, or numbers of programs—although we neither understand their precise reasons for doing so nor would want to duplicate all their programs."

A key question yet to be determined in planning USAF's follow-on ICBM programs—usually lumped together under the heading of the Missile System-X, or M-X, program—is timing. The longer the Air Force is willing to wait before freezing the underlying technology, the greater the opportunity for comprehensive technological advance. But the advantages of waiting could be negated if the need for a given system should turn out to be immediate. Current efforts seek to "pinpoint the options that within four years can give us the basis for a versatile and economical system adaptable to a range of diverse requirements."

An area of special concern is propulsion. Dr. LaBerge believes the potential for progress appears to be limited to between ten and fifteen percent of throw-weight growth per missile stage, derived from improved propellants, new materials, and related refinements. Since the total throw-weight increase of a new-technology, multiple-stage ICBM could be synergistic, a doubling of throw weight over the same range without an increase in the size of the missile appears feasible.

Another way to increase missile throw weight is to simply build bigger boosters. Several large ICBM designs are under study by the Air Force. Because the SALT I interim accord restricts the dimensions of the launching silos, these designs include a so-called "silo stuffer," an encapsulated design that occupies all available space of its launch facility. Any of these missiles, including the very largest that

the present silos can accommodate, is suitable for either ground or air-mobile deployment, according to Secretary LaBerge.

(The next generation of ICBMs is almost certain to include the capability for both fixed silo and mobile basing. Present plans call for the development of a prototype M-X missile that is encapsulated—that is, protected by a "cocoon" that makes the missile transportable and also hardens it against nuclear effects. A range of options that extends from about 80,000 to well above 100,000 pounds gross weight is currently under consideration. Throw weight could be several times that of Minuteman III. The Department of Defense is expected to select the final M-X prototype configuration in the near future.)

Air-Launched Missiles

As part of the M-X program, the Air Force currently is conducting various tests associated with air-launching ICBMs. Two C-5 Galaxy aircraft are being used, and the missile, or the shape that stimulates it in weight and configuration, is extracted from the C-5 by a parachute system and then is suspended in a fully upright position on a special sled that serves as the actual launch platform. The total weight of a Minuteman I and its sled is about 80,000 pounds, by far the heaviest load ever dropped from an aircraft.

These tests, Dr. LaBerge told AIR FORCE Magazine, have been "very successful" and seemingly have solved the most critical problem of air-launching ICBMs—"properly orienting the missile when it comes out of the aircraft." The intricate parachute system proved capable of turning the missile to an upright position similar to the way it stands in a silo. Current tests are limited to extracting and positioning ICBMs, and are to include at least one missile light-off. These tests do not include development of advanced guidance systems that mobile ICBMs require.

Dr. LaBerge is confident that present US guidance technology can make air-launched ICBMs highly accurate to cope with flexible targeting requirements involving both soft and hardened targets. A major challenge, he explained, is to ensure that air-mobile ICBMs remain operative in a "post-attack environment." It is "relatively easy" to develop hard-target kill capabilities for mobile systems in a "benign environment," but he pointed out that most scenarios call for self-contained capability without relying on external systems that might be destroyed by an attacker's first strike. Technological options that appear capable of providing the required combination of high accuracy and survivability include maneuvering reentry vehicles (MARVs), startracker guidance, and a gradiometer system to compensate for gravitational anomalies.

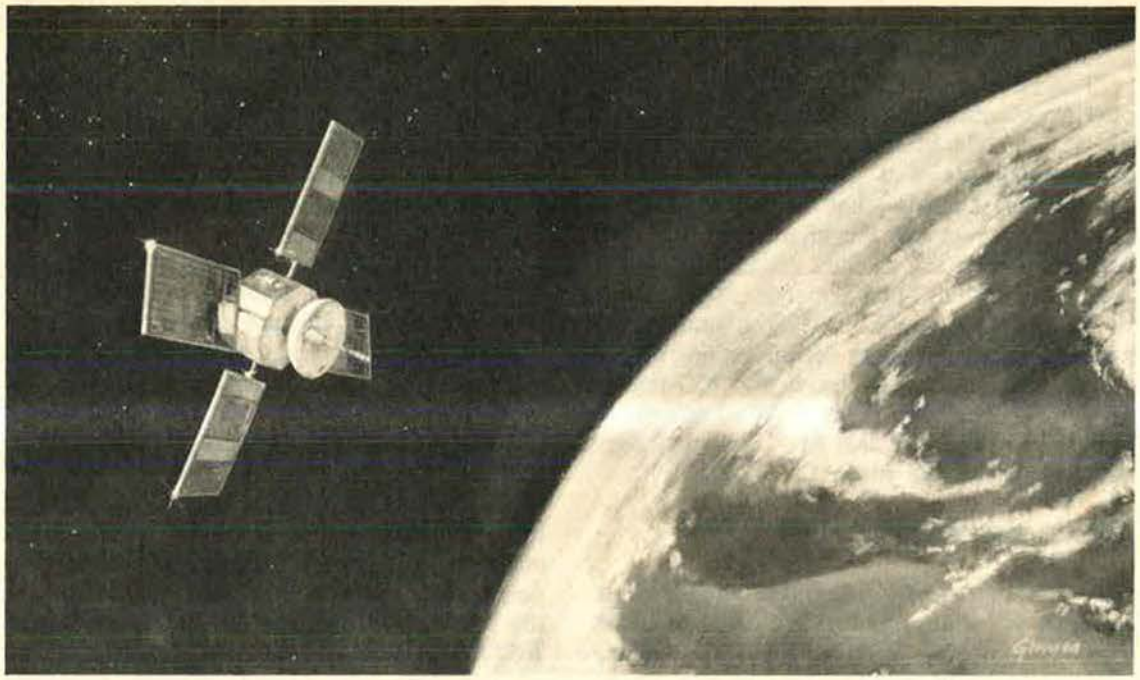
"Our current efforts are confined to a technology program, but we are gradually going to point our efforts toward specific solutions," according to Dr. LaBerge. He stressed that exploring these options in terms of prototype testing is of crucial importance to the long-term US defense posture, adding that "it is, however, not tantamount to the actual deployment of such systems and merely meant to provide us with a fall-back position if needed."

Secretary LaBerge said that "it is not likely that we can improve our present accuracy levels significantly without learning more about our error sources such as gravity gradients and atmospheric factors." The system that can pinpoint error sources precisely is known as the Missile Performance Measurement System (MPMS). Elements of that system, known as the Advanced Inertial Reference Sphere (AIRS), are to serve as building blocks for future missile guidance systems. Senior DoD officials expect such systems to more than double the accuracy levels of the present Minuteman III.

The prototype AIRS system, Secretary LaBerge said, "is being designed as an instrumentation package to assist in evaluating Minuteman III guidance performance. The AIRS package will be flown in the summer of 1976 as part of the MPMS program. In the M-X program, the prototype AIRS instrumentation package design is being upgraded [to meet M-X nuclear hardening standards], and the design itself will be transformed into a boost guidance system from its original instrumentation role." He added that the Air Force plans to pursue both AIRS and MPMS throughout the duration of the M-X program. (Increased accuracy might also permit the use of reentry vehicles that penetrate deep into the ground before detonating. Devices of this type are thought to be more effective than shallow ground or air bursts against very hard targets.)

The MARV Program

An area of potentially dramatic accuracy improvements, possibly leading to Zero CEP



The NAVSTAR Global Positioning System, currently under development by SAMSO, is to reach full operational status in the mid-1980s and will consist of twenty-four satellites operating at high altitudes.

(total accuracy, in the sense of nuclear weapons), is being probed by the Maneuvering Reentry Vehicle (MARV) Program. The value of MARV, Dr. LaBerge told AIR FORCE Magazine, "has progressed well beyond its original purpose of ensuring penetration of terminal defenses by evading would-be interceptors. Developments to date have produced a vehicle concept which, with the addition of terminal fixing sensors, could increase systems accuracy significantly.

"Control concepts and solutions to aerodynamic problems are presently being examined in the ABRES Advanced Control Experiment (ACE) flight-test program. Likewise, inertial guidance instrumentation, platform, and associated electronics developments are under way. The potential uses of MARV are still being explored. It is obvious, however, that the capability to update a vehicle's position as it nears the target area could have highly significant advantages for mobile strategic missiles."

For the time being, the Air Force doesn't plan launch tests of land-mobile designs, comparable to current tests of air-mobile systems, according to Dr. LaBerge. The basic challenge associated with land-mobile ICBMs, he said, is to make such systems "economically feasible." Current research, therefore, is focused on a variety of approaches that could reduce costs compared to the originally proposed array of missile transporters. These include heavy lift helicopters which, although expensive, "would still be much more economical than GEMs [ground effects machines]," rail transporters, trucks, and similar vehicles, according to Dr. LaBerge. (The use of dirigibles, also considered at various times, is not favored now because the underlying technology is not yet sufficiently in hand. The Air Force is, however, monitoring research in dirigible design conducted by the US Navy.)

The Global Positioning System

An Air Force-managed program whose great importance and pervasive utility are being recognized more and more by the Department of Defense, other government agencies, and the Congress is the NAVSTAR Global Positioning System (GPS). Currently under development by SAMSO, GPS is to consist of twenty-four satellites operating at altitudes of nearly 11,000 miles and will permit an unlimited number of properly equipped users to determine their position and velocity in three dimensions anywhere in the world, day or night, under all weather conditions, with an estimated accuracy of about thirty feet. "This capability is generating enthusiastic support of GPS throughout the Department of Defense, and we are finding more and more uses for it. We have, as a result, full confidence that this program will continue to be given adequate budgetary support," according to Dr. LaBerge. Because vast quantities of user equipment will be needed, such as

backpack sets for field use weighing no more than twelve pounds, aircraft terminals weighing less than fifty pounds, and assorted terminals for guided weapons, the Air Force "must be careful not to get shackled to just one contractor. We will need a competitive arrangement throughout the life of the program."

Philco-Ford and General Dynamics recently completed definition studies of user equipment needs under separate Air Force contracts. Current estimates place the cost of acquiring and operating GPS for a period of ten years at between $1.7 billion and $2.4 billion.

The program includes a validation phase that started late in 1973. In 1977, refurbished Atlas-F space boosters will launch three Air Force-funded prototype satellites into subsynchronous circular orbits that take them around the world every twelve hours. (A fourth satellite, the Navigation Technology Satellite, will be built by the US Navy as an integral element of this joint program and will work in concert with the three USAF satellites.) The prototype satellites are being developed by Rockwell International under a $42.8 million Air Force contract.

When fully operational in the mid-1980s, GPS will consist of twenty-four satellites, a control station in the United States, and, of course, unlimited user equipment. The latter consists essentially of an antenna, a receiver, a signal processor, and a control and display unit. This equipment determines position by measuring the time of arrival of signals from four satellites. The displays will give users their position, on a real-time basis, in terms of latitude, longitude, and altitude above mean sea level. The equipment can also display position in other grid systems, depending on various operating needs and thereby facilitate coordination of joint operations. When coupled to aircraft avionics, the GPS equipment can provide range, bearing, ground speed, and course information.

New Generation of Smart Weapons

One of the most important applications of GPS is weapon delivery under night and all-weather conditions. Extension of the so-called smart weapon technology into a night and all-weather environment ranks among the Air Force's most keenly sought-after long-term objectives. Because an operational GPS is about ten years away and for other reasons, the Air Force is developing other means to provide these capabilities, according to Secretary LaBerge. Some of the technologies for weapon delivery at night are already in hand. FLIR, or forward-looking infrared systems, for instance, have already demonstrated their capabilities convincingly. Recent reductions in the cost of FLIR systems make it possible to apply this technology across the board to tactical aircraft.

Assistant Secretary Walter B. LaBerge says that advances in propulsion technology seem to permit a doubling of throw weight for new-generation ballistic missiles without increase in size, compared to the present family of ICBMs.

"Recent developments of such things as charge coupled devices [new elementary components vastly more capable than integrated circuits] justify the hope for breakthroughs in further cost reduction for FLIR-like systems," according to Dr. LaBerge.

A new system of critical importance to the European environment, Dr. LaBerge said, is the Precision Location Strike System (PLSS), which can locate the enemy's electronic emitters, such as radar, and then, through time-of-arrival and distance-measurement techniques, attack them in all weather conditions with RPVs or guided weapons delivered by aircraft from standoff positions. Overall, the state of technology leaves no room for doubt that "we will be able to extend standoff and guided weapons delivery that proved so successful in Southeast Asia and during the 1973 Middle East war into a night and eventually even an all-weather environment. The only real question is how soon we want to acquire these capabilities, which is a function of the amount of money that we are willing to invest," Secretary LaBerge told AIR FORCE Magazine.

New Technological Horizons

As basic technological challenges and potential threats are increasing geometrically, R&D

funds are becoming scarcer and in some instances inadequate because of the emasculating effects of inflation. The Air Force is adjusting its R&D planning and management to these circumstances in a number of ways, according to Dr. LaBerge.

A pivotal factor in paring costs in the years ahead is a congeries of efforts by the Air Force Systems Command conducted under the joint heading of "Mission Area and Functional Area Overview." Closely coordinated with the Air Staff, this long-term planning concept first establishes what the force structure requirements might be in the next ten or fifteen years and then plots the technological options available to such a force, with special emphasis on cost, Dr. LaBerge explained.

Within this broad context, AFSC then assesses current and planned technology and development efforts in terms of these basic mission areas, he explained:

- Strategic offensive systems
- Strategic defensive systems
- Close air support
- Interdiction
- Counter air
- Special operations
- Airlift
- Rescue
- Intelligence
- Reconnaissance
- Surveillance
- Command control and communications
- Training
- Mission support
- Technological base

The same process is then applied in terms of functional areas, according to Dr. LaBerge. These include such fields as navigation systems, air-to-air weapons, air-to-ground weapons, remotely piloted vehicles, and operational security.

All cost assessments involving both new as well as modified existing systems are predicated on life cycle costing. An integral element of this planning system is the search for milestones that can help determine when a given technology is sufficiently stabilized so that "we can apply it in the most cost-effective manner. Obviously, one of the most crucial questions is when is a technology such as lasers, for instance, at an ideal point for application? The answers here are not easy," Secretary LaBerge pointed out.

The Long-Range Planning Study

Another important element in the search for the most cost-effective technological options is the so-called Long-Range Planning Study, a four-month, comprehensive effort that will identify areas where major technological breakthroughs could reshape the composition and force structure of the Air Force in the years from 1985 to 2000.

Key objectives of this study—requested by the Air Force Chief of Staff—include "identification of technological opportunities and potential roles of the Air Force in space; exploration of the possible offensive and defensive applications of laser technology, and [recommendations regarding] the degree of emphasis and directions that the Air Force should take in this area; a survey of the potential and need for night and all-weather operations of tactical air forces; and explication of other technological opportunities justifying priority development by the Air Force."

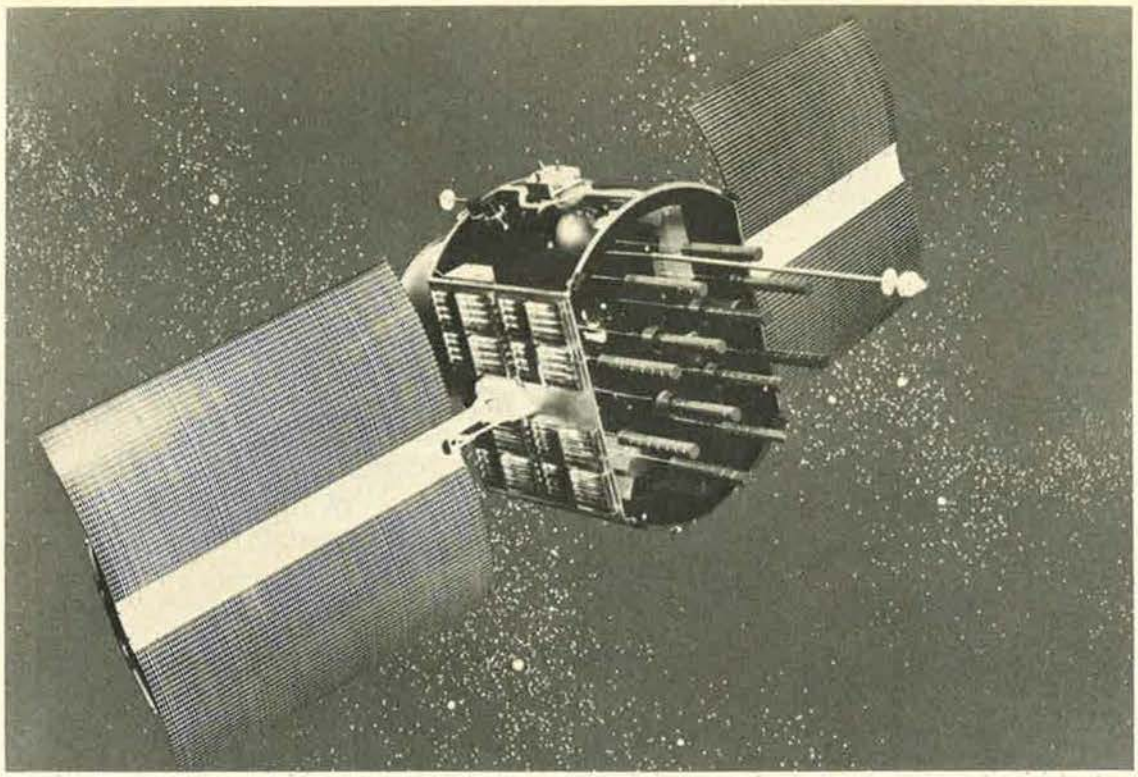
The study, which is to serve as a guide for the Air Force's future budget requests, involves key elements of the Air Staff, the Chief Scientist, the Scientific Advisory Board, the Air Force Board Structure, Air Force Systems Command, the RAND Corp., the intelligence community, the major USAF commands, and outside experts.

In the potentially revolutionary area of laser weaponry, this study is to "analyze the possibilities and degree of laser application by potential enemies to identify both the defensive and offensive measures that should be pursued to defeat the threat [and to examine] the opportunities offered the Air Force by development and application of laser technology." The analyses are to pinpoint those areas of laser-weapons technology that are potentially most promising to the Air Force's mission and, in turn, should "examine the impact of various applications of laser technology on force composition and structure."

The study's mandate regarding space is equally noteworthy. It states that "both the United States and the Soviet Union are capable of conducting military operations in space. It is conceivable that other nations will acquire significant space capabilities in this century." The study is to answer these questions: "What should be the role of the United States Air Force in space? What are the potentials to be exploited and what should be the rate of advance? How should the potential and the resultant capabilities be managed?"

Another premise of the long-term planning study is that tactical air forces' all-weather operations are imperative as the field forces of potential enemies become capable of operating twenty-four hours a day regardless of climatic conditions. "Fortunately, technology offers many possibilities for coping with darkness, but no techniques to date offer suitable capability for the adverse weather acquisition and strike of typical tactical targets."

The ultimate objective of the four-month study is to assess Air Force long-range plan-



USAF's Global Positioning System will enable an unlimited number of users to determine their velocity and position in three dimensions, with accuracies of about thirty feet.

ning needs and to recommend what major "functional and research and development directions" should be taken.

Critical Review of R&D Resources

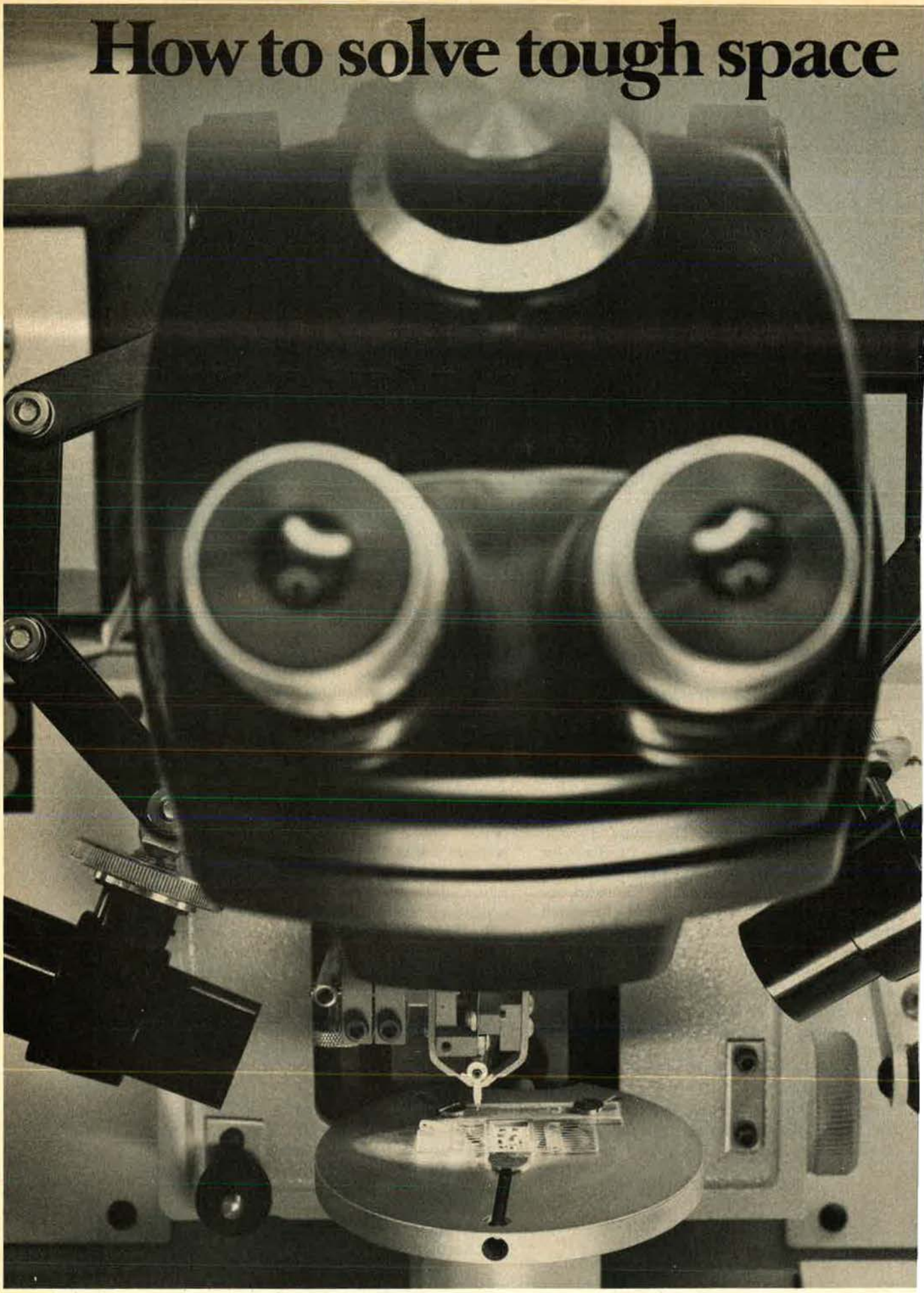
Backing up these projects are other significant Air Force efforts to extract maximum returns from an increasingly meager budget, according to Dr. LaBerge. These include a review of basic policies governing USAF's in-house laboratory facilities. This study, directed by the Assistant Deputy Chief of Staff for Research and Development, Maj. Gen. Kenneth R. Chapman, established the need for firmer "integration of our internal research programs, but at the same time produced convincing evidence that the Air Force should resist any moves to centralize all advanced research in DDR&E [DoD's Directorate for Research and Engineering]. We saw a great deal of merit in letting the individual services continue to explore technology in line with the emphases that are inherent in their individual mission." The review also showed that about ninety-five percent of the users of USAF's laboratories believe that the present structure should not be changed.

Other findings suggest that recent reductions of Air Force research assigned to universities have been too severe and that it would be desirable to increase joint programs between USAF's in-house facilities and the academic community.

Another recent Air Force study, to be followed by a similar critical evaluation by DDR&E late this fall, probed the value of the service's FCRCs (Federal Contract Research Centers), popularly known as the "think tanks." "As a result of these analyses, we are convinced that we need those institutions, that they are good, that they keep themselves well informed on the state of the art, and that we depend on this unique form of continuity that only they can provide." Perhaps most important, according to Dr. LaBerge, are the findings that the FCRCs are "the best antidote we have against our own cerebral sclerosis and to keep us from growing old in place." No evidence was found that the centers' outside activities, involving other government agencies or private clients, impinged on their Air Force work, he said.

The Air Force's evaluations of the technological challenges, in Dr. LaBerge's view, should assure a prudent and cost-effective use of available funds and talent. Hopefully, they will turn out to be as perspicacious and prophetic as the first major long-term planning effort, the "Toward New Horizons" study of a generation ago. ■

How to solve tough space



communications problems.

Fly 100 missions. Operate perfectly for years in space. Handle more functions. Use less power. Make it ever-smaller and lighter, too. And deliver on time and within budget.

Our space communications systems couldn't meet these, and 100 more specific rigid requirements, if we didn't start with better basics. The key is the development of special "mission tailored" integrated circuits tempered with the maturity gained by years of practical experience in building black boxes and interfacing electronics systems for a multitude of space programs.

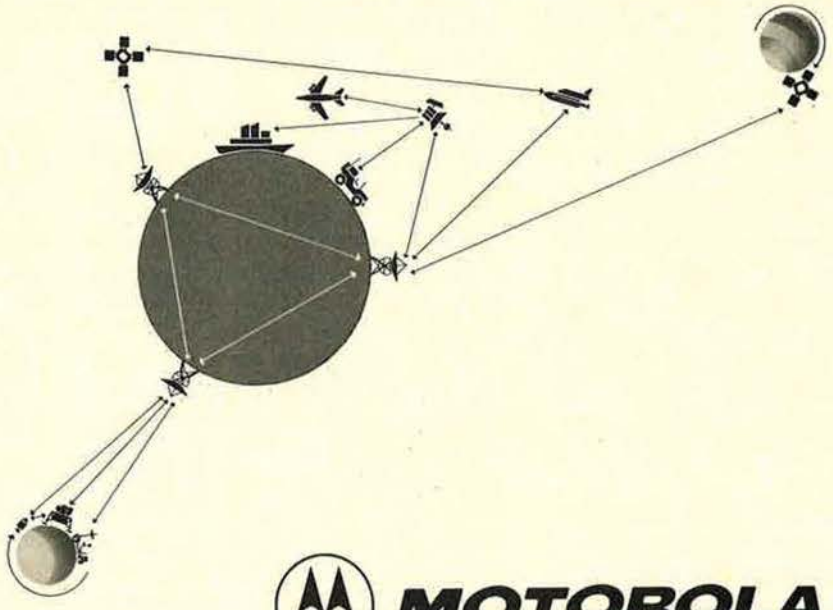
The Technical Triumvirate

Nowhere in industry can you find a match for Motorola's unique three-way capability to develop special ICs, the fundamental building blocks for our ultra-reliable electronics. (1) An extensive in-house IC facility for design, development and high technology production. (2) Support from our sister Semiconductor Products Division just down the road. (3) Availability of the advanced processing facilities of Motorola's Corporate Integrated Circuit Laboratory, only a few miles away.

We not only make many of our own building blocks, we also integrate the integrated circuits, then integrate subsystems so the entire system functions together without wasting space, weight or money... while adding new dimensions in reliability.

Motorola space systems and equipment are more reliable because we have developed: custom ICs to handle data at gigabit rates and beyond... custom ICs to allow our plated wire memories to sense signals previously considered below threshold levels... custom ICs using beam-lead technology to meet extended space mission requirements... custom ICs using acoustic filters and delay lines.

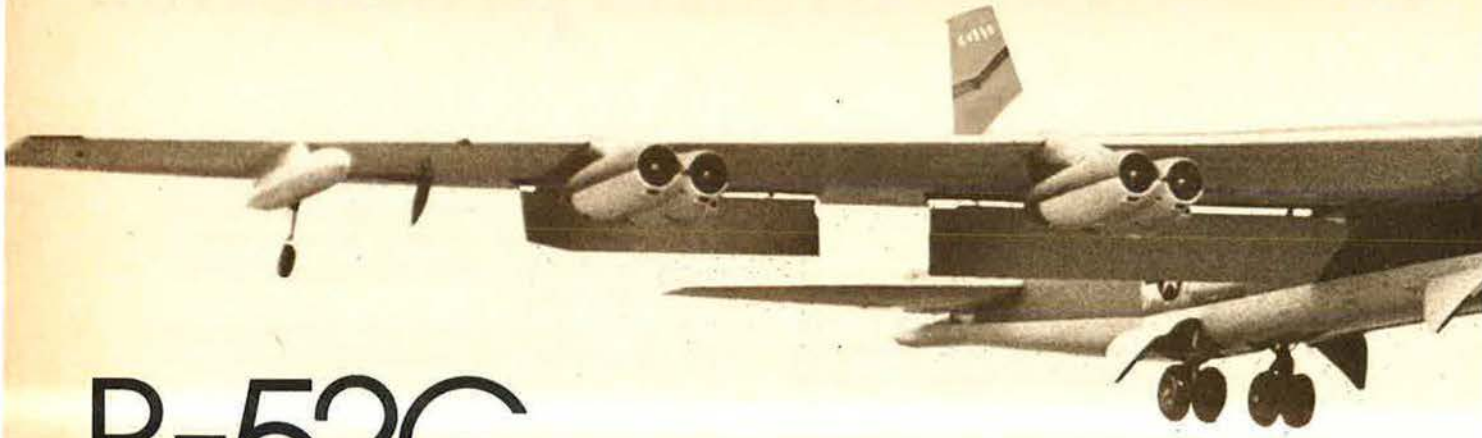
To describe these capabilities without knowing your specific needs could end up a long, boring boast. Drop a line to Floyd Danielson at Motorola's Government Electronics Division, 8201 E. McDowell Rd., Scottsdale, Arizona 85257, or call him at 602-949-3305 and find out specifically how Motorola can put it all together for you. Ask for our E.E. (Experience Evolution) package showing how Motorola's Space Systems have matured starting all the way back with the Pioneer I and Mercury Programs.



MOTOROLA

The mind to imagine . . . the skill to do

A PILOT'S REPORT



B-52G: Mastering the Magnificent

IT BEGINS at 0745 the day before the flight. Three bomber crews scheduled to fly the next day are assembled in the 320th Bomb Wing briefing room for the premission planning briefing. Maj. Jim Guglietti, 441st Bomb Squadron Ops Officer, briefs the crews on schedule changes, new operational policies, and other pertinent data. At 0800, the crews head for the mission planning room where they'll spend the rest of the day preparing for the flight.

First of all, the 60-9 schedule gives the crew the basic information needed to plan the mission: aircraft tail number, fuel loading, takeoff time, air refueling data (air refueling track, control times, on-load, tanker call sign, etc.), low-level bombing data (route number, entry time, bomb release times, and exit time), and finally, the full-stop landing time.

Using this information, the navigator then goes to work and lays out the overall mission. We take off at 1000, air refuel an hour and ten minutes later, then enter the low-level route at 1239 with bomb releases at 1330 and 1400 hours. There will be a celestial navigation leg of approximately an hour and forty-five minutes, followed by forty minutes of transition work by the pilots.

With this overall plan in mind, each crew member dives into his individual tasks. As the copilot, I start the Form 365F—Weight and Balance Data—as the first step. This form considers basic aircraft weight and adds the crew, spare dragchute, ECM flares and chaff, fuel, water, and other miscellaneous items. Each item is entered by weight and then used in computing the aircraft center of gravity. This step is critical for the next copilot duty, determining the takeoff data.

After a quick call to the base weather facility, I learn the temperature will be fifty degrees, with a good chance of a wet runway. So I consult the performance charts to compute the takeoff data for 412,000 pounds and a RCR [runway condition reading] of 9.

Meanwhile, the navigator is working on his high-level chart, determining the best route of flight to make all the control times good. The radar-navigator is in the Bomb-Nav office deciding which targets to bomb and what tactics to use on each. The aircraft commander (A/C) is next door in the tanker squadron ops coordinating our air refueling with the tanker crew.

Since I can't continue until the navigator finishes the route, I take the opportunity to check my map for low-level route OB-20 against the master for any new additions, deletions, or corrections. This completed, I coordinate with the radar-nav on the radar bomb site call-in sheet for our bomb runs. It's now noon, and the nav has finished the Form 200, so I go to work computing the fuel usage log. For an eight-hour flight including air refueling and low level, this takes a little over an hour. The rest of the crew breaks for lunch while I "figure the fuel."

At 1400, the crew assembles for target study. The Target Study Officer, Lt. Col. Earl Langendorf, reviews the entire low-level route, covering altitudes, headings, and times. Again I recheck my map, as do the navigators. He then briefs the targets and tells the pilots what they can expect to see as ground references in the target area. The pilots adjourn to the mission planning room to complete the flight plan and other documents that will be filed with Base Operations.

At 1530, the crew briefs Lt. Col. Kenneth N. Chapman, our squadron commander, on the complete mission, giving him all the details from takeoff to landing, with special emphasis on the bombing portion. It's a very thorough briefing concluded by a question and answer session with Colonel Chapman. After all of this preparation, we go home to get the required twelve hours of crew rest before departing for the flight.

Takeoff is at 1000, so that means a bus time of 0730. We meet at the squadron, check the latest CIF [Crew Information File], and sign the cards,

Monster

BY 1ST LT. RONALD C. ELSDON, USAF

then board the bus for the ride to base ops. Once there, we get a weather briefing covering the entire route, in great detail on the air-refueling area and the low-level route. It looks like a beautiful day to fly everywhere except here at Mather AFB, Calif. It's raining, but should be clear by the time we return. Notams [Notices to Airmen] and computer flight plan checked, we depart base ops for a quick stop at the inflight kitchen for the water, coffee, and flight lunches.

Firing Up

We arrive at the aircraft approximately an hour and forty-five minutes prior to launch. The ground crew is just finishing its preflight inspections, and the crew chief meets our bus with the aircraft maintenance and 781 forms. The maintenance crews have been working all night making sure the aircraft is ready and safe to fly. Maintenance on an aircraft as large as a B-52 is an enormous undertaking, and the SAC maintenance troops should be commended for the fine job they do on the aging BUF.

After checking the maintenance forms, the aircraft commander briefs the crew chief on checklist, starting, and taxiing procedures. We then unload the bus and start our power-off and external inspections. Since the B-52 is so large, the pilots' walk-around is only to check general conditions and safety of flight items. While the pilots are doing this, the navigators are checking the bombing system switches and the bomb bay as the electronic warfare (EW) officer and the gunner are also checking their systems.

Exterior preflight completed, external power is connected and the crew climbs in to check out all the systems with power on. The oxygen and ejection systems are checked at each crew position, as well as the interphone communications between each. Meanwhile, the A/C and I are checking emergency battery power, fire-detection system, warning and indicator lights, radios, fuel quantity gauges, nav aids, altimeters, IFF/SIF, elevator and rudder, hydraulic standby pumps, autopilot, airbrakes and spoilers, gyro instruments, and flaps.

At 0930, I call Mather ground control for clearance to start engines. The crew chief closes the hatch, starts the external air, posts the fire guards, and clears us to start the No. 4 engine. I flip the starter switch on, the throttle comes up at fifteen percent, and the big J57 comes to life. As No. 4 passes forty-five percent, its starter goes off and No. 6 comes on. When No. 6 is started, the other engines come up and the big machine really starts to shake. With all eight started, we place the four aircraft generators on the line and turn on the powered rudder/elevator system and air-conditioning, check out the stabilizer trim, and strap into the ejection seats.

While we're doing that, the navigators are checking out the radar and the EW is getting our launch message from the command post. All systems check, and we have clearance to taxi. As we taxi to the active runway, we check the brakes, lower the flaps, close the bomb doors, and check our flight instruments and the crosswind crab system. Once the plane is parked on the hammerhead, the supervisor of flying gives the external a final check and clears us for takeoff. I review the takeoff data, and the A/C goes over the takeoff procedures and the standard instrument departure.

On-Time Takeoff

"Viper 25, change to departure control frequency, cleared for takeoff on Runway 22 Left," radios Mather tower.

Releasing the brakes and pushing the power up, we cross the ready line for another "SAC on-time takeoff." I set the crosswind crab three units to the right for the fifteen-knot wind, turn the starter switches on, position the air-conditioning to ram, and change the steering ratio to "takeoff

and land." Lined-up with the centerline, I move throttles four and five up to part-throttle EPR [engine pressure ratio] setting. These set, the others are brought up to match them. The A/C then places the water-injection switches on, and we monitor the engines' instruments for the power increase. I call "good water" just before the A/C says "seventy knots NOW." The nav starts his watch for the 8.1 seconds to S-1 decision speed.

"Coming up on 8.1 seconds NOW," calls the navigator. We are at 110 knots, just above S-1 speed, so we are committed for takeoff. I take control of the throttles since the pilot needs both hands on the yoke to control the 412,000 pounds hurtling down the wet runway.

"Coming up on unstick 149 NOW," I call as the pilot applies back pressure and lifts us off the runway. He applies the wheelbrakes, and I raise the gear. At 500 feet, we turn left to 200 degrees and start the flaps up at 180 KIAS [knots, indicated airspeed]. It takes sixty seconds for the flaps to raise completely, and a strict speed schedule must be adhered to in the retraction.

At 110 seconds from initiation, the 1,200 gallons of water run out and the throttles are firewalled. "Flaps up, level off, accelerate to 280 KIAS," I tell the pilot. Turning to 058 degrees, we intercept the proper outbound radial and continue the climb to 10,000 feet. Sacramento Departure hands us off to Oakland Center, and we are cleared to FL 240 [flight level 24,000 feet]. I move the throttles to the climb EPR setting and continue the checklist.

At 8,000 feet, we break into the clear, and there's nothing but blue sky above. I turn the autopilot on for warmup and change the fuel panel setting for the climb. At 10,000 feet, we disconnect our zero delay lanyards, and check the oxygen and cabin pressurization systems at 12,000 feet. Passing 18,000 feet, we set 29.92 inches of mercury in our altimeters and are cleared to FL 290. At level off, all crew members check their stations and report.

Instead of settling down, the crew really gets busy now. The EW and gunner do an interference check while we coordinate a true airspeed check with the nav team. That completed, we go directly into a bombing system check to determine the synchronous bombing capability of our aircraft. At 120 seconds to simulated bomb release, I clear off Oakland Center frequency for the tone check. At twenty seconds to go, the bombing tone comes on and breaks at zero seconds to go. The system checks out, and we are back with Oakland just in time to be handed off to Salt Lake City Center. It's now time to start the rendezvous checklist for the air refueling, which is only thirty-five minutes away.

Ready For Refueling

First of all, a hot armament safety check is completed by the EW to make sure the "nose is cold" and that no electronic countermeasures (ECM) gear will conflict with the rendezvous. We establish radio contact with the tanker and pass them our air refueling information. Determining that we will both be on time at the ARCP [air refueling control point], the navigators then calculate the offset and range for the tanker's turn onto track for the refueling. We descend to FL 260 at eighty nautical miles from the tanker and proceed inbound at 280 KIAS, the tanker being level at FL 270.

As the tanker hits nineteen nautical miles away, the radar-nav calls for him to turn to the air refueling heading. About halfway through the turn, I spot the tanker and call the "tally-ho" to him. The tanker rolls out two miles in front of us and slows to 255 KIAS, the air refueling speed. At one mile, we start our climb to FL 270 and decrease airspeed in the climb. At one-half mile, the tanker's boom operator calls for a radio check, which comes in loud and clear. Meanwhile, I have completed the rendezvous and precon-

B-52G STRATOFORTRESS—FACTS AND FIGURES

Manufacturer	The Boeing Co.
Type	Long-range bomber.
Powerplant	Eight Pratt & Whitney J57-P-43WB turbojet engines, each with 11,200 lbs. thrust (13,750 lbs. thrust with water injection).
Length	157 feet, 7 inches.
Height	40 feet, 8 inches.
Wingspan	185 feet.
Gross Weight	488,000 pounds.
Fuel Capacity	300,000 pounds.
Range	More than 8,000 miles unrefueled.
Speed	Approximately 630 mph at 20,000 feet (about 390 KIAS or .84 Mach).
Service Ceiling	55,000 feet.
Crew	Pilot, copilot, navigator, radar navigator, electronic warfare (EW) operator, gunner.
Armament	Four .50 caliber guns in tail turret; two AGM-28 Hound Dog air-to-ground missiles under wings; bombs and Quail decoy missiles carried internally. Some B-52Gs have been modified to carry 20 AGM-69A SRAM missiles, six under each wing and eight in the bomb bay.
First Delivery to SAC	February 1959 (the prototype XB-52, on which all subsequent models were based, first flew in October 1952).
Production	193 production G models built. (The total of all B-52 models produced between 1954 and 1962 is 744. Remaining in SAC units are 397 B-52s: 120 Ds, 165 Gs, 90 Hs, and 22 Fs, which are used for training.)

tact checklists by setting up the fuel panel in the proper air refueling configuration for our gross weight and by engaging the autopilot's air refueling mode.

At two miles, the slipway doors are opened, exposing the refueling receptacle for the boom. The pilot stabilizes the aircraft ten feet below and fifty feet behind the boom and calls, "Stabilized precontact." The boomer clears us in, and an increase in power moves us toward the boom. The A/C gets a contact on the first attempt, and we start taking our 25,000 pounds onload from the tanker.

The pilot gets his required fifteen minutes of boom time so he backs out to give me a crack at it. Learning to fly a good, stabilized, precontact position is half the battle, by recognizing more outside references and how to judge movements and correct for them without overcorrecting. I move in and get a contact and hang on awhile, but then grow a little overzealous and get a disconnect. I try again, but by now we are at the end of the refueling track and the tanker calls for the practice emergency separation. We immediately descend to FL 260 and the tanker climbs to FL 280. We copy our clearance from Salt Lake Center and turn right to head for the low-level route.

Low-Level Run

The forty-five minutes between air refueling and low level are busy ones for the crew. After completing the post air refueling checklist, I must turn my attention to contacting Hill AFB Metro for an update on the low-level weather. Once in contact with Hill, I give them our entry time for low-level route OB-20, and stand by to copy their information. Hill passes new altimeter settings and "D" values (terrain-avoidance data) for the route, and includes the winds and cloud conditions. I give them a pilot report, and we sign off until another day.

The navs and I now take this updated information from Metro and calculate the altitudes we must fly for calibrating our terrain-avoidance (TA) radar. The navs' calculations crosscheck with mine, so we are squared away for TA calibration. Now the navigators must accomplish their TA inflight functional checklist, which will be followed by the pilots' version of the same. We give the TA scopes a thorough checkout and make any necessary adjustments for proper scope presentation. This completed, the nav team does its weapon preparation-for-release checklist, simulating actual weapons in the bomb bay.

I request clearance for the low-level route from Salt Lake Center, and they clear us for the route and altitudes. I then call the nearest Flight Service Station (FSS) and obtain the latest altimeter settings along our route. It is now time to begin the low-level descent checklist, since the navigators have just completed their before-descent checklist. We are five minutes from the entry point to OB-20. The allowable margin for timing is plus or minus two and a half minutes. At the entry point thirty seconds early, the checklist is down to "throttles-idle," and we start our descent from FL 250 to 12,000 feet at 280 KIAS. In the descent, we continue the checklist and cancel IFR with Salt Lake. Using the latest altimeter setting, we level at 12,000 feet and enter the low-level corridor. We will be descending to 800 feet above the ground for the TA calibration in about twenty miles.

The low-level descent checklist complete, we are cleared by the radar to descend to the TA calibration altitude of 8,440 MSL, using the Metro altimeter and "D" value. Once leveled at the proper altitude, I begin the TA calibration checklist, crosschecking pressure altimeters, radar altimeters, and HA (height of aircraft) indicators. We then engage hard autopilot, and I fly the aircraft toward the TA calibration peak. The A/C continues the

Air refueling gives the B-52G unlimited range. The big bomber can gulp 25,000 pounds of fuel from the KC-135 in as little as five minutes.

checklist at ten nautical miles from the peak by calling off clearance plane settings at various ranges and in different radar modes. He then gives the radar altimeter reading as we fly over the peak. This accomplished, we climb to the IFR altitude for that route segment while the nav team completes the Form 449, determining the proper clearance plane settings we should fly in the various TA modes.

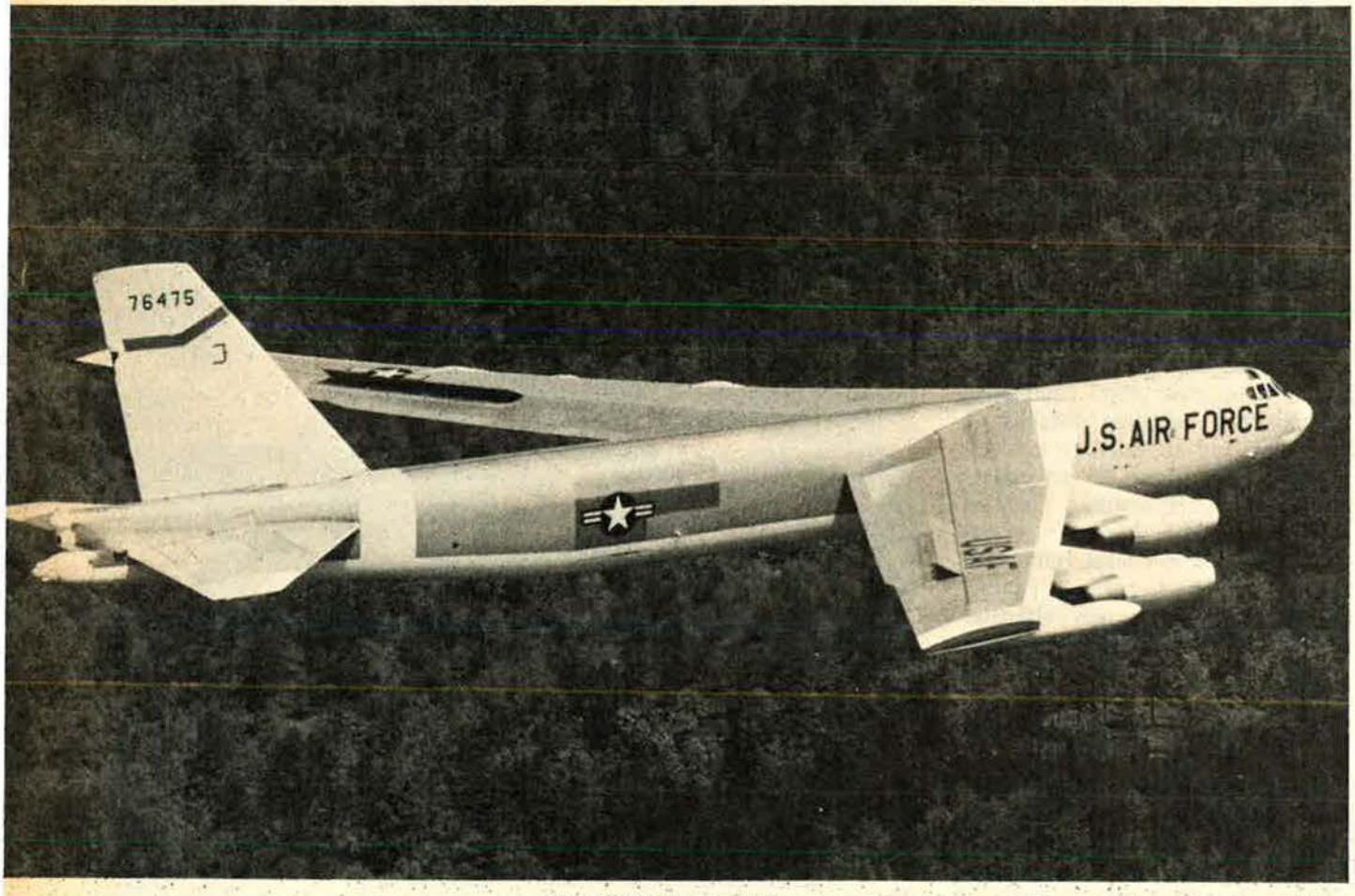
Power Steering

Calculations complete, the radar once again clears us to fly TA. Using an 800-foot clearance plane setting, we descend in the autopilot's low-level mode, which, like the air refueling mode, is simply a form of power steering that is used to dampen shock and reduce the stress placed on the airframe. At 800 feet and 270 KIAS, we follow the navigation from downstairs and crosscheck it with visual references outside. This being a mountainous route for the most part, it is quite challenging taking an airplane the size of the BUF through the route close to the ground.

After crossing Lake Powell and the Navajo Mountains, we reach the Arizona flatlands and press on toward the targets. About twenty miles prior to the bomb-run corridor, we accelerate to 325 KIAS, and I attempt radio contact with the bomb plot. After several attempts, we establish contact with Holbrook, and I pass them our bombing and ECM information. They read it back and clear us for the run. I then call IP (initial point) inbound, and we are on the first bomb run. I control the airspeed, and the A/C flies the heading and altitude. It's six minutes and ten seconds to the first target from the IP.

The EW calls AAA radar in search and we acknowledge. "AAA LOCK-ON, BEGIN MANEUVER! Two minutes till bombs away. Turn right three degrees and center the FCI, pilot. AAA break-lock, stop maneuver. Sixty TG. Left 1 degree, pilot. Twenty seconds, tone on. Five, 4, 3, 2, 1, tone break, BOMBS AWAY, Viper 25! Turn left to 142 degrees. Twenty seconds, tone on. Three, 2, 1, BOMBS AWAY, Viper 25! Turn right to 154. Time to target, one minute and fourteen seconds. Left two degrees, pilot. Standby tone. Five, 4, 3, 2, 1, BOMBS AWAY, Viper 25!"

That was the first triple release bomb run. Holbrook copied our tones and cleared us from the bomb-run heading. We then enter the racetrack and reaccomplish the checklists, then turn to cross the IP and head inbound for a different set of targets. The second bomb run and ECM activity completed, we exit the low-level corridor and start the published departure. I run the



The B-52G can penetrate enemy radar defenses by flying low-level terrain-avoidance routes to the target at less than 1,000 feet. Flying the routes demands top airmanship, and it's all part of two busy days of planning and doing.

climb checklist while the navs do their post-release checklist. Passing 11,000 feet, I contact Albuquerque Center and request clearance to FL 390 for the celestial navigation leg back to Mather.

Finally, a Breather

Climbing out of low level is the crew's first real opportunity to sit back and catch its breath. The lunches, coffee, and water are passed around for consumption at high altitude. With a few intermediate level-offs due to conflicting traffic with airliners, we arrive at FL 390 about thirty-five minutes after our last bomb run. Once level, everyone checks his position and prepares for the nav leg. The EW moves to the celestial observation position where he will use the sextant to "shoot the sun" for the navigator.

About fifteen minutes after level-off, the navigator accomplishes the grid entry checklist to convert our magnetic heading system to an unslaved gyro system. The EW's celestial shots are converted to a line of position for determining a precise fix to use in conjunction with dead reckoning, timing, and airspeed. We try to maintain a constant airspeed during the nav leg and to hold a good, stable platform while the EW is taking the shots.

About an hour and forty-five minutes after entering grid, the navigation leg is terminated and the nav has completed all the appropriate checklists. We terminate just two miles from the flight planned point, which is good navigation over that period of time. Our heading indicators now read the actual mag heading as we start thinking about getting into Mather and making a few trips around the traffic pattern for some instrument work.

Oakland Center clears us to FL 240 as we pass Reno and get a breathtaking view of the snow-covered Sierra Nevadas and one of the most beautiful sites in the world, Lake Tahoe. Level at 240, we review the High Tacan/ILS Runway 22 Left at Mather and proceed toward the holding fix—El Dorado. Mather's primary published penetration and approach has just about everything for instrument work: separate holding fix and IAF [initial approach fix], tacan radial to an arc, tacan arc to a radial, tacan radial to a localizer, and localizer to an ILS approach. Throw in five or six altitude restrictions and a pilot is kept plenty busy.

Oakland clears us to FL 200 for holding, and we slow to 230 KIAS. Each pilot takes a turn in the holding pattern, with the gear coming down on the second trip around. Reaching Camino, the IAF, we penetrate at 240 KIAS with the airbrakes in position four, and complete the descent checklist. Passing 10,000 feet, I start the before-landing checklist as we slow to 220 KIAS, start the flaps down, and turn onto the 20 DME (distance measuring equipment) arc. Flaps down, we slow to best flare speed plus thirty knots as we intercept the localizer. Airspeed indicators check, and we slow to best flare plus ten after checking the center of gravity. Landing lights come on, and we intercept the ILS glide slope as I call, "Viper 25, final approach fix, low approach."

Following the glide slope down to the decision height of 296 feet, we execute a missed approach by going to military rated thrust and dropping the airbrakes. After several more instrument approaches, it's time for the full-stop landing. Today I'm the lucky one, so it's my turn to shake up the guys downstairs. The BUF is a very difficult airplane to land because of the gear positioned in tandem on the fuselage and the extreme nose-down attitude it flies at slow speeds.

Intercepting the ILS glide slope, I pull off some power and start a 700-feet-per-minute descent at 140 KIAS, or best flare plus ten. The B-52 turns slowly, but the big rudder is very effective, especially on final approach. At 296 feet, I pick up the runway visually and aim right for the threshold. At about fifty feet, I start trimming nose-up and slow to best flare speed. Touchdown is firm at about 2,000 feet down the runway, as the throttles are idle, airbrakes go to six, and I deploy the dragchute.

Passing ninety knots, we check hydraulic pressures and the brakes. Taxiing in, we complete the after-landing and the before-leaving-aircraft checklists, and log eight hours and forty-five minutes of flying time.

The author, 1st Lt. Ron Elsdon, is a 1969 graduate of the University of Georgia and has spent all his operational flying career—some 1,300 hours—in the B-52. Assigned to the 441st Bomb Squadron at Mather AFB, Calif., he flew 659 combat hours during three deployments to Southeast Asia, and participated in Linebacker II. An instructor copilot, he won the Distinguished Flying Cross and the Air Medal with two clusters in SEA.

Flying the B-52G is quite a challenge, not only because of the size of the aircraft, but because of the highly complex and technical mission it performs. Being able to master the BUF in air refueling, low-altitude terrain-avoidance flight, and in instruments and landing, and all the strategic and tactical expertise that goes hand in hand with flying the mission gives me quite a sense of accomplishment and pride to be a SAC bomber pilot.

Now if I could just learn to disregard all those damn "training wheels" jokes! ■

AFA's NATIONAL CONVENTION

Dedicated to the commemoration of the Air Force's founding as an autonomous, coequal military service in September 1947, the Air Force Association's 1974 National Convention in Washington, D. C., provided a panoramic showcase for the Air Force's past accomplishments and served as a dynamic forum for examination of the challenges that lie ahead . . .

Showcase For US Aerospace Power

BY EDGAR ULSAMER
SENIOR EDITOR, AIR FORCE MAGAZINE

"THE US Congress recognizes that there is no higher priority than the defense of the United States," declared House Speaker Carl Albert, AFA's newest member at the time of the Air Force Association's Twenty-eighth Annual National Convention, held in the Nation's Capital September 15–19, 1974.

Speaking for the many members of Congress who attended the "Salute to Congress" evening, other functions of the Convention, and the associated Aerospace Development Briefings and Displays, Congressman Albert acknowledged the impact on official Washington of the Convention's emphasis on crucial national security requirements.

More than 6,000 representatives of the Air Force, the Department of Defense, the Congress, other government agencies, the aerospace industry, and AFA delegates attended the event. For four days, the Convention program focused on a wide range of topics affecting the defense posture of the nation, the men and women of the Air Force, and the organizational vitality of the Association. Concurrently, the Aerospace Development Briefings, with more participants and a broader picture of defense technology than ever before, informed visitors from the Congress, the Administration, the military, and foreign military attachés about recent advances in aerospace technology.

A theme reflected by all the Convention activities and reiterated by the principal speakers was that the US Air Force is now, and will continue to be, "second to none."

The Association's 1974 Statement of Policy and affiliated Policy Resolutions, presented by AFA's Board of Directors and approved unanimously by the Convention delegates, addressed this issue squarely by setting forth a series of specific recommendations pertinent to the current round of Strategic Arms Limitation Talks (SALT). *(See p. 11 for complete text.)* The Statement's central proposal, advanced as a nonnegotiable US position at SALT, is the requirement for "essentially equivalent throw-weight capabilities in the two sides' central launch systems."

Pointing out that the first round of SALT granted the Soviet Union a forty percent advantage in number of missile launchers and a potential five-to-one advantage in missile throw weight, the Statement warned that if no rebalancing of the two countries' strategic systems is soon brought about by a follow-on accord, the United States will be placed in a position of "assured strategic inferiority." Since the Soviet Union's recent international policies and the scope and directions of its strategic-weapons development programs are at odds with this country's understanding of détente, the Association's policy statement urges that the United States "reshape" its negotiating posture vis-à-vis the USSR in the current SALT round.

Specifically, the Convention delegates recommended that the Administration and the Congress upgrade the entire USAF ICBM force to Minuteman IIIs and that these missiles be retrofitted with the accuracy and warhead yield improvements now under development. At the same time, the AFA Statement urged expeditious development and deployment of the B-1, "which re-

cent DoD studies have confirmed as an essential, effective, and economical instrument of flexible deterrence," and which is "a key factor in preventing technological surprise" from undermining US strategic deterrence.

The Association also expressed its vigorous support of "the Department of Defense's program to expand this nation's capability to deter war at various levels of intensity by increasing strategic mobility and airlift as well as in-theater conventional and nuclear forces."

Speaker of the House Carl Albert signs up as three-year member of AFA. Here, he tenders his check to AFA President Joe L. Shosid, left, at AFA's "Salute to Congress."

Key Convention Events

AFA's President Joe L. Shosid—unanimously reelected by the delegates along with Board Chairman Martin M. Ostrow for a second term—opened the Convention by pledging AFA's support of President Gerald R. Ford's commitment to keep America's will for peace and military strength "second to none." At the same time, the AFA President said, "We find no historic justification for the assumption that peace on earth in the future will fall into our laps, unearned, any more than it did in the past two hundred years."

Since the end of World War II, he said, "the United States has been involved in more than nineteen separate conflicts . . . [all of which] carried with them the nucleus for erupting into a full-scale war between the major powers. The fact that they didn't was due mainly to US deterrent strength. We see, therefore, as the overriding priority of the nation and free world an America whose strength is second to none." And he added: "We applaud President Ford for recognizing the immutable verity that, as he told us, 'strength makes détente possible. Weakness invites war, as my generation knows from four bitter experiences.' "

One of the Convention's most appealing and most festive events was, once again, the Outstanding Airmen Dinner *(see also p. 62)*, honoring USAF's top twelve airmen of 1974 and, thereby, in a symbolic sense all enlisted people of the Air Force. With Gen. Richard H. Ellis, USAF's Vice Chief of Staff as the speaker,

the event was emceed by the Chief Master Sergeant of the Air Force, Thomas N. Barnes.

Talking about change and challenge as two principal constants in the life of the Air Force, General Ellis said, "without forsaking our basic traditions and values, we must be prepared to meet the new challenges—keeping in step with our people, with society, and with their related changes." This means, among other things, he said, "motivating our men and women to develop and expand their talents through off-duty education as well as the professional military education at our leadership schools and NCO academies."

Despite drastic reductions during the past ten years—a drop in the number of major Air Force installations from 216 to 148, a cut in the number of aircraft from about 15,000 to about 10,000, and a personnel reduction of some 225,000—today's United States Air Force, General Ellis said, is "the most experienced air arm our nation has ever known. Most of the senior leaders—NCOs and officers alike—have served in three wars. Our middle management has fought in two wars, and most of our youngsters have served in Southeast Asia. In short, today's Air Force is a well-seasoned, combat-tested unit which can respond to any threat and meet any requirement that our National Command Authorities may direct. We will keep it this way."

But the Vice Chief of Staff cautioned that "modernization of our force and the continued research and development necessary to meet Soviet challenges can only be accomplished through better management. These are commonly heard words—but all of us, Air Force and industry alike, had better believe them. These are the hard facts of today and tomorrow."

The Chief Speaks Out

At a Convention luncheon in his honor, USAF Chief of Staff Gen. David C. Jones explained that what the Air Force needs now, "more than at any time in its history, is the confidence and support of the American people." General Jones said that efforts to create public confidence, including the effective work of AFA, "are beginning to bear fruit. The frequent, often vitriolic criticism of the military of a few years ago is being replaced by greater understanding of the military. There is now a deep, underlying respect" for the men and women of the armed forces. He added, "this is a two-way street. We must earn that respect."

Happy to be "among friends" is AF Secretary John L. McLucas, here addressing audience at luncheon in his honor.

"I pledge to you," General Jones said, "that the United States Air Force will continue to stay second to none and that we will be second to none in the proficient use of the resources that are made available to us." Management of resources, he explained, is an area where "we must do better than ever before . . . [in view of] ever-increasing costs of weapon systems. Some of these increases may have been due to our reaching out too far in technology, and others may have been caused by our not having managed as well as we should have. But the major cause of all overruns is inflation. We need increasing ingenuity to develop affordable weapon systems with reasonable technological risks," General Jones said.

While Air Force manpower has been cut twenty-seven percent since 1968, overhead has been cut "by more than forty percent. But we are not going to rest on this. In the days ahead, we will increase our effectiveness and, at the same time, cut our overhead and thereby set an example for the aerospace industry."

Stating that "considerable confusion has arisen about the emphasis on discipline and human relations," he stressed that these are not mutually exclusive but mutually supportive traits.

"Some people believe that good human relations destroy discipline," General Jones said, adding that "thank God, every day there are fewer and fewer hard-liners who believe in the old authoritarian school

that confuses discipline with arbitrary leadership. The response this elicits is grudging resentment, which lurks behind a thin veneer of obedience."

At the other end of the spectrum, General Jones went on, "we have within the military establishment a few people who would turn the military services into a public-welfare organization and who would ask us to lower or eliminate our standards. Both of these extremes miss the mark."

The Air Force, the Chief of Staff told the AFA Convention, "will continue to stress good discipline and good human relations as inseparable [requirements], giving full recognition [to the fact] that individual initiative has never been more important and individual discipline more critical."

Compliments from the Secretary

Secretary John L. McLucas, speaking at a luncheon in his honor on the following day, opened his remarks by complimenting the Air Force Association and its Industrial Associates on the "informative briefings and equipment displays" of the Aerospace Development Briefings.

"I was particularly glad," the Secretary said, "to see so many of our congressmen over here last night [attending the "Salute to Congress" reception] learning more about the Air Force. You are putting on another outstanding convention, and it is a real pleasure to be here among friends."

Turning to the overriding strategic deterrence issue, Dr. McLucas said the Air Force is developing the technological base for "strategic weapons to maintain our high confidence in the survivability and penetrability of our strategic deterrent forces, and as a hedge in case the Strategic Arms Limitation Talks are unsuccessful." Expressing the hope that SALT II will result in an equitable follow-up agreement that will maintain the strategic balance between the US and the USSR, Secretary McLucas cautioned that "if the talks are not successful and the Soviets continue to increase their ICBM throw weight and deploy large numbers of Multiple Independently Targetable Reentry Vehicles [MIRVs], we would have to act to maintain essential equivalence of our strategic forces."

Because of the long-lead-time requirements, he said, "we are beginning research on improving our missile forces, in case that should prove necessary to balance large future Soviet MIRV deployments. I want to make it clear that we are not so much worried about the nuclear balance now or in the near future, but are concerned about maintaining that balance over the long term."

AFA Board Chairman Martin M. Ostrow, right, applauds USAF Chief of Staff Gen. David C. Jones at a Convention luncheon in his honor.

A central effort to assure technological equivalence in the years ahead, he said, is the M-X—the Advanced ICBM R&D program. "A promising concept in this program is launching an ICBM from an aircraft. This air-mobile ICBM concept promises great survivability in crises. We are evaluating this as well as mobile land-based concepts to provide a basis for an early decision" regarding the M-X missile.

Force Modernization

Concerning basic force modernization—held in abeyance until last year because of the Southeast Asian war—the Secretary said that three new tactical aircraft—the A-10, the

F-15, and the Air Combat Fighter—will soon enter USAF's inventory, in place of the currently used "basic tactical aircraft, the multipurpose F-4." It will be a challenge to the Air Force "to get the best mix and deployment of these new tactical systems," especially in relation to the "air strategy of NATO," according to Dr. McLucas.

Flight tests of the two Light-weight Fighter prototypes, General Dynamics' YF-16 and Northrop's YF-17, he said, "have been very favorable. We plan to choose the more promising design in January and use it as the basis for full-scale development of an Air Combat Fighter (ACF)."

AFA President Shosid, right, presents the David C. Schilling Award, received by MAC's Commander, Gen. P. K. Carlton, on the Command's behalf.

The ACF is a principal contender to replace the aging F-104Gs in the inventory of Belgium, Denmark, the Netherlands, and Norway. That would open the door to follow-on purchases by other nations, expected to number at least 3,000 aircraft during the next decade. The Mirage F.1, a French fighter, and the Swedish Saab Viggen are competitors in the source selection *(see also p. 22 and p. 28 of this issue).*

The Air Force has already announced that it will buy 650 Air Combat Fighters and will deploy about 200 of them to Europe in support of NATO. By selecting one common aircraft, Secretary McLucas explained, "our European allies can lower the unit cost and increase NATO standardization. We are hopeful that the consortium [representing the four countries mentioned earlier] will select our Air Combat Fighter, and have offered to consider their payments in computing the European offset to the balance of payments deficit caused by supporting our troops in Europe."

In addition to these three new USAF tactical aircraft, there is another new Air Force system that has "the potential to really change the theater air battle," the Airborne Warning and Control System or AWACS, Dr. McLucas told the AFA Convention.

The unprecedented capabilities of AWACS to observe vast areas at all altitudes and to control aircraft within that airspace will permit commanders to concentrate tactical air forces where and when they are needed, "and that is what wins battles." In addition, he said, AWACS can control land and sea forces, by tracking friendly and hostile ships and passing information about enemy aircraft tracks to missile sites.

During World War II, the Secretary said, airpower was the principal weapon against large surface ships, and sixty percent of those sunk were by land-based aircraft. "Now, with longer-range aircraft, radar on all tactical aircraft, and especially with guided standoff weapons, land-based air should be even more effective. USAF studies have shown that almost all of our vital sea LOCs [lines of communication] could be covered by land-based tactical air from presently used bases without refueling.

"Further, at the request of the Navy, we are looking at putting the Navy's new antiship missile, called the Harpoon, on our B-52s. This would give us global coverage and a missile that can be launched outside the range of enemy shipborne guns and SAMs. Since we have not

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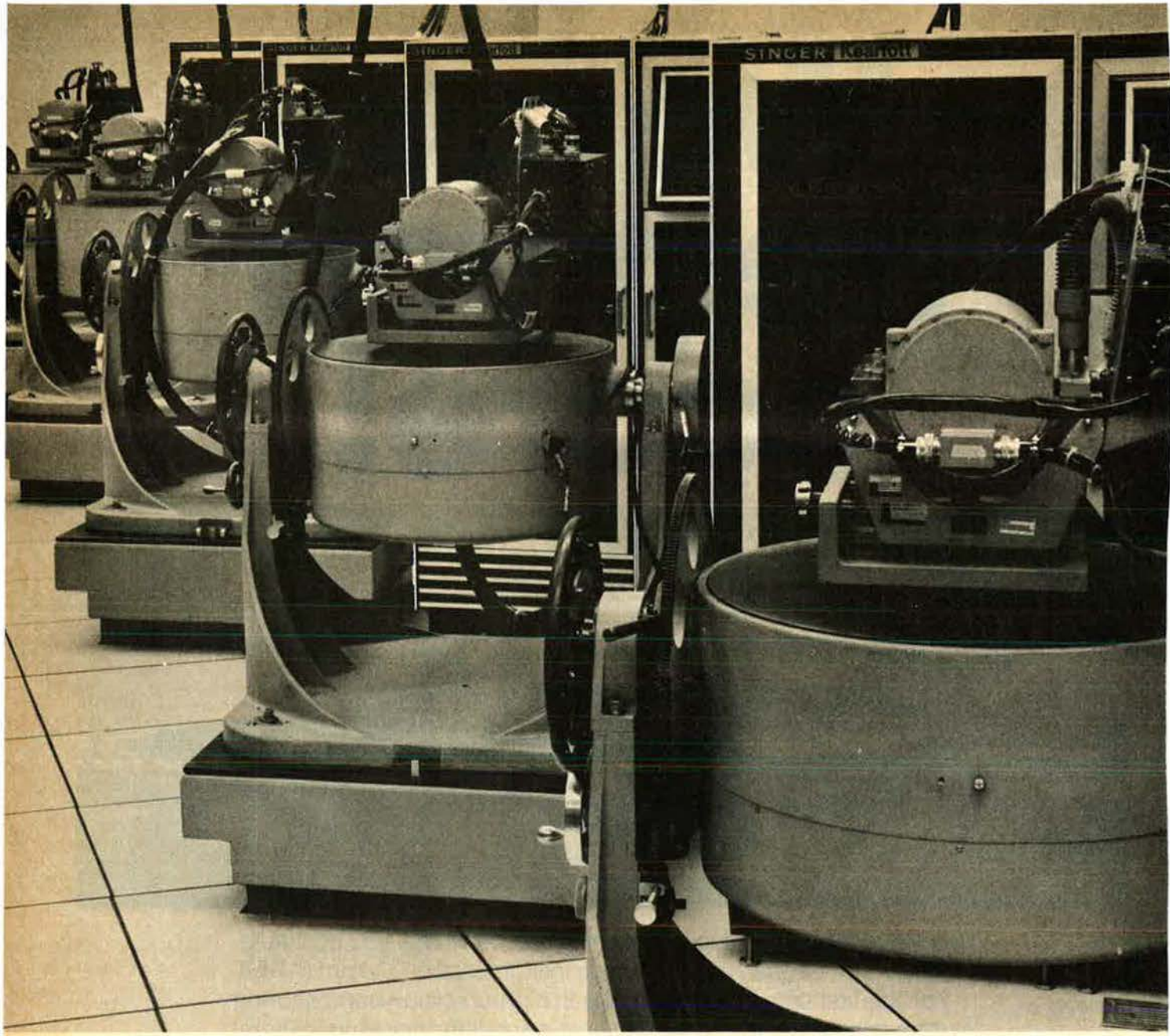

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And recently our inertial measurement units were selected for NASA's Space Shuttle Orbiter and for an Army advanced radar correlator terminal guidance system. There are even some very advanced new applications we can't talk about.

A record like that can only be based on consistent performance—equipment performance that assures mission success, and management performance that assures on-target delivery and on-target cost.

Behind it all lies our out-front technologies and the talented people who have made our Missile Guidance capability possible. A capability we can bring to bear on your project too. Just check our references. The Singer Company, Kearfott Division, 1150 McBride Avenue, Little Falls, N.J. 07424.

SINGER

AEROSPACE & MARINE SYSTEMS

been concentrating on attacking ships, this is an area challenging us for new thinking to exploit our great inherent capability."

The People Challenge

Secretary McLucas reaffirmed that "our first and foremost challenge is to get and maintain good people in the Air Force." He said that during the past year, the first under the all-volunteer policy, "about 75,000 people entered the Air Force, with about ninety-three percent high school graduates or the equivalent and, of course, all our newly commissioned officers are college graduates."

Expressing pride in USAF's Recruiting Service (a recipient of AFA's Citation of Honor at the Convention), Secretary McLucas cautioned that "we cannot afford to assume that [success] will be automatic in the years to come. This is especially true in getting Reserves and medical doctors.

"The three main ingredients for continued success remain the same as they have been: (1) hard and dedicated work by our recruiters; (2) keeping the Air Force a rewarding and attractive place to work; (3) increasing public understanding of the Air Force and an Air Force career."

Another important challenge in the personnel area, the Secretary said, is equal opportunity, an issue closely related to USAF's recruiting because "if we become a model of equal opportunity for the nation, it will be easier to get and keep good people in the Air Force." Two Air Force goals for the near future are to "double the percentage of both minority officers and women in the Air Force," according to Dr. McLucas. At present, about three percent of USAF's officer corps are from minority groups, and about 3.5 percent of all military personnel are women.

A third challenge facing the Air Force is "being a good neighbor," meaning essentially environmental protection, energy conservation, and community relations, according to the Secretary.

Regarding the first category, he said, "we must minimize the noise and air-pollution impact of operating our aircraft, vehicles, and facilities," which includes the development of smokeless engines for the F-15 tactical fighter and the B-1 strategic bomber.

So far as energy conservation is concerned, the Department of De-

Above, Charles Doering narrates "The Americans," by fellow Canadian radio commentator Gordon Sinclair, at the Convention's annual dinner dance. Above, right, entertainer Carl "Doc" Severinsen.

fense last year led all federal agencies "with a reduction of twenty-six percent over the previous year, and the Air Force led DoD with a thirty percent reduction," according to Secretary McLucas.

Informative and Diverse Programming

Reflecting basic changes that have occurred since the founding of the Air Force Association almost three decades ago, the delegates to the 1974 National Convention agreed on several important changes of AFA's Constitution and National By-Laws, defining more precisely the responsibilities of the Association's key officials. *(See p. 79 for complete text of these changes.)*

Among the wide range of informative Convention activities and programs was an Air Force Reserve Plans Officers Conference as well as meetings of the AFJROTC Instructors, AFA's Airmen Council, Junior Officers Advisory Council *(see p. 69),* the Arnold Air Society's Executive Board, the Aerospace Education Foundation, and the Air Force Historical Society.

Capping the National Convention was a gala black-tie dinner dance commemorating the founding of the Air Force as an autonomous service in September 1947, attended by more than 2,000 people. Acting as master of ceremonies, AFA President Shosid opened the evening with a "study in contrast" to show that "measured in terms of history, the Air Force has come a long way very fast."

He introduced two of the veterans of the first Round-the-World Flight, which took place fifty years ago. The flight covered a distance of about 30,000 miles in fifteen days, three hours, and seven minutes of actual flying time at an average speed of 72.5 miles an hour.

He then introduced the crews of the SR-71 reconnaissance aircraft that flew from New York to London in one hour and fifty-five minutes at an average speed of 1,800

AWARDS AT THE 1974 AIR FORCE ASSOCIATION

AFA'S AEROSPACE AWARDS

The H. H. Arnold Award ("Aerospace Man of the Year")—To Gen. George S. Brown, Chairman of the Joint Chiefs of Staff, for superb leadership as Chief of Staff, US Air Force, during the complex transition from a period of prolonged hostilities, through a major redeployment, and into a critical period of force modernization.

The David C. Schilling Award ("The most outstanding contribution in the field of Flight")—To the Military Airlift Command, Scott AFB, Ill., for demonstrating its unique ability during October–November 1973 in resupplying Israeli armed forces, thereby restoring the military balance in the Middle East and serving as a decisive factor in bringing about a cease-fire (accepted by Gen. Paul K. Carlton, Commander).

The Theodore von Kármán Award ("The most outstanding contribution in the field of Science and Engineering")—To USAF's Space and Missile Systems Organization, Los Angeles, Calif., for strengthening the security of the nation and the free world for the past two decades through innovation and technical superiority in the design, development, and deployment of missile and space systems (accepted by Lt. Gen. Kenneth W. Schultz, Commander, on August 5 in Los Angeles).

The Gill Robb Wilson Award ("The most outstanding contribution in the field of Arts and Letters")—To Capt. Tobias van Rossum Daum, Norton AFB, Calif., for outstanding professionalism as Editor of *Driver* Magazine in projecting its safety message with particular appeal to young Air Force men and women.

The Hoyt S. Vandenberg Award ("The most outstanding contribution in the field of Aerospace Education")—To Lt. Col. Gregory J. Butler, Hampton, Va., for innovative application of advanced instructional systems development concepts to flight requirements, thereby revolutionizing USAF aircrew training.

The Thomas P. Gerrity Award ("The most outstanding contribution in the field of Systems and Logistics")—To Brig. Gen. Jack W. Waters, Pacific Air Forces, for outstanding management and leadership as Deputy Chief of Staff, Logistics, Air Training Command, responsible for all maintenance, engineering, supply, services, transportation, procurement, and logistics plans functions of the Command.

AIR FORCE ASSOCIATION CITATIONS OF HONOR

The Aerospace Corporation, El Segundo, Calif., for distinguished service in the application of science and technology for USAF as the technical arm of SAMSO, Air Force Systems Command (accepted by Dr. Allen F. Donovan, Vice President for Technical Operations, in Los Angeles on August 5).

Air Force Recruiting Service, Randolph AFB, Tex., for outstanding achievement in meeting enlistment quotas with increasingly high-quality USAF recruits (accepted by MSgt. Bobby R. Carter).

Cecil G. Brendle, President, AFA Alabama, for exceptional service to AFA in a variety of roles, including dedicated and effective volunteer service at many national AFA events.

Detachment 1, 1st Aerospace Communications Group (SAC), Silver Creek, Neb., for professionalism, dedication to duty, and superior performance in operations, management, and maintenance (accepted by SMSgt. Donald L. Jarvis, Commander).

Lt. Gen. Ira C. Eaker, USAF (Ret.), for climaxing a career in aviation as a pioneer and Air Force leader by carrying the airpower message to millions of Americans through his syndicated newspaper column on national security affairs.

Lt. Col. Donald G. Ibbotson, Chief, Reconnaissance Navigation Section, 100th Strategic Reconnaissance Wing, Davis-Monthan AFB, Ariz., for innovative research, development, and testing to increase drone launch point accuracy and guidance, and to enhance their effectiveness (to be presented at an AFA function in Arizona later this year).

Capt. Larry W. Kern, SAMSO, AFSC, Los Angeles, Calif., for outstanding managerial and technical ability as Computer Systems Planning Director for SAMTEC, in developing improved telemetry processing for SAMSO (awarded August 5 in Los Angeles).

Capt. John R. Leary, 1st Aerospace Control Squadron, Ent AFB, Colo., for outstanding achievement as an ADC systems design engineer in implementing new and revolutionary methods of determining the physical characteristics and purpose of all earth-orbiting satellites.

Maj. Pasquale A. Lerro, Commander, Recruiting Detachment 109, Bedford, Mass., for outstanding performance as Airmen Procurement Action Officer, AFMPC, honoring him as "Air Force Personnel Manager of the Year."

miles an hour. On the return, a second crew flew the same aircraft to Los Angeles—almost 5,000 nautical miles—in three hours, forty-seven minutes, and thirty-nine seconds.

The dinner dance served as the dramatic background for the presentation of two of the Association's highest awards: the 1974 David C. Schilling Award to the Military Airlift Command, represented by its Commander, Gen. P. K. Carlton; and the H. H. Arnold Award to the former Chief of Staff of the United States Air Force and now the Chairman of the Joint Chiefs of Staff, Gen. George S. Brown. Because of an unavoidable overseas trip, General Brown was represented by Mrs. Brown. In a letter read by President Shosid, General Brown said:

"In looking back over the years to 1948, when the first H. H. Arnold Award was presented to Air Force Secretary Symington, I am a bit overwhelmed to be joining this very elite group of past recipients, many of whom have been my good friends. Two years ago, the plaque went to a larger group, our air units in Southeast Asia for their outstanding application of airpower during the spring and summer of 1972. That plaque is now proudly displayed on the wall of the Pentagon just outside my new office. It serves as a daily reminder that I am still a part of that group, too—a proud team that flies and fights well, when called upon to do so."

A dramatic highlight of the evening was a reading of the uniquely gripping editorial, "The Americans," by Canadian radio commentator Gordon Sinclair, which dispelled with profound wisdom and warmth the virulent criticism of the United States during the Southeast Asian war. The essay was read by Charles Doering of Radio Station CFRB Ltd., Toronto, Canada. Outstanding performances by the USAF Concert Band and the Singing Sergeants under the baton of Col. Arnald Gabriel and by trumpet virtuoso Carl "Doc" Severinsen of NBC's Tonight Show rounded out the Convention. ■

NATIONAL CONVENTION, WASHINGTON, D. C.

Gen. William V. McBride, Commander, Air Force Logistics Command, for establishing and motivating an expanded and highly effective community-relations program while serving as Commander, Air Training Command.

The Memorial Affairs Division, Directorate of Personnel Support Services, DCS/P, Hq. AFLC, Wright-Patterson AFB, Ohio, for dedicated and humane service over more than two decades in identifying those whose lives were lost in aerospace accidents around the world (to be presented at Wright-Patterson later this year).

Martin M. Ostrow, AFA Chairman of the Board, Beverly Hills, Calif., for conceiving and organizing the annual Air Force Ball in California to fund scholarships for children of American military personnel killed in action, missing in action, or held POW in Southeast Asia.

Jack G. Stiles, Secretary, Officers Open Mess, Richards-Gebaur AFB, Mo., for achievements that brought him the honor of "Air Force Club Manager of the Year."

Col. Alvin L. Reeser, SAMSO, Los Angeles, Calif., for technical and managerial achievements that provided a year of consecutively successful launches and significant contributions to development of a space transportation system (awarded in Los Angeles on August 5).

91st Tactical Reconnaissance Squadron (TAC), Bergstrom AFB, Tex., for aerial reconnaissance in support of environmental protection while maintaining combat readiness (accepted by Lt. Col. Johnny R. Reeder).

Max K. Kennedy, Deputy Director of Plans and Programs, Ogden Air Logistics Center, Hill AFB, Utah, for outstanding service as Deputy Director, Directorate of Maintenance, the Ogden Air Materiel Area honoring him as "Air Force Civilian of the Year."

Murray Moler, Associate Editor, Ogden *Standard Examiner,* Ogden, Utah, for extraordinary journalistic achievement during the last thirty years in creating greater public understanding of the Air Force.

AIR NATIONAL GUARD AND AIR FORCE RESERVE AWARDS

The Earl T. Ricks Memorial Award for 1974—To **Lt. Col. Samuel E. Wilcox, Jr.,** 159th Tactical Fighter Group, US Naval Air Station, New Orleans, La., for his outstanding airmanship during an in-flight emergency while on an F-100 mission on April 11, 1974.

The Air National Guard Outstanding Unit Award for 1974—to the **130th Special Operations Group,** West Virginia ANG, Kanawha Airport, Charleston, W. Va. (accepted by Col. Ralph E. Cowgill, Commander).

The Air Force Reserve Outstanding Unit Award for 1974—To the **94th Tactical Airlift Wing,** Dobbins AFB, Ga. (accepted by Brig. Gen. Cecil T. Jenkins, Commander).

The President's Award for the Air Force Reserve—To the **514th Military Airlift Wing,** McGuire AFB, N. J. (accepted by Maj. Robert H. Fischer, Aircraft Commander). The award recognizes the year's outstanding Air Reserve flight crew.

AFA-AFSC MANAGEMENT AWARDS

AFA-AFSC Distinguished Award for Management—To **Maj. Gen. Benjamin N. Bellis,** Commander, Electronic Systems Division, L. G. Hanscom AFB, Mass., for exceptional management ability as System Program Director for the F-15 Air Superiority Fighter.

AFA-AFSC Meritorious Award for Support Management—To **Brig. Gen. Hans Driessnack,** DCS/Comptroller, Headquarters, AFSC, Andrews AFB, Md., for aggressive leadership and expertise in financial management leading to the development and acquisition of major aeronautical systems.

AFA-AFSC Meritorious Award for Program Management—To **Col. Neville P. Clarke,** Director of Research and Development, Aerospace Medical Division, Brooks AFB, Tex., for outstanding management in providing timely and valuable biotechnology for many Air Force systems, including the B-1, F-111, and F-15.

AFA-AFLC MANAGEMENT AWARDS

AFA-AFLC Executive Management Award—To **Col. Louis C. Setter,** Wright-Patterson AFB, Ohio, for administration of the B-52 structural modification program, among several programs that realized substantial financial savings.

AFA-AFLC Middle Management Award—To **Raymond C. Perry, Jr.,** Ogden Air Logistics Center, Hill AFB, Utah, for outstanding skill and knowledge in the field of contract negotiations and in developing and implementing research programs of major importance to USAF.

AFA-AFLC Junior Management Award—To **Mrs. Betty M. Vanderleest,** San Antonio Air Logistics Center, Kelly AFB, Tex., for outstanding service as the sole specialist in the Directorate of Aerospace Fuels, who has established herself as a leading technical representative in the field of petroleum packaging.

Sgt. Thomas J. Phillips of AFCS and his wife, Sherri Lynn, meet Secretary of the Air Force John L. McLucas at a prebanquet reception.

Sgt. Pamela G. Brown of ADC conducts an off-duty water safety course.

Sgt. William C. Joiner of ATC feed baby owl near Fairchild AFB, Wash

CMSgt. James M. McCoy is assigned to Hq. PACAF at Hickam AFB, Hawaii.

A crime prevention expert in Turkey, USAFE's SSgt. Lewis L. Oswalt shops for brass in Adana with his wife, Pamela.

MSgt. Peter A. Spahl of ATC greets well-wishers at the AFA reception with his wife, Judy.

AFA honored this year's twelve Outstanding Airmen in Washington. Selected from sixty-eight finalists, they're the . . .

FINEST OF THE FORCE

THE Air Force Vice Chief of Staff, Gen. Richard H. Ellis, summed it up when he told them:

"You have been selected from an enlisted corps of 529,000 men and women serving throughout the world and are representative of the self-generating leadership within that corps.

"The Air Force is proud of you and the men and women you represent."

General Ellis was addressing this year's group of twelve Outstanding Airmen of the Air Force. With their wives—and one with a husband—they were guests of honor at a banquet during the 1974 AFA National Convention, held in September in Washington.

Chief Master Sergeant of the Air Force Thomas N. Barnes introduced the Outstanding Airmen and their spouses and served as master of ceremonies for the evening. Performances by the Strolling Strings and the Singing Sergeants of the US Air Force Band highlighted the festivities.

This year's group of Outstanding Airmen brings to 330 the number who have been so designated since inception of the Outstanding Airmen Program by AFA in 1956. This year's twelve were selected by the Air Force from sixty-eight nominees submitted by major commands and separate operating agencies.

General Ellis was struck by the diverse accomplishments of this year's top enlisted men and women. He told the large dinner audience paying tribute to them:

"In this group of twelve people, there are: A doctor's degree; two master's, three bachelor's, and four associate degrees; one internationally recognized narcotics agent; a certified US customs agent; a chief of police, PTA president, Jaycees president, jungle expert . . . and the list goes on."

The ten men and two women come from seven major commands and one separate operating agency—the Air Force Office of Special Investigations (AFOSI). Strategic Air Command (SAC) has three repre-

Sergeants White, Logue, and Friedman of SAC pose with Sergeant Barnes.

PACAF's TSgt. William H. Heath is a security police NCOIC in Thailand.

At their home in England, MSgt. Harold W. Persinger, an AFOSI special agent at RAF Lakenheath, and eight-year-old Julie romp with the family pet.

CMSgt. Tommy E. Fowler of USAFSO, a Ph.D., visits Panamanian orphans.

THE OUTSTANDING AIRMEN FOR 1974

Sgt. Pamela G. Brown
Air Forces Iceland (ADC)
Keflavik Airport, Iceland

CMSgt. Tommy E. Fowler
Hq. USAFSO
Albrook AFB, Canal Zone

MSgt. Robert J. Friedman
3903d School Squadron (SAC)
Barksdale AFB, La.

TSgt. William H. Heath, Jr.
Det. 1, 635th Combat Support Group (PACAF)
Don Muang Airport, Thailand

SSgt. William C. Joiner
3636th Combat Crew Training Wing (ATC)
Fairchild AFB, Wash.

SSgt. Mary A. Logue
Grand Forks USAF Hospital (SAC)
Grand Forks AFB, N. D.

CMSgt. James M. McCoy
Hq. PACAF
Hickam AFB, Hawaii

SSgt. Lewis L. Oswalt
TUSLOG,
16th Air Force (USAFE)
Incirlik AB, Turkey

MSgt. Harold W. Persinger
AFOSI Det. 6202
RAF Lakenheath, England

Sgt. Thomas J. Phillips, Jr.
2066th Communications Squadron (AFCS)
Myrtle Beach AFB, S. C.

MSgt. Peter A. Spahl
47th Field Maintenance Squadron (ATC)
Laughlin AFB, Tex.

CMSgt. Isaiah N. White, Jr.
394th Strategic Missile Squadron (SAC)
Vandenberg AFB, Calif.

sentatives, and Air Training Command (ATC) and Pacific Air Forces (PACAF) each have two. One each comes from the Aerospace Defense Command (ADC), Air Force Communications Service (AFCS), United States Air Forces in Europe (USAFE), and the United States Air Forces Southern Command (USAFSO).

Their grade distribution is also well proportioned. Among the twelve are three chief master sergeants, three master sergeants, one tech, three staffs, and two sergeants. All but two are married. One of the twelve is black. Ages range from forty-four down to twenty-three.

All of the twelve have one thing in common: Each distinguished himself or herself by significantly contributing to the mission of the Air Force during the past year. The Air Force Outstanding Airman of the Year Ribbon which they and each of the other 1974 nominees now wear attests to that fact. ■

—By Maj. Fred Meurer, USAF

At AFA's National Convention in Washington, D. C., another winner for the aerospace industry . . .

The 1974 Briefings and Displays: Educational—And Entertaining

BY CLAUDE WITZE
SENIOR EDITOR, AIR FORCE MAGAZINE

With another year of peace, but no letup in the threat of war, this year's annual Aerospace Development Briefings, and accompanying displays, continued the turn toward the highly technical. With spots of almost pure entertainment to make the learning process easier, delegates to the Air Force Association Convention were offered a liberal education, much of it in the electronic wonder world that makes modern weapon systems both lethal and cost-effective. Airborne computers, for example, target acquisition systems, and missiles with brains were demonstrated. There also was a magician and an electronic cartoon character who amused the crowd while they explained the technology. Of the 6,000 persons who visited the displays during the Convention, almost 4,000 took

Mockup of B-1 bomber cockpit proved a major attraction. Secretary McLucas, above, was there with a grin. Foreign military officers, right, also studied instruments.

neral Jones, Chief of Staff, poses with model of the YF-16, General Dynamics product, with John R. Alison of Northrop posite page). Below, Maj. Gen. Ray M. Cole chews apple, mpliments of Boeing, which was showing 747 cargo plane.

Maj. Gen. Ralph J. Maglione, Director of USAF's legislative liaison office, hears a grim message from Maj. Gen. Winston P. "Wimpy" Wilson, USAF (Ret.), at Northrop booth. Above, tour guide leads the way.

the time to join conducted tours and listen to the prepared briefings. The exhibits covered more than 30,000 square feet of floor space, the record for an AFA Convention. Of the fifty-two companies showing off their defense hardware, forty offered briefings. In their audience they had a contingent of fifty-nine members of Congress, plus a large group of staff members from committees on Capitol Hill.

The military guest list was headed by the USAF Chief of Staff and the Secretary of the Air Force. Both Gen. David C. Jones and Dr. John L. McLucas toured the exhibits, accompanied by members of their staffs. For their part, the exhibitors were unanimous in their approval of the program. ■

USAF uniforms dominate at Hoffman briefing (above). At left, AWACS gets attention from Maj. Gen. G. S. Beatty, Jr., and Maj. Gen. Enrique Gallardo, both of the Inter-American Defense College, where they serve as director and deputy director. New gadgets on display (below) were fascinating to hundreds of visitors.

Bill Spruance, an AFA director and retired USAF brigadier general, listens alone to lecture by Lt. Gen. F. Michael Rogers of Air University (above). At right, hostess Linda McGehee.

Aerospace Industry Roll of Honor

Companies Represented at the 1974 AFA Aerospace Development Briefings and Displays

American Telephone & Telegraph Co.
Autovon 1974

Avco Corp.
Avco Strategic and Tactical Systems

Bell Helicopter Co.
Bell Tiltrotor-Advanced VTOL of the Future

Bendix Avionics Div.
Digital Memory Display Multi-Mode Radars

Boeing Aerospace Co.
CONUS to Combat—Mobility Through Airlift

Control Data Corp.
Advanced Microprogrammable Processor (AMPP), 469 Computer, Integrated Display Processor System (IDPS), Plasma Display

Fairchild Industries Inc.
A-10 Close Air Support Aircraft

General Dynamics Corp.
YF-16 Lightweight Fighter Flight-Test Report/Results

General Electric Co.
Aircraft Engine Group
Perspective on Propulsion Technology Progress
Aircraft Equipment Div.
GAU-8/A, 30-mm Gun System for A-10 Aircraft—New Pilot Training System
Space Div.
ASUPT Computer Generated Image Visual System

Hoffman Electronics Corp.
Communications and Navigation Programs

Hughes Aircraft Corp.
The Eyes of the Eagle—F-15 Fire Control Radar

IBM, Federal Systems Div.
Advanced Avionics Technology

Kaiser Aerospace & Electronics Corp.
Digital Radar Signal Conversion

LTV Aerospace Corp.
FAC's First Choice—A-7D

Lear Siegler, Inc.
Avionics Systems for Manned and Unmanned Vehicles

Litton Industries, Guidance & Control Systems Div.
ARIS-Airborne Range Instrumentation System

Lockheed Aircraft Corp.
Airlift Update—Lockheed Georgia Co.

Martin Marietta Aerospace
Meeting the Challenge of Space Shuttle
Advanced Tactical Air-Launched Weapon Systems
Advanced Strategic Air-Launched Missile System

McDonnell Douglas Corp.
Douglas Aircraft Co.
(DAC) DC-10 Military Applications & YC-15 Tactical Airlift Modernization
McDonnell Aircraft Co.
(MCAIR) Flight of the F-15 Eagle
McDonnell Douglas Electronics Co.
McDonnell Douglas Astronautics Co.
(MDEC/MDAC) Vital-Computer Generated Visual Systems/Tactical and Strategic Missile Applications

Northrop Corp., Aircraft Div.
Northrop Tactical Fighters—Each a "Leader Ship"

Northrop Electronics Div.
OMEGA VLF Radio Navigation Systems

PPG Industries, Inc.
Aircraft Transparency—Materials and Constructions

RCA-Government & Commercial Systems
Meteorological and Communications Satellites

Rockwell International
B-1 Div.
B-1 Progress to First Flight
Missile Systems Div.
Next Generation Target Acquisition and Guidance Systems
Space Div.
Space Division Programs

The Singer Co., Kearfott Div.
Guidance and Multiplex Systems for Space Shuttle

Sperry Flight Systems
The B-1: Flight Controls and Displays

Sperry Univac Defense Systems
Advances in Militarized Digital Systems

Texas Instruments
Radar Infrared, Digital Scan Converters, and Missile Guidance Seekers

TRW Systems Group
Technical Developments in Military Communications & Navigation Satellites

United Aircraft Corp.
Pratt & Whitney Aircraft Div.
Tomorrow's Engine Today
United Aircraft of West Virginia
Powerplants for Remotely Piloted Vehicles

Westinghouse Defense and Electronics Systems Center
Systems Ingenuity: Innovative Applications of Technology

The following companies displayed products, but did not hold briefings:

Armed Forces Cooperative Insuring Association
Offering many forms of liability insurance for military personnel

Beech Aircraft Corp.
Missiles, targets, and aircraft supporting USAF

Boeing Computer Services, Inc., SAMA Div.
CLARA & SARA; Computer capacity management systems in use by the Air Force

Delco Electronics Div., GMC
Advanced aircraft inertial and area navigation systems and airborne digital computers

Grimes Manufacturing Co.
Strobe lighting for collision avoidance for military and aerospace applications

Grumman Aerospace Corp.
Grumman's EF-111 solution for electronics warfare

Jane's USA
The internationally renowned series of "Jane's" reference books

Leigh Instruments Ltd.
Airfoil delivery systems and data recorders for accident and maintenance applications

Raytheon Company
Models of Sparrow and Sidewinder missiles

Sanders Associates, Inc., Federal Systems Group
Static display of Sanders capabilities in electronic warfare including ECM, ESM, and AGE systems

Sierra Research Corp.
TACAN air navigation sets—the SANS Models 705 and 7000 A

Teledyne CAE
Candidate gas turbine engines for Strike Remotely Piloted Weapon Systems, Compass Cope Type Vehicles and Low Cost, Expendable Drone Systems

Speaker Carl Albert is flanked by Martin M. Ostrow, left, AFA Board Chairman; General Jones; and AFA President Joe Shosid.

AFA'S SALUTE TO CONGRESS

Some 100 US Representatives, Senators, and key congressional staff members joined more than 500 AFA leaders, key military and government leaders, and industry chief executives during the AFA Convention for a "Salute to Congress" evening. Special guests were the Hon. Carl Albert, Speaker of the House, and the Hon. John L. McLucas, Secretary of the Air Force. The Air Force Chief of Staff, Gen. David C. Jones, headed a large contingent of USAF commanders and top military staff officers. ■

Principals included AF Secretary John L. McLucas; Speaker Albert; Anna Chennault; Louis J. Kaposta, Louisiana State AFA President; Rep. David C. Treen (R-La.); and Bessie Hazel, AFA's Ark-La-Tex Belle Chapter President.

Rep. Herman T. Schneebeli (R-Pa.), left, and Speaker Albert chat with Jack B. Gross, right, AFA National Treasurer.

Adm. Thomas H. Moorer, USN (Ret.), right, a new AFA Life Member, meets Rep. Clarence J. Brown (R-Ohio), left, and Robert Hunter, Ohio AFA President.

Gen. Paul K. Carlton, Commander of MAC, winner of AFA's Schilling Award, is with Rep. Melvin Price (D-Ill.), center, and Hugh Enyart, AFA's Scott Chapter President.

Junior officers and airmen everywhere will soon "talk about the Air Force" to school groups. AFA's Junior Officer Advisory Council and Airmen Council have developed a briefing that will . . .

Give It to 'Em Straight

BY MAJ. FRED MEURER, USAF
CONTRIBUTING EDITOR, AIR FORCE MAGAZINE

"I believe that we in the Air Force have an obligation to speak to the American people about our business. I intend to fulfill that obligation, and I need your help."

—GEN. GEORGE S. BROWN, OCTOBER 1973

THE ice in the room's water pitchers had long since melted, and the sterno flame licking the coffee urn was no longer intense enough to keep the blackening liquid inside much more than lukewarm. Some suitcases—packed and ready to go—lined the wall, and blue blouses had been removed in favor of shirtsleeves.

Down the hotel's escalator, exhibitors were already dismantling aerospace displays. The hordes that had flocked by to view the exhibits for three days had diminished to a few individuals paying last visits to die-hard hospitality suites.

Except for the activity in that one meeting room, the 1974 Air Force Association National Convention in Washington was over. But in that room, the labor continued by the light of a projector as slide after slide flashed onto the screen.

"Let's take that one out; TIs don't wear that kind of hat anymore."

Capt. Dick Farkas made a check mark with his pencil.

"That one's no good; the WAF looks too much like a professional model."

Check.

"Naw, let's use an F-4 with bombs on it rather than that T-38. We're talking about fighters!"

Check.

And so it went.

Responding to directives from the former and present Air Force Chiefs of Staff to "go out and talk about the Air Force," junior officers and enlisted men in the room were putting finishing touches on a briefing designed to do just that. The briefing will go out soon to Junior Officer and Enlisted Advisory Councils throughout the Air Force. Members are to present it to junior high and high school audiences across the nation.

Purpose of the briefing is to dispel common misconceptions about the Air Force.

Representing all major commands and separate operating agencies, everyone in the room was a member of either the Air Force Association's Junior Officer Advisory Council (JOAC) or the AFA Airmen Council (AC). Meeting in joint session for the first time ever, they were smoothing out remaining rough spots in the briefing.

Development of the tell-it-like-it-is presentation was adopted late last year "as our annual constructive project to accomplish for the Air Force in 1974," according to CMSgt. Harry F. Lund of the Aerospace Medical Division (AFSC), Brooks AFB, Tex., Chairman of the AC.

Sergeant Lund explained that the executive committees of the JOAC and AC—a total of fifteen bluesuiters—had drafted the briefing in three earlier get-togethers.

"Every word in it came from the executive committees, and we think it's pretty close to what we set out to do," he said. "We're not in a position at this convention to rewrite the whole thing. But we do want the acceptance of the two full councils and their help in polishing it."

Captain Farkas, a Strategic Air Command personnel officer and Chairman of the JOAC, added:

"It's tough to get a consensus among fifteen people, and it's really tough to get it among sixty. Our aim is to get the briefing and an accompanying guide for briefers, which we're working on here, to the Air Force for approval by late October."

AFA's junior officer and airmen advisers talked informally whenever possible during their first joint meeting. Here, CMSgt. Elmer F. Williams addresses SSgt. Jerome Schroeder, Capt. Dick Farkas, and Capt. Gary Welschenbach, right.

Life in the Air Force

The briefing generally talks about life in the Air Force. It touches on pay, the uniform, grooming standards, discipline, housing, and the fact that "ninety percent of the people in the Air Force don't fly airplanes or launch missiles."

It admits that basic training is "a tough six-week program."

Discussing the high average educational levels of Air Force people, the script points out that "we're not in our profession [the Air Force] because we can't make it on the outside."

When the briefing is eventually distributed to Junior Officer and Enlisted Councils everywhere, it will be up to individual members to contact schools in their areas and present the briefing to school groups. Local AFA Chapters will be encouraged to help obtain invitations from schools for this briefing to be given.

Earlier in their week in Washington, the junior officers and airmen heard a panel of educational, recruiting, and opinion polling experts give tips on how best to approach school officials, and how to best present the briefing.

On the panel were Dr. George Hehr, Jr., Assistant Superintendent of Schools in Cynthiana, Ky.; Wayland H. Cooley, Principal of S. R. Butler High School in Huntsville, Ala.; Noel P. Bullock, a teacher and Colorado AFA State Education Director; and Mrs. Bernice P. Thorpe, a Washington, D. C., teacher.

Military panel members were Maj. John H. Pronsky of the Defense Manpower Commission, past Chairman of the JOAC; Maj. Robert H. Hunter of SAFOI's Internal Information Division; and MSgt. Bobby R. Carter of USAF Recruiting Det. 408 in Lake Charles, La., the 1973 "Recruiter of the Year."

During the conference, the junior officer and enlisted representatives also heard from Lt. Gen. John W. Roberts, Hq. USAF DCS/Personnel; Maj. Gen. Ray Cole, Assistant DCS/P; Maj. Gen. Kenneth L. Tallman, USAF Director of Personnel Programs and adviser to the JOAC; Maj. Gen. Guy E. Hairston, Jr., Air Force Director of Information; Maj. Gen. John Locke, USAF (Ret.), Deputy Governor of the Soldier's and Airmen's Home, Washington; Col. James F. Wittmar, Office of the Surgeon General; CMSgt. of the Air Force Thomas N. Barnes, adviser to the AC; Frank M. Slatinshek, Chief Counsel for the House Armed Services Committee; AFA President Joe L. Shosid; AFA Executive Director James H. Straubel; and Michael J. Nisos, Managing Director of AFA's Aerospace Education Foundation.

The junior officers and airmen worked into the evening that Thursday to complete their job. It will be some time before their labors on the briefing bear fruit. It was a busy week, but they still made time to tend to other council business.

The Junior Officers

At their fifth worldwide meeting this year, members of the JOAC wanted to make their charter clear. While base-level JOCs have existed by Air Force regulation since 1961, the JOAC was established by the Air Force Association in 1967 to advise the AFA President on matters pertaining to the junior officer population.

As Capt. Lloyd Newton of the Tactical Air Command, a member of the JOAC executive committee, put it, "We're working *for* the Air Force and *with* the AFA."

The JOAC, it was emphasized, has no direct relation with base-level JOCs. The JOAC has no authority to issue directives to JOCs, and the only "advice" it gives as an "advisory council" is to the AFA on issues concerning junior officers.

The clarification came as members reviewed discussions of previous years on (1) the lack of interest of many junior officers in base-level JOCs; (2) nonacceptance of JOCs as viable bodies of talent by some commanders; and (3) the overall future of JOCs since the interest level of young officers and acceptance by commanders is sometimes lacking.

Members meeting this year felt individual JOCs are still hounded to varying degrees by those same problems, despite JOAC assistance. That assistance came in the form of reports prepared in each of the past two years for distribution by AFA to JOCs through the Air Force.

In 1972, the group wrote "Patterns for Change," a philosophical statement concerning the need for JOCs to involve themselves more closely with the Air Force's primary

mission. Lt. Gen. John W. Roberts, Hq. USAF DCS/Personnel, called the report "a significant first step toward revitalizing JOCs."

Last year, the JOAC compiled suggestions and ideas on the day-to-day operation of JOCs into a report entitled, "A Guide for Effective Junior Officer Councils." Again published and distributed by AFA, the report was a pragmatic handbook for reaching the goals outlined in "Patterns for Change."

Because it was felt that some JOCs apparently are still not fully effective due to lack of enthusiasm at some bases, JOAC members this year discussed the pros and cons of recommending that JOCs be made optional in such cases. AFR 36-20 has made establishment of a JOC mandatory at each base since 1966.

The JOAC this year also dedicated itself to work for more equality in pay matters as they concern single vs. married officers, and vowed to support AFA medical programs.

The Airmen Council

It was the first time the twenty-six-member AFA Airmen Council was meeting as a group. To strengthen the link between base-level Enlisted Councils, the AFA, and the Air Force at large, the council was expanded only last year to include representation from every major command and separate operating agency.

"Not all council members had a true feel for what the council is until we met in Washington," Sergeant Lund, the chairman, told AIR FORCE Magazine. "I think they all see it now as a unique vehicle for getting attention in critical areas. We're open to inputs from the field and can readily get problems before the AFA for action and eventual solution."

In addition to laboring on the joint JOAC-AC briefing, enlisted representatives debated four other specific areas during the recent conference.

AC members decided not to support the Diggs Proposal, the "new enlisted image" movement which would include changing the grade insignia of senior NCOs. The council found the proposal "just not necessary," Sergeant Lund reported.

The council also would like AFA to recommend to the Air Force a more equitable selection process for the Outstanding Airmen Program. Recognizing the inherent difficulties of first-term airmen competing across the board with experienced senior NCOs, the council would like to see USAF consider alternatives, such as having major commands and separate operating agencies nominate two individuals from each grade, and then having Air Force select one outstanding airman from each enlisted grade.

The AC is also asking AFA to question eligibility criteria for residence in the Soldier's and Airmen's Home in Washington. Rules now dictate that a serviceman have twenty years of service in the Army or Air Force—or a combination thereof—for admission, while former service in the Navy or Marine Corps does not count toward the twenty-year requirement.

Finally, the AC is urging adoption of a single pay system for enlisted personnel to bring an unmarried member's entitlements—primarily quarters and subsistence pay—up to par with the married member's standards.

"It was an educational experience for council members," Sergeant Lund said. "They now realize—and I hope they spread the word back in their commands—that the AFA Airmen Council can and does act on matters of concern. If the issue is substantive enough, we'll make sure it gets AFA attention." ■

NOT EVEN A CORPORAL

We returned from an inspection trip, and my boss decided to personally drive his jeep from the Torbay, Newfoundland, air base to Headquarters at Fort Pepperrell.

It was cold enough for overcoats, but the driver, a great outdoorsman, preferred to brave the elements with the sole protection of an Eisenhower jacket—and that without insignia of any kind.

Not far from the gate, two Canadian aircraftsmen thumbed a ride and were taken aboard. They soon began to question the driver. "Where ya' from, old man?" "Texas," I heard him say. "How long you been in the Army?" "Forty-two years," said the bemused chauffeur.

The next question went to the heart of the matter. "Are you a sergeant?" "No, I am not a sergeant," was the laconic reply. "Are you a corporal?" In a sad voice, I heard the man behind the wheel say, "No, I'm not even a corporal." Then this—"Forty-two years in the Army and not even a corporal! Christ, you must be dumb!" "I guess I am," replied the driver, who then asked where they wished to be dropped, and forthwith delivered them to their destination.

The parting shot—"Say, old feller, why don't you get the lieutenant to promote you? You're a damn good driver." And the jovial reply, "I appreciate the recommendation. You boys have a good time!"

Behind the wheel was Maj. Gen. Gerald Clark Brant, Air Corps, US Army, Commanding General, Newfoundland Base Command. A man with a fine sense of humor!

And I might add that this was Gerry's favorite story.

—Contributed by Maj. Gen. Emmett B. Cassady, USAF (Ret.)

(AIR FORCE *Magazine will pay $10 for each anecdote accepted for publication.)*

Given a Presidential overview, AFA delegates presented awards, passed resolutions, elected officers, and paid tributes in memoriam. They ran a . . .

BRISK BUSINESS AT '74 CONVENTION

BY DON STEELE
AFA AFFAIRS EDITOR

IN his opening remarks at the 1974 National Convention Awards Ceremony, AFA National President Joe L. Shosid said, "President Gerald R. Ford, our new Commander in Chief, on assuming office, made this paramount commitment: 'Just as America's will for peace is second to none, so will America's strength be second to none.'

"As the spokesman of an organization made up largely of men and women who have experienced the horrors of war firsthand, I can truly say that peace is our central objective.

"The primary mission of the United States Air Force, of course, is to guard peace by preventing war. But, we find no historic justification for the assumption that peace on earth in the future will fall into our laps, unearned, any more than it did in the past two hundred years.

"Since the end of World War II, the United States has been involved in more than nineteen separate conflicts, including the Berlin Crisis, Korea, Cuba, Vietnam, Lebanon, the Dominican Republic, and the showdown with the Soviet Union over the October 1973 war in the Middle East.

"All of these conflicts carried with them the nucleus for erupting into a full-scale war between the major powers. The fact that they didn't was due mainly to US deterrent strength.

"We see, therefore, as the overriding priority of the nation and the free world an America whose strength is second to none.

"We applaud President Ford for recognizing the immutable verity that, as he told us, 'Strength makes détente attainable. Weakness invites war, as my generation knows from four bitter experiences.'

"Over the next three days the delegates to this Convention will analyze and evaluate the wide range of national security issues.

"After we have analyzed these and other issues, we will recommend to our leaders in government and in the Congress specific action designed to provide this nation with adequate power to maintain world peace."

As President Shosid predicted in his remarks, delegates from thirty-eight states and the District of Columbia did analyze and evaluate many crucial, national security issues—including both the vexing manpower problems and pressing hardware needs. They offered recommendations to the nation's leaders in government and in the Congress on specific action designed to provide the US adequate power to maintain world peace.

Following Mr. Shosid's opening remarks, AFA's National Chaplain, the Rev. Msgr. L. U. Montcalm, gave the invocation, including a memorial tribute to the Air Force and AFA leaders and supporters, and aviation pioneers who have passed on since the 1973 Convention, namely:

Gen. Creighton **Abrams,** Michael **Amrine,** retired Col. Bernt **Balchen,** Thomas W. **Barbour,** Gerald **Benedict,** Dr. Vannevar **Bush,** retired Col. Harold G. "Kit" **Carson,** retired Brig. Gen. Everett R. **Cook,** Peggy M. **Crowl,** Brig. Gen. Walter F. **Daniel,** Alexander P. **de Seversky,** Burton E. **English,** Brig. Gen. Bonner **Fellers,** Msgr. Augustus F. **Gearhard,** Alexander G. "Sandy" **Hardy,** retired Col. Willard A. **Hawkins,** Gen. Joseph **Holzapple,** Alexander **Kartveli,** Dr. Charles W. **Kimble,** Aaron F. "Duke" **Krantz,** I. Robert **Kriendler,** John A. **Lang,** Jr., retired Brig. Gen. Charles A. **Lindbergh,** Avery **McBee,** retired Maj. Gen. Kenneth P. **McNaughton,** retired Lt. Gen. Donavon F. **Smith,** retired Gen. Carl A. **Spaatz,** William **Sweeney,** and retired Maj. Gen. Sam T. **Wallace.**

During the awards ceremony, some fifty-seven individuals and units were recognized for their work in carrying out the Association's mission, and for outstanding management in Air Force assignments *(see complete list of award recipients on pp. 60 and 74).* President Shosid was master of ceremonies

and presented the awards. Martin M. Ostrow, Chairman of AFA's Board of Directors, read the award citations.

This year, AFA's top activity awards—the President's awards to the "Man of the Year" and the "Unit of the Year"—were presented at the two Convention luncheons.

During the luncheon honoring the Air Force Chief of Staff, the Unit of the Year award went to the Texas State Organization, and was accepted by its immediate Past President, Stanley L. Campbell. The award was presented "for overall excellence in behalf of the US Air Force mission, particularly in the areas of community relations, base support, military affairs, membership development, and general programming."

At the opening of the first business session, Roy A. Haug, center, at podium, Chairman of the Credentials Committee, is shown as he gives his Committee's report on the voting strength of each state delegation. Also at the head table are, from left, President Shosid, Board Chairman Ostrow, and Howard T. Markey, Parliamentarian.

AFA Man of the Year

For enhancing public understanding of the US Air Force and its mission, and for major contributions to the success of local, state, and national AFA programs, Howard T. Markey of Washington, D. C., a Past AFA National President and Board Chairman, received the AFA President's award designating him AFA's Man of the Year. This award was presented at the luncheon honoring the Secretary of the Air Force.

The USAF Honor Guard from Headquarters Command, USAF, Bolling AFB, D. C., posted the colors, and the USAF Ceremonial Band, also from Bolling AFB, provided music.

At the three business sessions, official delegates adopted the annual Statement of Policy *(see p. 11)*; eighteen policy resolutions, eleven of which are continuing resolutions *(see pp. 13 and 14)*; thirty-nine general resolutions listed below, twenty-three of which are continuing resolutions, and a number of amendments to AFA's National Constitution and By-Laws, some of which provide only a clarification in language, and others which define the duties of the national officers and the composition of the Executive Committee *(see pp. 79, 81, and 82)*.

AFA's highest award, the H. H. Arnold Award to the Aerospace Man of the Year, went to Gen. George S. Brown, Chairman, Joint Chiefs of Staff. Although General Brown was on an overseas assignment and could not be present at the Dinner Dance to personally accept his award, he was represented by his charming wife, Skip, who accepted the award in his behalf.

AFA Board Chairman Martin M. Ostrow, left, presents the AFA President's Award to Howard T. Markey. The award, naming Mr. Markey "AFA's Man of the Year," was presented at the luncheon honoring the Secretary of the Air Force. Seated at right is AFA President Joe L. Shosid.

AFA Resolutions

The general resolutions are that the Air Force Association:

- Adopt a flag and the motto "Americans for Airpower."
- Urge the President of the United States and the Congress to formally recognize the vital role of the Air Force Medical Service and the other military medical services in maintaining the defense posture of the United States and that such effort and budgetary considerations as are required be expanded to maintain an effective and viable

worldwide military medical health care system.

• Call upon the Department of Defense and the Administration to implement to its full authority the provisions of PL 93-274, which revised the special pay structure relating to medical officers of the uniformed services.

• Call upon the Administration and the Congress to continue to provide in-depth support of the medical services available through CHAMPUS.

• Strongly urge the Department of Defense to propose necessary legislation to preclude a military member from receiving less retired pay by continued active service.

• Call upon the Congress, in its wisdom and concern for equity, to incorporate into any New Military Nondisability Retirement Plan a provision that any reduction in benefits would affect only those people entering the military service after the date of enactment of such legislation.

• Urge the Congress to adopt the Defense Officer Personnel Management Act and thus provide the Air Force with an adequate number of permanent field-grade authorizations.

• Advocate such appropriate action by the Department of Defense, including, if necessary, asking for legislation to amend the Aviation Career Incentive Act, to provide that flight nurses shall be entitled to aviation incentive pay (flight pay) while engaged in flight duties.

• Urge the Department of Defense to take positive action in requesting from the Congress authorization for a cost-of-living allowance for certain metropolitan areas similar to the program currently in effect for assignment to foreign countries.

• Urge the Congress to enact the permanent Department of Defense proposal to provide an indefinite extension until permanent relief legislation can be enacted to eliminate the payment of taxes on moving expense reimbursements in connection with PCS moves by military members.

• Urge the Congress to authorize and appropriate funds for on-base housing for married airmen as proposed by the Department of Defense.

• Urge the Department of Defense and the Civil Service Commission to support and the Congress to enact legislation to provide survivorship benefits for dependents of Air Force civilian employees without reduction of the sponsor's annual annuity should the dependent's death precede that of the sponsor.

• Urge the Congress to enact legislation which would extend the time period for submission and approval of awards to those military personnel who served their country so valiantly during the Vietnam conflict.

• Recommend that the Secretary of the Air Force authorize an AFJROTC fourth-year curriculum for those four-year public schools desiring the establishment of same.

• Recommend to the Department

AIR FORCE ASSOCIATION UNITS AND INDIVIDUALS HONORED AT THE CONVENTION

THE AFA PRESIDENT'S AWARDS

To **Howard T. Markey,** Washington, D. C., designated "AFA's Man of the Year."

To the **Texas State Organization,** accepted by Stanley L. Campbell, Immediate Past President, designated "AFA's Unit of the Year."

AFA PRESIDENTIAL CITATIONS

John G. Brosky, Pennsylvania
Lt. Col. John T. Halbert, USAF, Virginia
Gerald V. Hasler, New York
J. Gilbert Nettleton, Jr., New York
Iron Gate Chapter, New York
Utah State Organization

AFA CERTIFICATE OF HONOR (MIA/POW)

Col. H. A. Davis, USAF, Scott AFB, Ill.
Col. George H. Iles, USAF (Ret.), Marysville, Calif.
Col. Joseph G. Luther, USAF (Ret.), Universal City, Tex.
Claude L. Watkins, Fort Belvoir, Va.

AFA UNIT EXCEPTIONAL SERVICE AWARDS

Houston Chapter, Texas (Unit Programming)
Nation's Capital Chapter, Washington, D. C. (Unit Programming)
Merced County Chapter, California (Community Relations)
Central Florida Chapter, Florida (Best Single Program)
Colorado State Organization (Aerospace Education)

AFA INDIVIDUAL EXCEPTIONAL SERVICE AWARDS

Stanley L. Campbell, Texas
Col. Harry J. Dalton, Jr., USAF, Texas
George M. Douglas, Colorado
Roy A. Haug, Colorado
Kenneth A. Rowe, Virginia
Edward A. Stearn, California
Herman F. Stute, Jr., Texas

AFA MEDALS OF MERIT

J. William Bailey, New York
Henry M. Carnicelli, New Jersey
Donald L. Devlin, Georgia
JoAnn C. Doell, California
Capt. Richard L. Farkas, USAF, Neb.
William G. Gisel, New York
Leonard T. Glaser, Tennessee
Wayne A. Hilton, Florida
Robert P. Hudgens, Alabama
Frank W. Kauffman, Nebraska
Jack Kelly, Texas
Fern M. Kinion, Colorado
V. R. Kregel, Texas
CMSgt. Harry F. Lund, USAF, Texas
Gordon E. Meinert, California
Maj. John H. Pronsky, USAF, Virginia
Roy I. Smith, Texas
J. Deane Sterrett, Pennsylvania
Capt. Alan L. Strzemieczny, USAF, Texas
Kenneth C. Thayer, New York
George G. Troutman, Washington, D. C.
Dr. David Waxman, Kansas
CMSgt. Elmer F. Williams, USAF, Nebraska
Winston P. Wilson, Virginia

of the Air Force that AFJROTC Curriculum-in-Action trips (field trips) be funded in FY '75.

• Recommend that the Department of the Air Force establish a separate competitive Air Force Academy category for Civil Air Patrol cadets.

Continuing Resolutions

The delegates continued the resolutions that pertain to:

• Legislation to eliminate the gross inequity that exists in the treatment of retired Regular officers employed in the federal Civil Service.

• Amending Title 5, US Code, to give full credit for service performed prior to the 1968 National Guard Technicians Act (PL 90-486).

• Legislation that will authorize recomputation of retired pay to be computed on the basis of pay scales in effect on January 1, 1972.

• A dental-care program for military dependents.

• Permitting early Reserve retirement on a reduced annuity basis.

• Legislation to amend the Joint Travel Regulations to authorize total reimbursement for trailer moves and dislocation allowances for military personnel.

• Action by appropriate authorities to include the Chief Master Sergeant of the Air Force as a member of the Board of Trustees of the Air Force Aid Society.

• Support of the concept of the Community College of the Air Force.

• Support of the efforts of the National Committee for Employer Support of the Guard and Reserve.

• Support of those steps now being taken to authorize incentives for service in the National Guard and Reserve Forces.

• Support of legislative actions to change eligibility for earlier retirement for civilian employees.

• An increase in the authorized amount of unaccompanied baggage for E-4s under four years of service up to the level currently authorized for military personnel over the grade of E-4.

After their reelection, the incumbents in AFA's four highest elective offices posed for this photo. They are from left, Jack B. Gross, Treasurer; Martin M. Ostrow, Board Chairman; Joe L. Shosid, President; and Martin H. Harris, Secretary.

Many AFA national, state, and chapter leaders escorted their congressmen to the Chief Executives' Buffet and Salute to Congress. Shown are, from left, Gerald V. Hasler, AFA National Director and New York President; Joseph G. Vincent, Colin P. Kelly Chapter President; Rep. Donald J. Mitchell (R-N. Y.); and Sherwood Boehlert, Executive Assistant to the congressman.

During the Chief Executives' Buffet and Salute to Congress, Brig. Gen. Charles E. Yeager, left, Director, Aerospace Safety (AFISC), Norton AFB, Calif., the first man to break the sound barrier, visits with Rep. Dale Milford (D-Tex.), center, and Texas AFA President V. R. Kregel.

AFA National President Joe L. Shosid, left, assisted by Maj. Gen. Kenneth L. Tallman, right, Director of Personnel Plans, Office of the DCS/Personnel, presents the Air Force Personnel Manager of the Year Award to Maj. Pasquale A. Lerro, who distinguished himself as Airman Procurement Action Officer, while assigned to the Air Force Military Personnel Center at Randolph AFB, Tex.

AFA President Shosid, left, presents AFA's Certificate of Honor to Col. H. A. Davis, Jr., Director of Information, Hq. Military Airlift Command, Scott AFB, Ill., for his continuous guidance and leadership as Director, Joint Homecoming Reception Center, which contributed much to making the POW Homecoming one of the most successful and memorable joint operations in history.

Stanley L. Campbell, left, the immediate Past President of AFA's Texas State Organization, accepts the AFA President's Award from AFA President Shosid. The award, designating the unit as "AFA's Unit of the Year," was presented at the luncheon honoring the Air Force Chief of Staff.

Another award presented at the luncheon honoring the Air Force Chief of Staff was AFA's 1974 Logistics Executive Management Award. This award went to Col. Louis C. Setter, Director of Aerospace Systems, DCS/Materiel Management, AFLC, Wright-Patterson AFB, Ohio, and was presented by AFA President Shosid, left.

• Reviewing the feasibility of providing low-cost, on-base mobile homes for married personnel on their first enlistment, and at a rate not higher than the BAQ with all utility costs except telephones included.

• Support of legislation permitting the Air Force Enlisted Widow's Home Foundation to purchase land on Eglin AFB, Fla., and support of the Foundation's fund-raising program by AFA State Organizations and Chapters.

• Legislation that would amend CHAMPUS to provide for lifetime coverage under CHAMPUS for the military retiree and his dependents.

• Legislation amending and improving the Military Survivors' Benefit Program.

• Legislation to eliminate the Performance Rating Act and substitute legislation covering all performance evaluation objectives.

• Legislation that will enable civilian employees who have participated in mobility programs for the convenience of the government to return, at government expense, to the home of record from which they originally left.

• Legislation to provide lump-sum payment immediately upon retirement to those employees retiring under disability retirement.

• Legislation to authorize moving costs of statutory appointees, and the return to their home of record.

• Awarding of the E-3 rank (two stripes) to AFJROTC graduates entering the Air Force.

• Support of the proposed changes to the ROTC Vitalization Act of 1964.

• Support the federal funding necessary for expansion of the Civil Air Patrol's capability for its non-combat air search mission in support of the Air Force.

Officer Elections

The delegates unanimously re-elected the incumbents in AFA's highest elective offices: Joe L. Shosid, President; Martin M. Ostrow, Chairman of the Board; Martin H. Harris, Secretary; and Jack B. Gross, Treasurer.

Mr. Shosid, of Fort Worth, Tex., is President of Advertising Unlimited, Inc., a Fort Worth public relations and advertising agency, and a well-known football and basketball official in the Missouri Valley, Southwest, and Southeastern Athletic Conferences. He also serves as an assistant to Congressman Jim Wright of Texas. An enlisted veteran of World War II, Mr. Shosid is an Air Force Reserve officer.

Mr. Shosid has served AFA as Chairman of the Board of Directors; an elected National Director; a

1974 MEMBERSHIP ACHIEVEMENT AWARDS

REGIONAL WINNERS	VICE PRESIDENTS
Rocky Mountain	Roy A. Haug
Southwest	Edward L. McFarland
STATE WINNERS	**PRESIDENTS**
Colorado	James C. Hall
Georgia (5)	Donald L. Devlin
Illinois (2)	William A. Johnston
Mississippi (2)	William A. Browne
New Jersey	Amos L. Chalif
North Dakota (2)	Kenneth A. Smith
Oklahoma (2)	David L. Blankenship
South Carolina	Burnet R. Maybank
Texas	Stanley L. Campbell
CHAPTER WINNERS	**PRESIDENTS**
Air Capital	Hugh Edgerton
Amoskeag	Harold W. Carter
Ark-La-Tex Belle	Bessie T. Hazel
Austin	G. H. Oldenburgh
Beaver Valley	J. Deane Sterrett
Big Sky (2)	Jack K. Moore
Big Spring	Jerry Worthy
Blytheville	Donald E. Prevallet
Captain Shreve	Ralph D. Irwin
Charleston	H. Foster Hamilton
Cheyenne	Elmer F. Garrett
Colin P. Kelly	Paul B. Oliver
Columbus (Ohio) (2)	Francis Harris
Del Rio	Glenn Scallorn
Delaware Galaxy	Herman T. Meinersmann
Eglin (2)	Walter B. Putnam
Enid (2)	Kenneth H. Martin
Flatirons	Stanley G. Engstrom
Front Range (2)	Edward C. Marriott
General Thomas P. Gerrity	James A. Mullins
Golden Triangle	Fountain M. Hutchison, Jr.
Grissom Memorial	C. Forest Spencer
H. H. Arnold Memorial (3)	Leonard T. Glaser
High Desert	Howard N. Tanner, Jr.
Huron	Lawrence A. Thompson, Jr.
Illini	Lewis Tanner
Lawrence D. Bell	William G. Gisel
Llano Estacado	George Doerr
Lubbock (2)	Tom Ireland
Merced County (2)	Tom Brodalski
Middle Georgia (5)	Ken E. Greer
Minot (2)	Kenton R. Bischke
New York Air Reserve (2)	Ruth Leibold
North Georgia	Bob Jackson
Panama City	William H. Truxal
Piedmont	Dozier E. Murray, Jr.
Red River Valley (2)	John O'Keefe
Robert H. Goddard	Robert R. Hull
Sal Capriglione (5)	Joseph M. Capriglione
Sault Ste. Marie	Roy Ranson
Savannah (3)	Richard H. Stein
Scott Berkley (2)	John D. Lewis
Scott Memorial	Charles W. Harriss
Selma	J. M. Gaston
Silver & Gold (2)	Edwin S. Wittbrodt
Sky Harbor	Robert J. Borgmann
South Georgia	John C. Leverette, Jr.
Spokane	Richard M. Bond
Spudland	Alban E. Cyr
Steel Valley (2)	Patrick J. Logan
Swamp Fox (2)	James D. Catington
Thomas B. McGuire (2)	Frank Kula
Wichita Falls	Ralph Knight

(Figure in parentheses shows number of years as consecutive winner)

Note: The leaders listed are those who served during the period July 1, 1973, through June 30, 1974.

Vice President (Southwest Region); Chairman of its Executive and Convention Site Committees; a member of its Finance and Resolutions Committees; Chairman of the Organizational Advisory Council; a member of the Air Reserve Council; an ex-officio member of all Committees and Councils; a State and Chapter officer; and as Chairman of AFA's Fort Worth Airpower Council. He is a member of the Board of Trustees of the Aerospace Education Foundation. In 1963, he was named AFA's Man of the Year.

Mr. Ostrow is an attorney with offices in Beverly Hills, Calif., and also serves as president of three corporations: Wilshire Associate Investments, Applied Management Control, and World Leasing Corp. He is a veteran of World War II and the Korean conflict and is an officer in the Air Force Reserve.

Mr. Ostrow has served as AFA National President; a Vice President (Far West Region); an elected National Director; Chairman of the Executive, Resolutions, and Convention Site Committees; Chairman of the Organizational Advisory Council; an ex-officio member of all AFA Committees and Councils; and as a State and Chapter President. He is a member of the Aerospace Education Foundation's Board of Trustees. In 1973, he was the recipient of AFA's Gold Life Member Card No. 9, the highest "internal" award AFA can bestow.

Mr. Harris, of Winter Park, Fla., is a senior member of the Martin Marietta Corp.'s professional staff, and an officer in the Air Force Reserve. He has served as Chairman of the Resolutions Committee; a member of the Executive and Finance Committees; a member of the Organizational Advisory Council; an elected National Director; a Vice President (Southeast Region); and as a State and Chapter President. He is a member of the Aerospace Education Foundation's Board of Trustees. In 1972, he was named AFA's Man of the Year.

Mr. Gross, a Harrisburg, Pa., civic leader and businessman now residing in nearby Hershey, was elected to an unprecedented fourteenth term as

At the luncheon honoring the Air Force Chief of Staff, AFA President Shosid, right, presents AFA's 1974 Distinguished Award for Management to Maj. Gen. Benjamin N. Bellis, Commander, Electronic Systems Division, AFSC, L. G. Hanscom Field, Mass. Seated at left is Gen. David C. Jones, Chief of Staff, USAF.

AFA's Outstanding Air Force Reserve Wing Award for 1974 went to the 94th Tactical Airlift Wing at Dobbins AFB, Ga. In the photo, President Shosid is shown presenting the award to the Wing's Commander, Brig. Gen. Cecil Jenkins.

For the third time in the past four years, AFA's Air National Guard Outstanding Unit Award went to the 130th Special Operations Group, West Virginia Air National Guard. Accepting the award from President Shosid, left, is the Group's Commander, Col. Ralph R. Cowgill.

Treasurer. He has also served AFA as Chairman of the Board of Directors; Chairman of the Finance Committee; a member of the Executive, Resolutions, and Convention Site Committees; and as a State and Chapter President. He is a permanent member of AFA's Board of Directors and a member of the Aerospace Education Foundation's Board of Trustees. Mr. Gross is a retired Air Force Reserve officer. He was named AFA's Man of the Year in 1958.

Six new Vice Presidents were elected to head AFA activities in as many Regions, joining six incumbents who were reelected. The new Vice Presidents are: Stanley L. Campbell, San Antonio, Tex. (Southwest Region); Robert L. Carr, Pittsburgh, Pa. (Northeast Region); Floyd F. Damman, Whittier, Calif. (Far West Region); Richard C. Emrich, McLean, Va. (Central East Region); Lyle W. Ganz, Wauwatosa, Wis. (Great Lakes Region); and Sherman W. Wilkins, Bellevue, Wash. (Northwest Region). (*See also p. 80.*)

Five new Directors were elected to the Board: Herbert O. Fisher, New York City; Robert S. Lawson, Los Angeles; Edward A. Stearn, San Bernardino, Calif.; Hugh W. Stewart, Tucson, Ariz.; and A. A. West, Newport News, Va.

The five newly elected Directors join thirteen incumbent Directors who were reelected for another year, as well as all the Past National Presidents and Board Chairmen, other permanent Directors, National Officers, the National Chaplain, the National Commander of the Arnold Air Society, and the Chairmen of AFA's Junior Officer Advisory and Airmen Councils, to form a Board of seventy-one. (*The full Board membership appears in "This Is AFA," on p. 80.*)

In addition to the Awards Ceremony, three business sessions, and the luncheons honoring the Secretary and Chief of Staff of the Air Force, the program also included a President's Reception for AFA Officers and Official Delegates; a banquet honoring the Air Force's twelve Outstanding Airmen (*see p. 62*); the

annual Anniversary Reception in the Exhibit Halls; a Chief Executives' Reception and Buffet, which this year saluted members of the Congress; and the highlight and climax of a most enjoyable and productive Convention, the annual Air Force Anniversary Reception and Dinner Dance.

Acknowledgements

The Hon. Howard T. Markey, Chief Judge of the US Court of Customs and Patent Appeals, and a former AFA National President and Board Chairman, served as Parliamentarian. The Credentials Committee included Roy A. Haug, Chairman, and John H. Haire, Vice Presidents for AFA's Rocky Mountain and South Central Regions, respectively.

Inspectors of Election were Kenneth Banks, Chairman, Ohio AFA Treasurer; Cecil Brendle, Alabama AFA President; and Lloyd Nelson, New Jersey AFA Treasurer.

With deep gratitude, AFA acknowledges the support of the following: A. B. Dick, Federal Government Sales Office for Model 675 copiers; International Business Machines Corp., Federal Systems Division, for sponsoring the Outstanding Airmen Program; Ling-Temco-Vought, Inc., for sponsoring the Press Lounge and for publishing the daily *AFA Profile* newspaper; AVCO Records Corp., for recordings of Gordon Sinclair's "The Americans"; and AVCO Corp., Boeing Co., Hughes Aircraft Co., Martin Marietta Corp., Northrop Corp., Rockwell International Corp., Sperry-Univac, Teledyne CAE, and Teledyne Ryan Aeronautical, for cosponsoring the Ladies Hospitality Lounge and activities.

AFA also gratefully acknowledges the contributions made to its program by personnel of the United States Air Force—too many to list here, but represented by our Military Host, Maj. Gen. Maurice R. Reilly, Commander, Headquarters Command, Bolling AFB; and by the following individuals: Brig. Gen. C. J. Douglas, Jr., Commander, 1st Composite Wing, Headquarters Command, Andrews AFB, Md.; Col. Donald D. Zurawski, Director of Information, Headquarters Command; and Col. James H. Taylor, Lt. Col. John T. Halbert, and Capt. Douglas L. Jacobsen, Headquarters USAF.

To each of these—and to the many officers and airmen they represent—as well as to Barbara Arnold, Cecil Brendle, Evie Dunn, Patricia Muncy, Mary Steele, and Maj. David Van Poznak, volunteers on their own time, the Air Force Association expresses its deep and enduring gratitude.

Appreciation also goes to the AFA leaders and delegates who attended the Convention and worked so hard to make the Convention productive and enjoyable, as well as the many AFA leaders in the field whose personal contributions of time, effort, and finances have made AFA the great organization it is today.

The Association is most grateful for the many congratulatory letters and telephone calls received, all of which were most complimentary to the Convention program and arrangements, and to AFA's efforts in behalf of the nation and the Air Force.

AFA's 1975 Convention will be held in Washington, D. C., September 14–18. We urge each of you to mark the dates on your calendar and to plan to attend. ■

At the AFA Convention in Washington, D. C., in September, delegates approved a number of changes to the National Constitution and to the By-Laws. The new language adopted appears below. In a number of cases, no amendment of language was proposed, but a section number changed. These cases are noted in italic typeface.

CONSTITUTIONAL AMENDMENTS

ARTICLE V
(e) MERGER OF CHAPTERS

Section 15. Procedure. Any two or more chapters within a State, Territory, or foreign land may merge their membership upon approval thereof by the majority of the members of each chapter present and voting at a meeting called for that purpose, provided that at least fifteen (15) days' written notice of the meeting has been given to the full membership of each chapter, and to the President of the State, Territory,

This Is AFA

The Air Force Association is an independent, nonprofit, airpower organization with no personal, political, or commercial axes to grind; established January 26, 1946; incorporated February 4, 1946.

OBJECTIVES

The Association provides an organization through which free men may unite to fulfill the responsibilities imposed by the impact of aerospace technology on modern society; to support armed strength adequate to maintain the security and peace of the United States and the free world; to educate themselves and the public at large in the development of adequate aerospace power for the betterment of all mankind; and to help develop friendly relations among free nations, based on respect for the principle of freedom and equal rights to all mankind.

PRESIDENT
Joe L. Shosid
Fort Worth, Tex.

BOARD CHAIRMAN
Martin M. Ostrow
Beverly Hills, Calif.

SECRETARY
Martin H. Harris
Winter Park, Fla.

TREASURER
Jack B. Gross
Hershey, Pa.

NATIONAL DIRECTORS

John R. Alison
Arlington, Va.
Joseph E. Assaf
Hyde Park, Mass.
William R. Berkeley
Blue Jay, Calif.
John G. Brosky
Pittsburgh, Pa.
Dan Callahan
Warner Robins, Ga.
Daniel F. Callahan
Nashville, Tenn.
Edward P. Curtis
Rochester, N.Y.
James H. Doolittle
Los Angeles, Calif.
George M. Douglas
Denver, Colo.
Herbert O. Fisher
New York, N.Y.
A. Paul Fonda
Washington, D.C.
Joe Foss
Scottsdale, Ariz.

George D. Hardy
Hyattsville, Md.
Alexander E. Harris
Little Rock, Ark.
Gerald V. Hasler
Johnson City, N.Y.
John P. Henebry
Chicago, Ill.
Joe Higgins
N. Hollywood, Calif.
Joseph L. Hodges
South Boston, Va.
Robert S. Johnson
Woodbury, N.Y.
Sam E. Keith, Jr.
Fort Worth, Tex.
Arthur F. Kelly
Los Angeles, Calif.
George C. Kenney
Bay Harbor Islands, Fla.
Thomas G. Lanphier, Jr.
LaJolla, Calif.
Jess Larson
Washington, D.C.

Robert S. Lawson
Los Angeles, Calif.
Curtis E. LeMay
Newport Beach, Calif.
Carl J. Long
Pittsburgh, Pa.
Howard T. Markey
Washington, D.C.
Nathan H. Mazer
Ogden, Utah
J. P. McConnell
Washington, D.C.
J. B. Montgomery
Newport Beach, Calif.
Edward T. Nedder
Hyde Park, Mass.
J. Gilbert Nettleton, Jr.
New York, N.Y.
Jack C. Price
Clearfield, Utah
Julian B. Rosenthal
Decatur, Ga.
John D. Ryan
San Antonio, Tex.

Peter J. Schenk
McLean, Va.
C. R. Smith
Washington, D.C.
William W. Spruance
Wilmington, Del.
Thos. F. Stack
San Mateo, Calif.
Edward A. Stearn
San Bernardino, Calif.
Hugh W. Stewart
Tucson, Ariz.
Arthur C. Storz
Omaha, Neb.
Harold C. Stuart
Tulsa, Okla.
James M. Trail
Boise, Idaho
Nathan F. Twining
Hilton Head Island, S.C.
A. A. West
Newport News, Va.
Jack Withers
Dayton, Ohio

Chaplain Roy M. Terry
(ex-officio)
National Chaplain, AFA
Melbourne Beach, Fla.

Paul A. Foster
(ex-officio)
National Commander
Arnold Air Society
Norman, Okla.

Capt. Richard L. Farkas
(ex-officio)
Chairman, JOAC Executive Committee
Offutt AFB, Neb.

CMSgt. Harry F. Lund
(ex-officio)
Chairman, Airmen Council
Brooks AFB, Tex.

VICE PRESIDENTS

Information regarding AFA activity within a particular state may be obtained from the Vice President of the Region in which his state is located.

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Montana, Idaho, Washington, Oregon, Alaska

or Foreign Organization, and National Vice President concerned, and to the National President.

ARTICLE VIII
OFFICERS

Section 1. Elected Officers. The officers of the Association shall be a Chairman of the Board of Directors, a President, a Vice President for each of the regions specified in Article V, Section 2 of this Constitution, a Secretary, and a Treasurer, and they shall be elected at the National Convention of the Association held annually. Such officers shall serve until the adjournment of the succeeding National Convention following their election and thereafter until their successors are duly chosen. No person may be elected to the office of Chairman of the Board or President for more than (2) consecutive terms. No person may be elected to the office of Vice President for more than three (3) consecutive terms.

Section 2. National Chaplain. The National Chaplain shall be appointed by the President. He shall be an ordained clergyman and a member of the Association.

Section 3. Executive Director. The Executive Committee, with the approval of the Board of Directors, shall appoint an Executive Director to hold office for a term of from one to five years, and the Executive Director may be reappointed in the same manner and on the same basis.

Section 4. Vacancies. In case of any vacancy among the elected officers of the Association, it shall be filled by appointment of the President, except that in case of a vacancy occurring in the office of President, the duties of that office shall be assumed by the Chairman of the Board of Directors until such time as a new President shall be selected by the Board of Directors from among its then membership.

ARTICLE IX
NATIONAL CONVENTION

Section 1. The Convention. An annual National Convention shall be held at a time fixed by the Board of Directors, and at a site which shall be selected as follows:

[No change in remainder of Section 1, Section 2, Section 3, Section 4, or Section 5]

Section 6. Precedence. The President shall preside at the Convention. If, for any reason, the President is absent or unable to preside, the Chairman of the Board shall call the Convention to order and shall preside during the Convention or until the entrance of the President. In the absence of the Chairman of the Board, the Secretary, or in his absence, the Treasurer, or in his absence, any member of the Board of Directors, may call the Convention to order, whereupon the Convention shall proceed to elect a President Pro Tem to serve during the Convention.

ARTICLE X
BOARD OF DIRECTORS

[No amendment proposed in Sections 1 or 2]

Section 3. Executive Committee. The Board of Directors between meetings shall act through an Executive Committee which, as an extension of the Board and within any restrictions imposed from time to time by the Board of Directors, shall be vested with the full power and authority of the Board. Decisions of the Executive Committee shall be by a majority vote and shall be subject to confirmation, revision, or reversal by the Board of Directors. The Chairman of the Board shall be Chairman of the Executive Committee. Membership of the Committee shall be comprised of the Chairman of the Board, the President, the Secretary, the Treasurer, the Executive Director (ex-officio, non-voting), the Chairman of the Constitution Committee (who shall be appointed from the Board by the Chairman of the Board), and four members of the Board, two of whom shall be appointed by the Chairman of the Board and two of whom shall be appointed by the President. The Committee shall meet at the call of its Chairman, the President, the Executive Director, or any three of its members and may act through a majority vote achieved by correspondence, telephone, or telegraph.

Section 4. Vacancies. In case of a vacancy among the elected or appointed National Directors or among the Appointed members of the Executive Committee, it shall be filled by appointment of the Chairman of the Board.

ARTICLE XI
STANDING COMMITTEES AND AUTHORIZED COUNCILS

[No amendment proposed]

ARTICLE XII
SPECIAL COMMITTEES AND COUNCILS

The National Convention, or the Board of Directors, may by resolution, or the President, by appointment, may create Special Committees or Councils and define their respective powers and duties. Unless provided in the resolution creating a Special Committee or Council, the President shall annually fix the number of each Special Committee or Council, appoint the members, and designate the Chairman, and the President shall fill vacancies. The creating authority may abolish any Special Committee or Council created by it or by a subordinate authority.

ARTICLE XIII
DISCIPLINE

Section 1. States and Chapters. The Board of Directors after notice and proper hearing, may suspend or revoke the charter of a State Organization or Chapter which violates the Constitution or By-Laws of the Association, or reflects discredit upon the Association. In addition, the Board of Directors shall have the power, without notice or hearing, to suspend the charter of any State Organization or Chapter which has been inactive, or in the case of a State Organization which failed to maintain at least two (2) chartered Chapters, for a period of nine (9) consecutive months. This suspension shall be in effect for thirty (30) days. If, at the end of said thirty (30) day period, the President has not been advised by the officers of the State Organization that it is maintaining at least two (2) chartered Chapters, or that plans for activity which are satisfactory to him have been adopted by the State Organization or Chapter, as the case may be, the President shall automatically be empowered to revoke the charter in question. When the procedure set forth in Article V, Section 15 is not followed, the President may order merger of an inactive Chapter with an active Chapter of the same state. If there shall be a suspension or revocation of a State charter, its affairs shall be governed by the Vice President having jurisdiction over the Region in which such State is found. In the case of suspension or revocation of the charter of a Chapter, its affairs shall be governed by the Executive Committee of its State, provided, that if such Chapter is located within an unchartered State, its affairs shall be governed by the Vice President having jurisdiction over the Region in which such Chapter is located.

ARTICLE XIV
AMENDMENTS

[No amendment proposed]

AMENDMENTS TO THE BY-LAWS

ARTICLE I
OFFICERS

Section 1. The Chairman of the Board. *[New Section]* The Chairman of the Board of Directors exercises the powers and performs the duties assigned his office by the Constitution and By-Laws; presides at meetings of the Board; serves as Chairman of, and presides at meetings of, the Executive Committee; appoints the Chairman of the National Constitution Committee and members of committees of the Board except as otherwise provided in the Constitution; presides at the National Convention in the absence of the President.

Section 2. The President. *[Renumbered and reworded]* The President exercises the powers and performs the duties assigned his office by the Constitution and By-Laws. As President he serves as the principal representative of the Association in all matters pertaining to its affairs, particularly in the articulation of its established policies and objectives; guides the policy, philosophy, and overall direction of the Association, within the mandates of the Constitution, the National Convention, the Board of Directors, and the Executive Committee; insures that the will of the membership as a whole, within said mandates, is faithfully reflected in the management and operation of Association affairs; presides at the National Convention; confers and consults regularly with the Executive Director in implementation of Association policies; submits unresolved conflicts with the Executive Director to the Executive Committee; serves as ex-officio (voting) member of each Standing Committee and Authorized Council as to which his status is not otherwise prescribed in the Constitution or By-Laws.

Section 3. Vice Presidents. *[Renumbered]*

Section 4. The Secretary. *[Renumbered and reworded]* The Secretary exercises the powers and performs the duties assigned his office by the Constitution and By-Laws, by the President, or by the Board of Directors; as Secretary he insures the preparation and dissemination to all concerned of accurate, substantive records of the proceedings of the National Convention, the Board of Directors, the Executive Committee, and of such other proceedings of which a record shall be ordered by any of the said bodies or by the Chairman of the Board or by the President; serves as Chairman of the Resolutions Committee; verifies the presence of a quorum at meetings of the Nominating Committee.

Section 5. The Treasurer. *[Renumbered and reworded]* The Treasurer exercises the powers and performs the duties assigned his office by the Constitution and By-Laws; as Treasurer, he directs the financial affairs of the Association, subject to the approval of the Board, the Executive Committee, and the Finance Committee; collects, disburses, and serves as custodian of all funds of the Association; serves as Chairman of the Finance Committee; participates in and guides the long-range financial planning of the Association; organizes and maintains the Association's books of account; makes said books available for inspection by any member of the Board of Directors or of the Finance Committee; compiles, analyzes, interprets, and reports financial data relating to Association business; reviews and submits the operating budget of the Association to the Finance Committee; makes an annual financial report to the National Convention and required interim reports to the Board and to the Executive Committee; confers and consults regularly with the President and the Executive Director regarding all proposed long-term obligations of the Association, and submits such proposals to the Finance Committee and the Executive Committee.

Section 6. National Chaplain. *[Renumbered]*

Section 7. The Executive Director. *[Renumbered and reworded]* The Executive Director exercises the powers and performs the duties assigned his office by the Constitution and By-Laws; as Executive Director, he is responsible for the management and operations of the Association; maintains liaison between Association Headquarters and all elements of the Association, of government, of Congress, of industry, and of other organizations; performs his duties within the mandates of the National Convention, the Board of Directors, the Executive Committee, and those instructions of the President which are consonant with the authority and responsibility of the Executive Director set forth herein; confers and consults regularly with the President in the implementation of Association policies; submits unresolved conflicts with the President to the Executive Committee; organizes and directs the operations of the Association Headquarters office and its related agencies; employs and releases such personnel and consultants, within established budget guidelines and on behalf of the Association, as in his judgment are required; fixes the rate of compensation and allowances of all employees and consultants, subject to approval of the Treasurer, the Finance Committee, and the Executive Committee; prepares and submits through the Treasurer to the Finance Committee a proposed semi-annual budget itemizing and justifying estimated revenues and expenditures for the ensuing six-month period; negotiates and signs contracts, leases, and agreements on behalf of the Association, subject to the approval of the Treasurer, the Finance Committee, and the Executive Committee; incurs and authorizes, within established budget guidelines and subject to periodic review by the President and Treasurer, expenses incidental to the direction and operations of the Association, its employees, headquarters office, and associated agencies; advises and reports to the Board of Directors, the Executive Committee, and the President on all matters pertinent to the mission of the Association; submits periodic reports for review by and approval of the Executive Committee.

ARTICLE II
BOARD OF DIRECTORS

Sections 1, 2, and 3. *[No amendment proposed]*

Section 4. Executive Committee. *[New Section]* The Executive Committee, acting as and for the Board of Directors, exercises authority over all officers, committees, and councils of the Association between meetings of the Board; appoints, with approval of the Board of Directors, an Executive Director; reviews and guides the actions of the Officers of the Association; resolves conflicts, if any, among them; and reshapes or reverses their decisions, when necessary.

Section 5. Subordinate Officers. *[Renumbered]*

ARTICLE IV
NOMINATING COMMITTEE

Sections 1 and 2. *[No amendment proposed]*

Section 3. Nominations. The Nominating Committee shall meet at a time and place selected by the President with the concurrence of the Board of Directors, and shall select for the ensuing year one (1) nominee for the offices of Chairman of the Board, President, Secretary, and Treasurer of the Association, and at least eighteen (18) nominees for National Directors. Nominations for the office of Vice President shall be made by the delegates from the respective Regions from the floor of the National Convention.

Section 4. Other Nominations. The provisions of Section 3 of this Article shall not preclude nominations from the floor of the National Convention.

(Note: In addition to the above substantive changes in the Constitution and By-Laws, a number of additional improvements in language involving no changes in meaning or intent were prepared by the Constitution Committee and approved unanimously by the Delegates. All changes, including required renumbering, will, of course, be reflected in future printed copies of the AFA Constitution and By-Laws.)

The Bulletin Board

By John O. Gray
MILITARY AFFAIRS EDITOR, AIR FORCE MAGAZINE

Clubs Hanging in There

There's reasonably good news on the Air Force open mess (club) front. Sales and income are holding up, most clubs are operating in the black, and no early closures for financial reasons are anticipated.

That is the word from the Military Personnel Center in a report to AIR FORCE Magazine. The Center, which monitors officer and NCO clubs Air Force-wide, said that despite inflation and rising costs, savings have been attained through "widespread consolidation of functions in areas such as warehousing and storage and administration, as well as some reductions in entertainment, operating hours, and services."

Prices and dues have risen; the dues spread for officers is now $5–$12 per month, for NCOs $2–$5. Eighty-eight percent, or about 96,800 officers, belong to Air Force clubs, but only fifty-five percent of the nearly 400,000 eligible NCOs are members of their clubs.

In calendar 1970, the Center reported, the 491 Air Force clubs had an income of $248 million. Sales came to $228 million, salaries $87 million, and membership dues $20.6 million. All operated in the black.

For the first half of the present year, there were 405 clubs of which fifty-seven were in the red. Income was $125 million, sales $107 million, salaries $39.7 million, and dues $11.8 million.

Col. Leslie W. Candee, Center Executive who signed the club report, said "many" of the fifty-seven clubs in the loser column at mid-year "anticipate finishing the year in the black." He sees none of them closing. Six clubs were closed during the first half of 1974 because of base closure or reduced mission requirements.

Components' Roles Expanded

Reserve Forces officials, who for a long time have been anxious to lay on new, significant missions for the components, recently got the green light on a big one: the transfer, beginning next fiscal year, of 128 KC-135 jet tankers from the active force to the Air National Guard and Air Force Reserve, mainly the former.

Brig. Gen. James D. Isaacks, Jr., USAFR, of San Antonio, a member of AFA's Air Reserve Council, hands a $200 check entitling him to a Life Membership in AFA to Jackie Mashin, Secretary to AFA's Assistant Executive Director and Military Affairs Editor of AIR FORCE Magazine, John Gray, left. General Isaacks took out the membership during the AFA National Convention in Washington.

The shift, to span several years, means a phaseout of obsolescent KC-97 tankers. Since the '135s will support SAC, the Air Guard will move squarely into the strategic offensive mission. USAF is working on transfer plans.

Authorities are delighted with the program. Assistant Defense Secretary (Manpower and Reserve Affairs) William K. Brehm hailed the move as a "persuasive example of our desire to achieve maximum use of the Reserve Components."

Brehm also disclosed recently that the Defense Department has worked up a plan, requiring congressional blessing, to allow the government to mobilize up to 50,000 Reservists and Guardsmen for ninety days without prior approval or declaration of a national emergency. Selected units would be called up "for a variety of circumstances." The program, expected to face some congressional opposition, grew out of a Defense study first reported in the August '74 "Bulletin Board."

Authorities see the rapid mobilization plan and the direct strategic role for Air Guard units as steps that will increase the credibility of the total-force policy, and convince doubtful active Air Force members that the components are for real. The special mobilization plan could serve another worthy purpose: prod component members who would resist an active duty call-up to drop out now.

The Air Guard, meanwhile, was the only Reserve component to end FY 1974 with more members than authorized. It wound up with about 94,000 members, 1.5 percent over its goal. The Air Force Reserve, with 46,300 active participants, was ten percent short. Largest deficit, of twenty-one percent, was recorded by the Marine Corps Reserve.

OER Rules Changed

Despite heavy pressure from commands for another delay in launching the new Officer Effectiveness Report System, Hq. USAF is stick-

ing with the November 30 starting date (*see last month's "Bulletin Board"*), but with major changes.

Instead of captains being rated first, colonels and lieutenant colonels will lead off under a "phased implementation" schedule. Phase II will follow next April–June when the other grades will enter the new project. This change will lighten commands' work loads in launching the new OER system.

Another important change scraps the special rating distribution advantage that was earmarked for officers assigned to the Pentagon, joint commands, and as faculty members at service schools. They were to be allowed a higher rating spread than officers in general, but commands were solidly opposed and Headquarters backed off. Now, one set of controls will apply to all members regardless of their assignments.

Personnel Legislation

Another year is slipping by without modernization of the military retirement system that the Pentagon wants, and without the recomputation of retirement pay that retirees want and that AFA supports.

Retirement hearings were slated by a House Armed Services subcommittee in October, but all parties understood that no legislation would be enacted this year. Insufficient time remaining in the congressional session is given as a reason. The hearing was set up, in part at least, to give recomp advocates their day in court, but the strong case they are presenting seems unlikely to change the considerable anti-recomp views prevailing in the Armed Services group.

The principal measure the subcommittee was to examine is the Pentagon's now two-year-old package to overhaul the nondisability retirement system. With opposition to it remaining as solid as ever, chances of Congress approving a full-scale overhaul remain remote. Instead, perhaps next year, enactment of a few pieces of the Defense package appears likely, both Pentagon and Capitol Hill sources agree. These may include (1) a salary averaging system, based on a member's highest one- or two-years' pay, for computation of retired pay; (2) enlisted severance pay; and (3) integrating Social Security and military retirement pay, which would mean a cut in income at age sixty-five.

The contributory retirement feature favored by some influential lawmakers won't materialize, authoritative sources maintain.

Elsewhere on the military personnel legislative front:

- Congress is ditching the Defense-sponsored bill that would authorize the forced retirement this fiscal year of 1,100 Regular O-6s and O-5s (including 520 in USAF). The measure, which would erode Regulars' job tenure, is no longer needed, a House Armed Services Committee source said. Reason: service-wide, hundreds of additional field-grade officers suddenly retired voluntarily in recent months to avoid the "pay inversion" snafu, which gives pre-October 1 retirees more pay than those departing after that date.
- The measure repealing a fifty-four-year-old law requiring that flying units must be commanded by pilots was nearing final congressional approval at press time. It will make navigators, long unhappy about the curb, eligible for such commands, though the service is expected to move cautiously on actual appointments.

Maj. Gen. Ray M. Cole, Assistant DCS/Personnel, Hq. USAF, testifying in support of the bill, said that navigators view the ban on their serving as flying-unit chiefs as "a pillar of inequity." Besides ending discrimination in assignments, removal of the ban will "provide a wider base of experienced officers from which to select commanders of flying units," General Cole said.

- A measure allowing the Army to RIF Regular captains and lieutenants for the next two years was also given a good chance of winning congressional approval late this year. But the authority won't be extended to the Air Force, and its non-Regular officers will continue to shoulder the full impact of next spring's RIF. Army, which has already ousted what it considers most of its RIFable non-Regulars, is facing still another large force-out.

The overhaul of officer personnel policies and statutes, sought by the Pentagon in the Defense Officer Personnel Management Act (DOPMA), has been put aside at least for this year. Congress earlier passed, and Air Force has since implemented, separate measures on officer grade relief and "three-way pay." The latter spreads the October 1 military pay raise and subsequent raises equally among basic pay and quarters and subsistence allowances.

Center Strikes Back

The USAF Military Personnel Center, taking exception to snowballing charges that military benefits and personnel projects are being eroded, says that "there are many good programs in being and still more to be implemented."

The Center referred to "today's sensationalism" as spreading the misleading word among Air Force members and called on managers USAF-wide "to communicate more on the positive aspects of Air Force life." These include the numerous pay raises of recent years, re-up bonuses, medical officers' bonus, flight-pay legislation, more equitable promotions for airmen, improved housing, and expanded in-service educational opportunities, the Center said.

The organization's message, titled "Things May Not Be All That Bad," appears in the September issue of PERSFACTS, a personnel pamphlet distributed internally throughout the Air Force. During the past few years, service journals and various publications of military-oriented organizations have charged that military benefits have undergone serious erosion.

Hike in Surcharge Near

USAF authorities are predicting an early increase in the commissary surcharge, probably of one percent, for store improvements. The current surcharge at Air Force and Army stores is three percent. The expected increase, in the talking stage for several years, undoubtedly will be accompanied by an avalanche of gripes from patrons already unhappy with fast-rising grocery bills.

A great many service commissaries are old, crowded, and run-down, but Congress has shut off requests for appropriations to improve or replace them. Part of the rationale: military people now enjoy salaries equal or superior to the general public, thus eliminating any justification for government-subsidized facilities that normally charge customers twenty-five to thirty percent less than commercial supermarkets.

Merchants' charges of unfair competition have also hurt the commissary improvement cause.

The FY 1975 military construction program contained just one new Air Force commissary request —for $3 million to replace the so-called store at Mather AFB, Calif. (it's scattered throughout nine mostly substandard buildings over thirty years old). But Congress said "No." The Senate, which also rejected three Army commissary store requests, then voted the services authority to finance future refurbishing or new building by increasing the surcharge.

"This probably means a one

Ed Gates . . . Speaking of People

USAF's Officer-Enlisted Mix

Air Force's "officer-enlisted mix"—its ratio of officers to enlisted members—bothers some people, including members of congressional appropriations committees. After all, it's their job to approve, shave, or reject outlays for certain levels of personnel strength. And understandably, they're happier about responding to manpower dollar solicitations from a service with a ratio of one officer to every 9.5 enlisted members, like the Marine Corps, than from a service with a one to 4.9 officer-EM ratio, like the Air Force.

It costs considerably less to support and train enlisted members.

"If one service can operate with a force composed of less than ten percent officers, why can't the others?" critics ask from time to time. Some detractors also compare today's officer-enlisted ratios with those of World War II. Early in the conflict just 7.3 percent of the members of both the ground Army and the Army Air Forces were officers—a ratio of 1 to 12.7.

By mid-1945, however, the ground Army's officer strength had risen to ten percent of the force, while the AAF's jumped to 16.6 percent or close to the mix that exists today.

The Navy currently sports a 1 to 7.2 officer-EM ratio while the Army figure is about 1 to 6.7. The latter reflects a continuation of several large annual reductions in enlisted strength. During FY '69, when the Army had more than 1,500,000 members, its officer-EM ratio stood at 1 to 8.

Also winning the Marines some points is the fact that, unlike the other services, their ratio has "improved" in recent years. In FY '71, the Marine Corps fielded one officer for each 8.7 enlisteds; in each successive year their mix has moved in a steadily "favorable direction."

But the real crux of the matter is the mission at hand. Maj. Gen. John R. Kern, until recently the Hq. USAF Director of Manpower and Organization, spelled it out before a Capitol Hill committee not long ago. He said there is no "desired" or "optimum" ratio.

"Officer and enlisted requirements in any unit are based on an analysis of the content of the jobs to be performed in support of the total workload of that unit," General Kern said.

He also pointed out that throughout the country there has been an increasing demand for professional level people in technical, scientific, and management positions; accordingly, the Air Force, to be competitive, must classify such positions in the officer category. Since its inception, of course, USAF has had a basic requirement for larger numbers of such personnel than the other services.

Conversely, the Air Force has no members involved in such things as the Marines' 1,534-member embassy guard detail.

Also contributing to Air Force's increase in officers as a percentage of its total force is the conversion, this fiscal year, of some 14,000 airmen billets to civilian positions.

General Kern also cited a factor that renders Air Force's ratio figure misleading—that officers manage civilian employees, including "contract civilians," as well as enlisted members. Add in the civilians and the 1 to 4.9 ratio of officers to airmen changes dramatically.

Air Force calls these valid reasons for the increase in the officer ratio, but its forecast is for no further rise of consequence in the proportion of officers to airmen.

Officials say they will continue screening position requirements with an eye to converting officer jobs to enlisted jobs. This has been going on for many years, and during the current fiscal year, USAF is converting more than 400 officer billets, mostly in base operations activities, to enlisted slots.

In FY '74, USAF suffered a net loss of about 41,000 airmen and nearly 4,000 officers, figures that help explain the recent rise in the proportion of officers to airmen.

But that's changing. During this fiscal year, Air Force plans to cut officer strength by 3.3 percent, greater than its planned overall military reduction of 2.3 percent. Much of this will be accomplished by a reduction of some 1,100 officers in various headquarters.

The basic reason, of course, why Air Force has a "less favorable" officer-EM ratio than the other services is that its main job is flying. The question of commissioned or enlisted status for crew members was settled long ago; currently, forty-four percent of the USAF officer force is rated. And despite sporadic rumblings from here and there that it might be a good idea to create "flying sergeant" pilots or otherwise increase the percentage of enlisted crew members, it's not likely to occur.

USAF's pilot strength (lieutenant colonels and below) tumbled about 2,000 last fiscal year; by mid-1975 the plan calls for a drop to 30,000. Even so, that is too many; Air Force says it currently has an excess of about 2,500 pilots. But it is trimming the overage, partly by reducing new pilot production, which drops to a mere 2,050 this fiscal year. (An additional 900 pilots are being produced for foreign air forces, the Air Reserve and Air National Guard.) FY '75 separations of pilots, expected to exceed new pilot production by 1,400, also will pare the active-duty overage.

On the navigator side, annual production is at the 1,250-man level, and for this year at least, it is expected to exceed navigator losses.

Air Force, on orders from Congress and the Defense Department, has been hacking away at its personnel strength for the past seven years. The budgeted FY '75 reduction is 11,416 airmen and 3,900 officers, designed to provide a June 1975 figure of 518,600 and 107,300, respectively. Actual cuts are expected to exceed the budgeted figures slightly.

Air Force leaders, from Secretary John L. McLucas down, many times this year have warned against further manpower slashes. ". . . manpower levels in the Air Force should be stabilized to maintain the capability required by our assigned missions. Forces and manpower must be kept in balance to provide this capability," General Kern told a House Committee recently.

Included in that balance is an officer-enlisted ratio of the present approximate 1-to-5 proportion. That kind of a ratio appears to have worked satisfactorily in the recent past, and there is no good reason to suppose it won't in the future. ■

percent increase soon," a Hq. USAF official told AIR FORCE Magazine. "A lot of our stores need improvement badly," he said. Most of the funds generated from the current surcharge are used for store equipment, supplies, repairs, and utilities.

In a related military stores development, Pentagon officials are eyeing an early merger of base clothing stores with base exchanges. USAF estimates the union will save an estimated 500 manpower spaces and provide shoppers better service. The project calls for "issue" and commercial uniform items to be displayed side by side but at their regular prices. Hq. USAF officials say exchanges will run the clothing stores. It has been called a success at the four bases where the plan has been tested—Eglin and MacDill, Fla.; Scott, Ill.; and McConnell, Kan.

Junior EM Travel Funds Denied

In final action on the $82.6 billion FY 1975 military appropriations bill, Congress eliminated $177 million service-wide that the Pentagon wanted to provide E-1s through E-4s the same PCS travel benefits other service members receive. The action comes as a blow to this least-able-to-pay group, as Uncle Sam otherwise would have paid the travel costs of their families.

The House of Representatives originally approved the item, but the Senate rejected it (*see last month's "Bulletin Board"*). In the September conference committee, the Senate prevailed. In other personnel cuts resulting from the conference committee, the lawmakers:

- Settled on a US troop reduction overseas of 12,500 personnel, instead of the 25,000 voted earlier by the Senate. The cuts must be made by next May.
- Reduced each service's budget for lump-sum terminal leave (USAF's by $20.5 million). The legislators, however, agreed to reconsider later if Defense finds it impossible to make the savings. The services are under pressure from Defense to curtail lump-sum leave outlays.
- Cut USAF's Airmen Education Commissioning Program by $2.4 million and set October 1 as the cutoff date for new enrollments. The services were directed to retain in college all airmen already enrolled in AECP. But the future of the program, which only a year ago looked so promising, was suddenly in doubt.
- Set a ceiling of 500 enlisted aides for generals and admirals, a cut of 175 from the previous year's limit.

Other personnel programs cut in the big money measure, finalized prior to the House-Senate conference, were reported here last month.

Women in Uniform

Slightly more than two years ago, no female Air Force officer commanded mixed-force (male-female) units in the Air Force. Now, twenty-one of USAF's 4,800 women officers head such outfits. Still, some quarters, citing the military's widely publicized plans to improve women's opportunities, extend them full equality, and vastly increase their numbers, wonder if things shouldn't move a little faster.

The twenty-one officers involved, it was pointed out, include only three field graders. The other eighteen "mixed-group" commanders are all captains and lieutenants who head squadrons or sections.

On the female star front, progress also has been slower than some women's rights advocates would wish. Only two of USAF's 400 generals are women. The first such appointment (now Maj. Gen. Jeanne Holm) was made in mid-1971. She is the director of the Air Force Personnel Council, a staff position. The chief Air Force nurse, Brig. Gen. Claire M. Garrecht, won her star in September *(see photo, p. 87).*

Meanwhile, interest in improving the role of women in uniform focused on an open meeting of the Defense Advisory Committee on Women in the Services, better known as DACOWITS, slated for late October. DACOWITS is a forty-member group of prominent civilian women which, during most of its twenty-four years of existence, maintained a low profile and held its meetings in private. For years, few if any of its suggestions ever were translated into policy changes affecting service women.

But times change. At a meeting of the group earlier this year, female activists participated in a lively session that evoked complaints about Defense's treatment of women and alleged service failures. There was speculation that the October gathering might spark even livelier debate, and policy changes.

CMSgt. Richard K. Pool of Denver, Colo., receives the Air Force Reserve's Outstanding Mobilization Augmentee of the Year Award from Col. Benjamin S. Catlin, Commander of the Air Reserve Personnel Center. Sergeant Pool's Reserve assignment is with the Air Force Intelligence Center at Fort Belvoir, Va.

Airlift Consolidation

Announcement of a military airlift consolidation project that would shift thousands of Tactical Air Command members to Military Airlift Command is expected this fall, perhaps before this appears in print. The plan calls for TAC C-130 wings located at Langley, Pope, Dyess, and Little Rock AFBs to switch to MAC, which, with nearly all the military's airlift, would become a "specified command," like SAC.

Meanwhile, new efforts reportedly are under way to eliminate the Alaskan Command and Southern Command headquarters, and save money and manpower in the process. Southern has been close to the closing point before.

AFJROTC Expansion, Jobs

In related moves, Air Force has identified forty-nine high schools that will host new AFJROTC units starting next fall, and has reminded the retired community of unit instructor vacancies. A "significant number" of these jobs are opening up with the 1975–76 school year. Wanted are recent officer and enlisted retirees who, if accepted, will receive the difference between their

retired and active-duty pay. Applicants should contact AFROTC/JRI, Maxwell AFB, Ala. 36112. The new Air Force JROTC units, with a half-dozen exceptions, are located in the east, south, and southwest. Defensewide there are 1,200 junior units, 275 of which are Air Force.

Short Bursts

Congratulations to **Civil Air Patrol Cadet Rick DeChaineau,** of CAP's Renton, Wash., composite squadron, for receiving the General Carl A. Spaatz Award in a recent ceremony at McChord AFB, Wash. A seven-year veteran of CAP's cadet program, DeChaineau attends the University of Washington on a four-year AFROTC scholarship.

The Pentagon, reacting to congressional pressure, has told the services to reduce their dependence on fully funded **advanced degree programs** and send to civilian universities only officers who on their own have already embarked on off-duty programs to attain advanced credits. . . . At a recent date approximately 21,000 USAF officers held graduate degrees, though many weren't in the proper skills. . . . USAF has 11,250 "validated" officer billets it says require graduate degrees.

Air Force **Vice C/S Gen. Richard H. Ellis** used AFA's recent Outstanding Airmen's Award Banquet as a platform for a stern in-keeping-with-the-times message for all members: ". . . unproductive people are a drain on the public treasury so we will be demanding—in our selection of people for the Air Force, their promotion, and their retention. . . . The unnecessary, the frivolous, the nonproductive traditional must go."

The newest active-duty female general in the Air Force is Brig. Gen. Claire M. Garrecht, USAF's new Chief Nurse. Promoted in September, General Garrecht joins Maj. Gen. Jeanne M. Holm, Director of the Air Force Personnel Council, as a general officer. Former Chief Nurse was Brig. Gen. E. Ann Hoefly, who retired recently.

Long-time staunch military supporter **Sen. Barry Goldwater** (R-Ariz.) urged the Senate to support the President in delaying the October 1 **federal-military pay raise** until January, but they took a licking when the senior chamber, by a 64-35 vote, rejected the delay. . . . The next federal-military retired pay raise, of at least 5.3 percent, is slated for January, thus continuing the twice-a-year pattern for these adjustments.

When the President in mid-September announced his program for the **return of military deserters,** there were only 168 such Air Force types at large. During the program's first week, only two turned themselves in, while fourteen others called USAF's "clemency information point" at Randolph AFB, Tex.

Hq. USAF took **an unusual step** in September when it acknowledged, via an unclassified message to all commands, that "several officers whose qualifications and potential were doubtful" nevertheless were promoted. The message, signed by Military Personnel Center chief **Maj. Gen. T. R. McNeil,** cited "procedural errors" in the field as responsible for the action and made clear they must not occur again.

Only thirty-two percent of USAF's military members are buying **government savings bonds** under the **payroll savings plan,** and Headquarters isn't happy about it. USAF's civilian participation rate in the bond derby is 55.3 percent. ■

Senior Staff Changes

RETIREMENTS: B/G Wendell L. **Bevan,** Jr.; B/G Joseph J. **Cappucci;** M/G William H. **Holt;** B/G Guy **Hurst,** Jr.; B/G Solomon E. **Lifton;** B/G George A. **Pappas,** Jr.; M/G Arthur G. **Salisbury;** M/G Lawrence W. **Steinkraus.**

CHANGES: B/G Thomas G. Bee, from Asst. for Rqmts., Dev. & Acquisition Programming, DCS/R&D, Hq. USAF, Washington, D. C., to Aud. Gen., Office of Comptr. of the AF, Hq. USAF, and Cmdr., AF Audit Agency, Norton AFB, Calif. . . . **M/G James M. Breedlove,** from Dep. Dir. Defense Mapping Agency, Washington, D. C., to Cmdr., Hq. USAFSO, Albrook AFB, Canal Zone, replacing retiring M/G Arthur G. Salisbury . . . **B/G Richard G. Collins,** from C/S, Def. Intel. Agency, Washington, D. C., to V/C, USAF Security Service, San Antonio, Tex. . . . **B/G Michael E. DeArmond,** from Cmdr., 50th Tac. Ftr. Wg., USAFE, Hahn AB, Germany, to Cmdr., Def. Contract Admin. Services Region, DSA, Los Angeles, Calif.

B/G John E. Kulpa, Jr., from Dir., Office of Space Systems, SAF, Washington, D. C., to Prin. Dep. for Plans, Dep. Dir., Intel. Community, McLean, Va. . . . **B/G Doyle E. Larson,** from Dir., Policy & Resource Mgmt., ACS/Intel., Hq. USAF, Washington, D. C., to Dir. for Intel., PACOM, Camp H. M. Smith, Hawaii. . . . **M/G Howard E. McCormick,** from Dir., Communications/Data Processing, PACOM, Camp H. M. Smith, Hawaii, to Dep. Dir. (Mgmt.), Office of Dir., Telecommunications & Comd. & Control Systems, OSD, Washington, D. C.

B/G Michael J. Tashjian, from Dir., Proc. Policy, ODASD (Proc.), Washington, D. C., to DCS/Proc. & Production, Hq. AFSC, Andrews AFB, Md.

M/G Walter R. Tkach from White House Surgeon, to Comd. Surgeon, Hq. AFSC, Andrews AFB, replacing retiring B/G Solomon E. Lifton. . . . **B/G Jasper A. Welch, Jr.,** from Spec. Asst., Asst. to the Secretary of Defense for Atomic Energy, Washington, D. C., to Asst. for Strategic Initiatives, DCS/P&O, Hq. USAF. . . . **B/G Charles E. Williams, Jr.,** Vice Dir., TRI-TAC, Ft. Monmouth, N. J., to Dir., Communications/Data Processing, PACOM, Camp H. M. Smith, Hawaii, replacing M/G Howard E. McCormick.

—Compiled by Kathryn Foxhall

Airman's Bookshelf

Soviet Intelligence

KGB, The Secret Work of Soviet Secret Agents, by John Barron. Reader's Digest Press, New York, N. Y., 1974. 462 pages. $10.95.

In January 1969, the *Reader's Digest* began a long research project in preparation for this study of the Soviet Union's Committee for State Security, or KGB, and its influence on world affairs. The author, Senior Editor John Barron, was well qualified by interest and experience for the assignment. He had served with US Naval Intelligence before becoming an investigative reporter in Washington, D. C.

With the aid of the Central Intelligence Agency and Federal Bureau of Investigation, the *Digest* located and interviewed KGB defectors now living in the West. Reporters held discussions with non-Communist security and intelligence personnel in countries which combat KGB efforts daily within their borders. Foreign bureaus of the magazine monitored publications in thirteen languages seeking further information about activities of Kremlin agents throughout the world. The result is a well-documented assessment of Russian intelligence efforts, spotlighting both successes and shortcomings.

The KGB is the latest in a succession of Russian security agencies beginning with the notorious Cheka of Tsarist times. Inside the USSR, the KGB helps keep the Soviet population in line. Outside the country, it gathers intelligence and attempts to influence the activities of other governments.

The book is packed with spy stories that make good reading but carry a chilling message. When the KGB is efficient and lucky, its successes are dazzling. A French diplomat really did succumb to a Russian Mata Hari. An American soldier's discontent was cleverly exploited to breach security at an Armed Forces Courier Center—not just once, but continuously from December 15, 1962, until April 21, 1963.

Since the book was published, the West German Chancellor has resigned as the result of a Communist agent skillfully implanted in his office. KGB's influence, working through East German intelligence, is a distinct possibility.

There is a detailed explanation of KGB's organization and working relationships with other Soviet government agencies and commercial installations at home and abroad. The seventy-seven-page appendix includes a list of known Russian agents and the translation of an instruction manual to teach spies how to recruit Americans in the United States and in third countries.

The book's message appears in the final chapter, entitled "A Choice for the World." Mr. Barron urges that nations voice "intelligent, reasoned protests" against KGB oppression of Soviet citizens. He argues that non-Communist politicians and foreign offices should not fear disturbing relations with Russia by complaining against the armies of spies stationed in Soviet embassies abroad. It is his contention that the USSR needs the West and would be inclined to knuckle under. The more light that can be cast upon KGB activities, he reasons, the less effective the organization will become.

While it is true that open complaints and harassment of agents might curtail some KGB operations, some nations may never test this theory. Countries operating their own spy networks within the Soviet bloc or engaged in delicate diplomatic or economic negotiations with the men in the Kremlin will surely hesitate to rock the boat.

—Reviewed by Marjorie Ulsamer, Deputy Director Publications Division, HUD.

Patton: A Narrow View

Patton: A Study in Command, by H. Essame. Charles Scribner's Sons, New York, N. Y., 1974. 280 pages with index. $8.95.

Maj. Gen. Hubert Essame commanded a British infantry brigade in Northwest Europe during 1944 and 1945, observing at first hand the events and personalities of that campaign. *Patton: A Study in Command* reflects the military experience and the personal involvement of its author. Essame gives a clear and vivid, though somewhat circumscribed picture of George Patton, while expanding beyond a narrow biography to treat Allied strategy and the nature of military leadership in modern warfare.

Essame portrays Patton as an atavism, a cavalry commander who found a narrow niche in modernized war. Patton's success was based on his independence, his total dedication to operational efficiency, and his limitless energy. These qualities made him a supremely effective battlefield commander. But Patton proved unable to adapt to a new dimension of command in coalition warfare: the necessity to weigh political factors along with narrow operational considerations.

These widened demands spawned a new breed of "political" general: men who rose through success in intra-alliance diplomacy, rather than in combat. Men like Bradley and Eisenhower gained high command by suppressing the qualities essential to success in combat. Essame believes that their instinctive caution was manifested in unwarranted restraints on Patton: the ultimate effect, he contends, was an unnecessary prolongation of the war. This argument, a modification of the long-contended "narrow" vs. "broad" front issue, relies heavily on hindsight. Moreover, it overstates the power of an unsupported wedge of armor.

Essame's critique of Allied strategy tends to overshadow his narrow biographical goal. When he does focus on Patton, Essame displays a vigorous style but a superficial knowledge of his subject. He emphasizes Patton's decisiveness and total dedication without touching on the ambition and the mystical sense of destiny that underlie these qualities.

Another shortcoming appears in Essame's neglect of the role of airpower in Patton's campaigns. The use of tactical air support as flank cover represented a significant de-

velopment in military history, one that Essame almost ignores.

Essame is not an academic historian; this biography is undocumented and lists a limited bibliography. The author directed his work at the general public, and the book's value lies in its assessment of Patton and of modern war from the perspective of a military professional. This is a vivid but narrow portrait of Patton, the man and commander.

—Reviewed by Cadet First Class (now Lt.) Stephen P. Randolph, USAF Academy. Lieutenant Randolph is the recipient of a Franklin Wolf Scholarship, Johns Hopkins University.

Broadening Military Perspectives

The Politics of Nonviolent Action, by Gene Sharp. Porter Sargent Publisher, Boston, Mass., 1973. 928 pages with index. $24.95.

Gene Sharp has done an exceptional, scholarly service in compiling this lengthy examination of the theory and practice of nonviolent action. The position he espouses is not unique, but it has undoubtedly never before received such exhaustive treatment. Indeed, the text is so complete that its several hundred notes and the appended bibliography will serve as basic source materials for all who research the topic of nonviolence in the future. This is an important work, destined to become a fundamental source book.

The publishers have decided to reproduce it in three paperback volumes corresponding to "Part One: Power and Struggle," "Part Two: The Methods of Nonviolent Action," and "Part Three: The Dynamics of Nonviolent Action." The First and Third Parts are a must for modern political theorists, for students of practical politics, and for political and military strategists.

The author attempts to explicate and defend through a plethora of examples of nonviolent action the fundamental thesis that the variety of methods of nonviolent actions provides rational alternatives to traditional political and military violence in conflict situations. In examining the nature of political power, he concludes that all such power depends ultimately upon the consent of those who are ruled and that obedience is always essentially voluntary and never inevitable. Sharp concludes that if people were to understand fully that the exercise of power by all government rests on their consent and cooperation, no people would for long tolerate oppressive or tyrannical governments.

Although Sharp was imprisoned in 1953 as a conscientious objector and has been associated with pacifist groups, this book is not about passive submission to those who use violence; it is a primer on methods of *action* to undertake without resorting to physical violence. He provides the nucleus of a set of strategies for nonviolent action analogous to treatises on military strategies. In "Part II: The Methods of Nonviolent Action," he provides a remarkable categorizing of 198 (there are even more) different methods of actions without physical violence which can be employed against an opponent (government, employer, institution, foreign government, etc.).

Professor Sharp is careful to point out the many difficulties with the uses of nonviolent action and the crucial need to understand, organize, and plan their uses if they are to be successful. He raises possibilities which both political and military strategists should examine. Most particularly some attention should be given to the phenomenon he refers to as political *jiu-jitsu.* He maintains that when an opponent meets nonviolent action (such as a mass demonstration or a worker strike) with violent repression, it is frequently the case that this use of violence rebounds against the opponent in the long run. The classic examples of "Bloody Sunday" in the Tsarist Russia of 1905 and many other instances cited by the author certainly support the political *jiu-jitsu* thesis, although it does not operate in favor of the nonviolent actionists in every case.

Military theorists will find confirmation of this phenomenon in the analogous cases of recent military actions which have required limited response to enemy aggression even though much more destructive weapons systems were available. There is a *jiu-jitsu* effect, it would seem, in both violent and nonviolent struggles.

Even though it is difficult to envision any wholesale shift to nonviolent tactics in the arena of human struggles, one might wish it would happen. Consciousness of the power of nonviolent action is becoming more prevalent; therefore, it makes sense to study its possibilities for obtaining what Sharp calls an opponent's conversion, accommodation, or nonviolent coercion to the actionists' demands.

This work is deserving of most serious study and development. Among the agencies providing funds in support of Professor Sharp's work is the Advanced Research Projects Agency (ARPA) of the Department of Defense. I find this entirely appropriate. It is time for military thinkers to broaden their vision of their profession from the narrow definition of "management of violence" to encompass all the complexities of politico-military action—including the nonviolent alternatives.

—Reviewed by Col. Malham M. Wakin, Professor and Head, Department of Political Science and Philosophy, USAF Academy.

New Books in Brief

Balloons and Airships, by Lennart Ege. One of the Macmillan Color Series, this album contains a short introduction to the 200-year history of balloons and airships, followed by color drawings illustrating eighty types and a section listing the histories and specifications of each balloon or airship. Macmillan, New York, N. Y., 1974. 234 pages with index. $5.95.

The 458th Bombardment Group, by George A. Reynolds. This album includes a short history of the bombardment group plus photos of insignia, planes, headquarters, and living quarters, and logs of their bombing activities flown from England in 1944 and 1945. George A. Reynolds, 848 S. 86th St., Birmingham, Ala., 1974. 64 pages. $6.

Operational Art and Tactics, by V. Ye. Savkin. Published under the auspices of the USAF, as "probably the most important Soviet military publication" of 1972. In our terminology, the book covers operations, tactics, laws of war, and armed conflict. US Government Printing Office, Washington, D. C., 1974. 284 pages. $2.30.

Three releases in Ballantine's Illustrated History of the Violent Century are: *Aces High,* by Alan Clark, 216 pages, $2.00; *SS Regalia,* by Jack Pia, 160 pages, $2.95; and *Rommel,* by Roger Sibley and Michael Fry, 160 pages, $2.00. Ballantine Books, New York, N. Y., 1974.

—By Kathryn Foxhall

His Flying Tigers, totally disciplined in the sky if not on the ground, soundly defeated the Japanese in aerial combat. The pioneer of pursuit tactics was . . .

CHENNAULT: From Maverick to Marvel

BY FRANKLIN HIBEL

THE saber-toothed tiger of Fukien has been the Chinese national symbol for thousands of years. There is an ancient belief that one who eats the heart of this feared Asiatic cat will inherit its courage and strength.

There were countless superstitious Chinese who *knew* that Gen. Claire Lee Chennault, the leader of the Flying Tigers, had devoured a tiger's heart.

Old Leatherface, as the Chinese affectionately called Chennault, was never one to mince words. A controversial figure all his life, he was never known to evade an issue. Although his tactical genius was readily acknowledged by his superiors, they took an exceedingly dim view of his chip-on-the-shoulder attitude.

Many years before Pearl Harbor, he wrote and openly spoke of his distrust of the Japanese. He was only a junior officer at the time, marked early in his career as a maverick.

Time and events tempered Chennault's hatred of the Japanese for raping China and for their attack on Hawaii. But in the tumultuous war years, his passionate dislike of Japan was as strong as his love for the United States and China.

His contention that Japan would one day strike at the Hawaiian Islands goes back to early 1924, more than seventeen years before the attack on Oahu when then Lieutenant Chennault commanded the 19th Pursuit Squadron on Ford Island at Pearl Harbor. After the Japanese bombing, the unit became the 19th Fighter Squadron at Wheeler Field, the island's fighter base. Its parent organization, the Seventh Fighter Command, was established at Fort Shafter, Oahu, where I was the new command's first public information officer, as a second lieutenant.

Buried in the 19th's files was the draft of a letter that Chennault had sent to a Mr. Aden of the *Honolulu Advertiser* on April 16, 1924.

"In behalf of the pursuit squadron," Chennault wrote, "I wish to thank you for your generous acceptance of the work of designing the squadron insignia. There are few pursuit squadrons in the United States, so, in case of war this insignia would be one of the first to greet the enemy, and, we hope, garner for itself a great deal of fame." There never was any doubt in his mind who the enemy would be.

It was at the Air Force Association's Fiftieth Anniversary tribute to the US Air Force in Washington, D. C., August 1957, that I mentioned the then thirty-three-year-old letter to Chennault. I was a major at the time, editor of *The Air Reservist* in Washington.

Chennault was one of the pioneer airmen invited by AFA to make up the "Air Force Portrait," composed of those who had contributed so much to this nation's aviation history. Cancer was already eating into him, and Chennault would be dead the following year.

Chennault and his lovely Chinese wife were guests of honor at the Asiatic-Pacific Ball, sitting with actor Joe E. Brown, when I reminded the onetime Flying Tiger chief of that letter of more than three decades back. He grinned slowly in recollection.

Wasn't it Japan he had in mind?

The piercing black eyes flashed. "There could be nobody else," he said. "And the Hawaiian Islands were the objective."

The Prophet of Pursuit

Aerial combat formations and tactics were still in their infancy when, as a junior officer, Chennault put his facile brain to work. He refused to recognize limitations of pursuit aircraft. Five years later, he was promoted to captain and assigned as flying director at Brooks Field, Tex., which, singularly, was my initial mainland base following duty in Hawaii where I had seen Chennault's prophecy come true.

Painstakingly, he continued his studies of pursuit tactics and also published a manual on primary flying, which was used for many years as an Army Air Corps textbook.

When the Air Corps decided to form a demonstration team to spread the gospel of pursuit aircraft potential, it chose Chennault as team leader. Characteristically, he selected his wingmen in the most direct way. Those able to stay with him through some thirty minutes of frenzied acrobatics were tapped. That was in 1932, and *The Men on the Flying Trapeze* team was formed. Using P-12 biplanes, Chennault and his men devised the first loops, spins, and snap rolls ever performed in formation.

The Flying Trapeze group flew for four years before an estimated audience of a half million. They achieved the Army Air Corps's objective: attention was being focused on the fledgling air arm.

Chennault's air world crashed around his ears in 1937 when he was retired on disability, due to a hearing impairment. He was a major at the time.

When the Chinese government learned of this, Chennault was immediately offered the chance to put his air-combat theories into practice in that country, then being invaded by the Japanese. He quickly accepted.

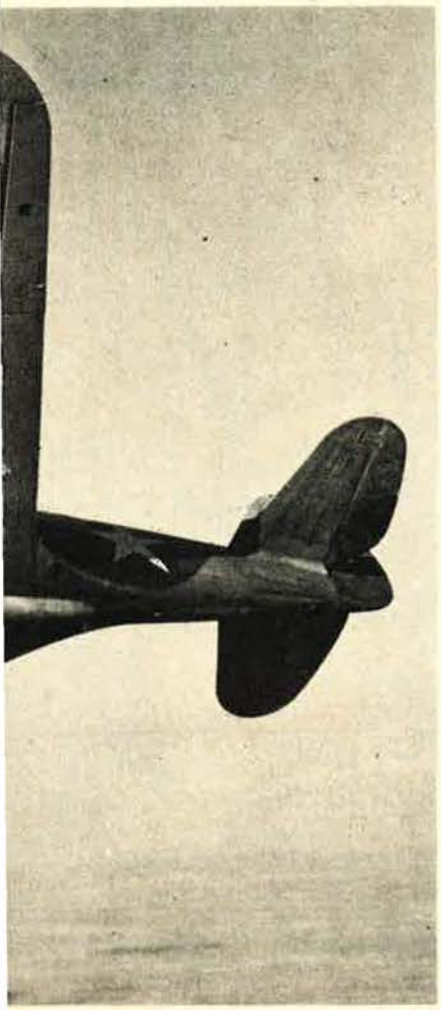
The impotent Chinese Air Force would not be able to cope with the enemy for some time. Nor could any American unit be assigned the task, since this was several years before World War II erupted.

As special adviser to Chiang Kai-shek and his air force, Chennault conceived the idea of the American Volunteer Group (AVG), an international air force that would include volunteer American pilots. He further reasoned that such a force would receive invaluable combat experience, for he was convinced that it was only a matter of time before the United States would be at war with Japan.

The AVG Is Born

Chiang Kai-shek had implicit confidence in Chennault. With the Generalissimo's blessing, he accompanied Gen. P. T. Mow of the Chinese Air Force to Washington. There, Chennault pushed his plans for what he called a "Foreign Legion of the Sky" before the War, Navy, and State Departments. When he met with resistance, he carried through to the White House.

Chennault won out and returned



Chennault's Flying Tigers won early fame in the Curtiss P-40, left, noted for its ruggedness and diving speed. Above, he visits some of his pilots on a flight line in China.

to China with President Roosevelt's approval of the plan. By July 1, 1941, the first contingent of AVG pilots and ground-crew personnel was ready to depart from the West Coast. Chennault had lined up 100 former Army, Navy, and Marine pilots who were offered $600 a month salary, and a $500 "commission" for each Japanese aircraft shot down. Chennault, himself, was authorized $1,000 a month, but the brilliant tactician admitted he would have accepted his role for nothing.

It is little known that he flew combat against the Japanese in those early years before he was recalled to active duty with the United States Army Air Forces to command the Fourteenth Air Force. Gen. George Kenney said that Chennault consistently refused to publicize his own score against the Japanese, but there was "plenty of evidence" that he personally accounted for thirty enemy flyers who tried "to dispute the air with the rebel from the bayous of Louisiana."

In preaching his doctrine of fighter tactics, Chennault emphasized three essentials: detection, interception, destruction. Although opposed and hampered by what he considered the antiquated thinking of his Army superiors, Chennault's achievements were without parallel in the story of World War II airpower.

The picture for Chiang Kai-shek, prior to the formation of the AVG, had been bleak. China's resistance to Japanese aggression had been strengthened through delivery of US materiel and technical guidance, but there was little time to develop the Chinese pilots.

By the time of the Japanese attack on Pearl Harbor, however, the AVG was ready for incorporation into the Army Air Forces. But it was as the AVG that the unit first entered combat on December 20, 1941, when its pilots shot down six enemy bombers attempting to attack Kunming.

On July 4, 1942, the AVG was reformed into the AAF's China Air Task Force with Chennault still in command. He was now a brigadier general, recalled to active duty in April. Eight months later, the CATF became the Fourteenth Air Force. By the summer of 1944, it had been built up to about 500 fighters and 175 medium and heavy bombers.

Eventually, the shark-nosed Curtiss P-40s were replaced by more modern fighters, but the Flying Tigers will forever be associated with their remarkable exploits in the old Warhawk during the early days of the war. No greater record has been emblazoned in the annals of air combat. By using two-ship elements in hit-and-run tactics, Chennault's fighter pilots capitalized on the superior diving speed and ruggedness of the P-40B. The Tiger leader nullified the Japanese fighter planes' maneuverability by ordering his pilots to avoid dogfights. And the AVG pilots many times proved that Chennault had been right when, almost alone among US airmen, he had asserted that pursuit planes could find and shoot down enemy bombers at night.

The Flying Tigers of the AVG destroyed close to 300 enemy air-

Generals Chennault and Stilwell, second from left and center, had their differences, and Stilwell was eventually relieved. Other military leaders at this 1943 meeting in China were Lt. Gen. Hap Arnold, left; Field Marshal Sir John Dill; and Brig. Gen. Clayton L. Bissell, right.

craft at a cost of fewer than fifty American aircraft and only four pilots lost in air-to-air combat. Five other AVG pilots were killed in bombing or strafing missions. As the Fourteenth Air Force, the Tigers destroyed an additional 2,300 Japanese airplanes and sank or damaged about two million tons of enemy shipping, including three Japanese naval vessels in one month alone. The 23d Fighter Group of the Fourteenth Air Force, the direct descendant of the AVG, shot down 1,238 enemy aircraft at a ratio of ten to one to become the highest scoring fighter unit of World War II.

A Shoestring Air Force

Chennault's critics deplored the unkempt appearance of the Flying Tigers. He ignored them. Far from the concept of a model Air Force officer, Chennault hated regimentation. Discipline and conformity belonged in the sky. Anyhow, he argued, he and his men were plagued by supply problems.

The Fourteenth received supplies over a line 18,000 miles long from Wright Field, Ohio. This supply line took in Florida, Brazil, Africa's west coast, Arabia, and, finally, India, where the Air Transport Command took over and flew the supplies over the "Hump" into China. When the railroads were knocked out by the Japanese, supplies were carried through China by pre-1941 trucks, sampans on the river, and even by wheelbarrows.

Chennault was always faced with an inadequate number of people and planes, shortage of fuel, ammunition, and food. But his men fought valiantly with what they had, while officers and crew alike often slept under the wings of their P-40s. From the snag of supply problems there grew a devil-may-care attitude and indomitable spirit.

The Tigers were a motley looking gang. Lack of Post Exchange articles and deplorable quartermaster supplies forced them to wear everything from British shorts and bush jackets to the tiny caps of the Chinese infantrymen. The American airmen knew that China was the end of the line of all fighting fronts and that, as a result, there were certain privileges to be enjoyed. Spit-and-polish military appearance and discipline were frowned upon as the mark of a recruit.

If you were not the owner of a battered pair of Indian mosquito boots and several military costumes especially designed to suit your own taste, you were considered to be lacking in imagination.

In their off-hours, the Tigers acquainted themselves with the people they were fighting to defend. For the Tigers who were based at Kunming, Ching Pi Loo and the Thieves Market, the Flower Circle, and the Nan Ping Restaurant were familiar haunts. On Saturday nights, the atmosphere of the May-Gwa Club, where airmen could buy the hair-raising Jing Bow Juice, took on the wild-west aspect of frontier days. Bearded crew chiefs packed .45s, and leather-jacketed pilots taught Chinese girls the latest jitterbug steps, all to the accompaniment of squeaky violins and disspirited saxaphones.

An air raid signal sends Fourteenth Air Force pilots scrambling for their P-40s. Some Flying Tiger units chalked up kill ratios as high as ten to one.

The author, Lt. Col. Franklin Hibel, USAF (Ret.), was commander of the Jacksonville, Fla., Air Reserve Center when he retired in 1960. He has been Deputy Chief of Information for US Air Forces in Europe, and Editor of The Air Reservist *magazine. An information officer at Hawaii's Wheeler Field when the Japanese attacked in 1941, Colonel Hibel recalled the attack in "Caught With Our Planes Down," an article that appeared in this magazine in 1956. He is now "halfway through a novel with a humorous slant—about the Air Force."*

Chennault tolerated these conditions and growled when Lt. Gen. "Vinegar" Joe Stilwell, the theater commander, periodically inspected the Tigers and raised hell over their uniforms—or lack of them. Relations were already strained between the two generals. The only discipline Chennault insisted on was in combat.

While he became a legend in his own lifetime, Chennault never could temper his impatience with what he considered unnecessary roadblocks. He scrapped constantly with Stilwell, and Chiang Kai-shek fully supported his air adviser. As a matter of fact, a serious breach developed between the Generalissimo and Stilwell as a result.

Following an investigation by Brig. Gen. Patrick Hurley, Roosevelt's personal representative, Stilwell was relieved. Hurley had advised FDR that Chiang would have no more of "Vinegar" Joe and that settled the issue.

When the Army Air Forces decided to form an AAF headquarters in China to control both the Tenth and Fourteenth Air Forces, Chennault's outspoken opposition disturbed Washington's war planners. His vigorous protest was finally instrumental in forcing Gen. "Hap" Arnold to retire Chennault, once again on physical disability.

This was a bare two months before the signing of peace terms aboard the *Missouri* in Tokyo Bay. The old Flying Tiger chief, chin up and black eyes fierce with anger, relinquished his command.

An Airline Called CAT

Claire Chennault's roots were still deep in China soil following the war years. As head man of the Formosa-based Civil Air Transport, called CAT, he stressed that his airline "links together all of free Asia."

When Chennault came in from Formosa for AFA's fiftieth birthday salute to the Air Force in 1957, thunderous applause greeted him as he took his place on the dais with aviation's other standouts. The dreaded cancer had already penetrated one lung, but hardly a person present knew this as he walked on stage with erect carriage and shoulders braced.

It was during that year, too, that the cancerous lung was removed at Walter Reed Army Medical Center. He returned to Formosa, but by the following year the cancer had poisoned his remaining lung.

Even the indomitable Chennault had to admit the end was drawing near. He admitted it in the only direct way he knew how, by calling a press conference and telling assembled newsmen in Taiwan that "no operation is possible."

His meaning was crystal clear, and the normally hardened correspondents swallowed with difficulty. After getting over the initial shock, they wondered if anyone else could have issued such a calm statement. It was the gallant old fighter asserting himself. Chennault had never backed away from anything or anybody in his life.

Old Leatherface was leaving China, the land he had learned to love, to die in his native country. Late in July 1958, the former Louisiana farm boy succumbed to his last enemy, cancer, and General Chennault died in New Orleans' Ochsner Foundation Hospital.

Claire Lee Chennault made one final flight—to Washington, D. C., where he was laid to rest in Arlington National Cemetery, at peace with the world at long last. ■

General Chennault accepts the Flying Tiger emblem from its designer, Sgt. Howard Arnegard, and Sgt. Robert Naves. Ancient Chinese lore avers that anyone who eats the tiger's heart inherits its courage and strength.

B-1 avionics is right on target.

The U.S. Air Force B-1 Bomber begins its flight test program this year.

This is one of the most remarkable achievements in jet aviation — a manned bomber that will fly at speeds in excess of Mach 2 and carry twice the payload of the B-52. A jet with a navigation system that guides the B-1 over the nap of the earth more surely than the human hand.

It's a major step in another way too. The B-1 will have a lifespan of at least a quarter-century. Principally, because it's designed to easily accommodate future advances in avionics.

Two and one-half years ago Boeing was selected as the associate contractor for the B-1 avionics systems integration. It has required integration of avionics equipment used in programs such as C-5A, SRAM, F-111 and F-14.

It has meant tight deadlines, extensive research and inventive solutions to avionics technical and cost challenges.

Professional guidance from Wright-Patterson has been superior every step of the way. And cooperation among B-1 team members absolutely tops.

Naturally, we're proud of our on-time record for this program and are pleased to be a part of the B-1 team.

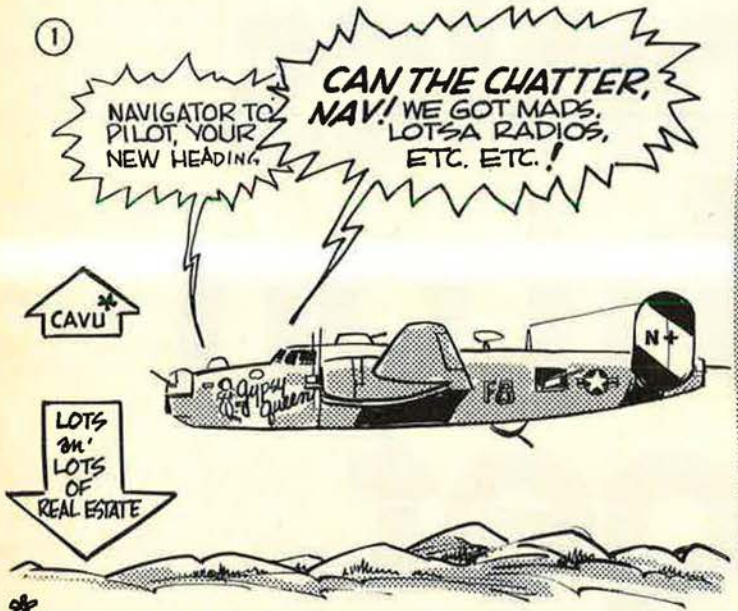
We think the whole idea is right on target.

BOEING

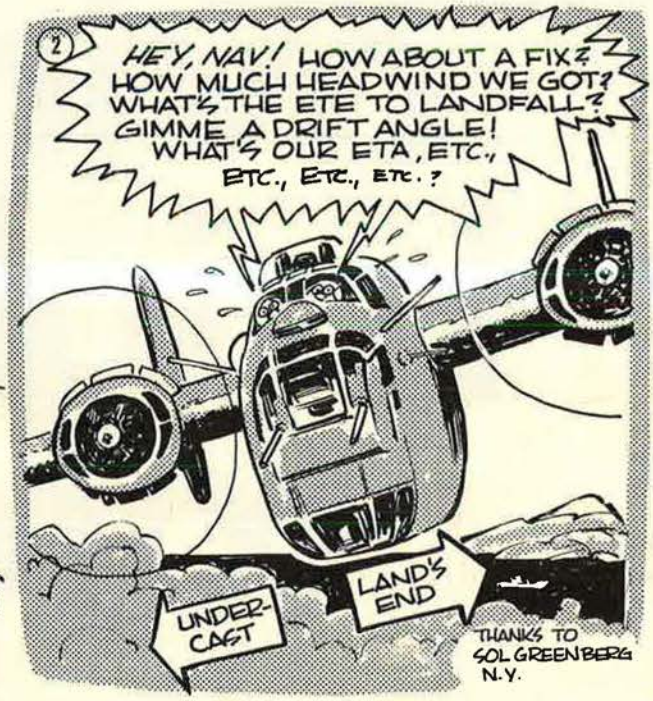
Bob Stevens'

"There I was..."

LAST JULY WE ZAPPED NAVIGATORS WITH A TALE ABOUT ONE LOUD-MOUTHED "MASTER" TYPE WHO WAS CUT DOWN TO SIZE BY A PINT-SIZED FIGHTER JOCK. THIS BROUGHT FORTH A HAIL OF FLAK FROM THE SEXTANT *and* BUBBLE CORPS. HERE, AS PROMISED, IS EQUAL TIME... THE NAVIGATORS REPLY:



*CEILING AND VISIBILITY UNLIMITED



1951 –

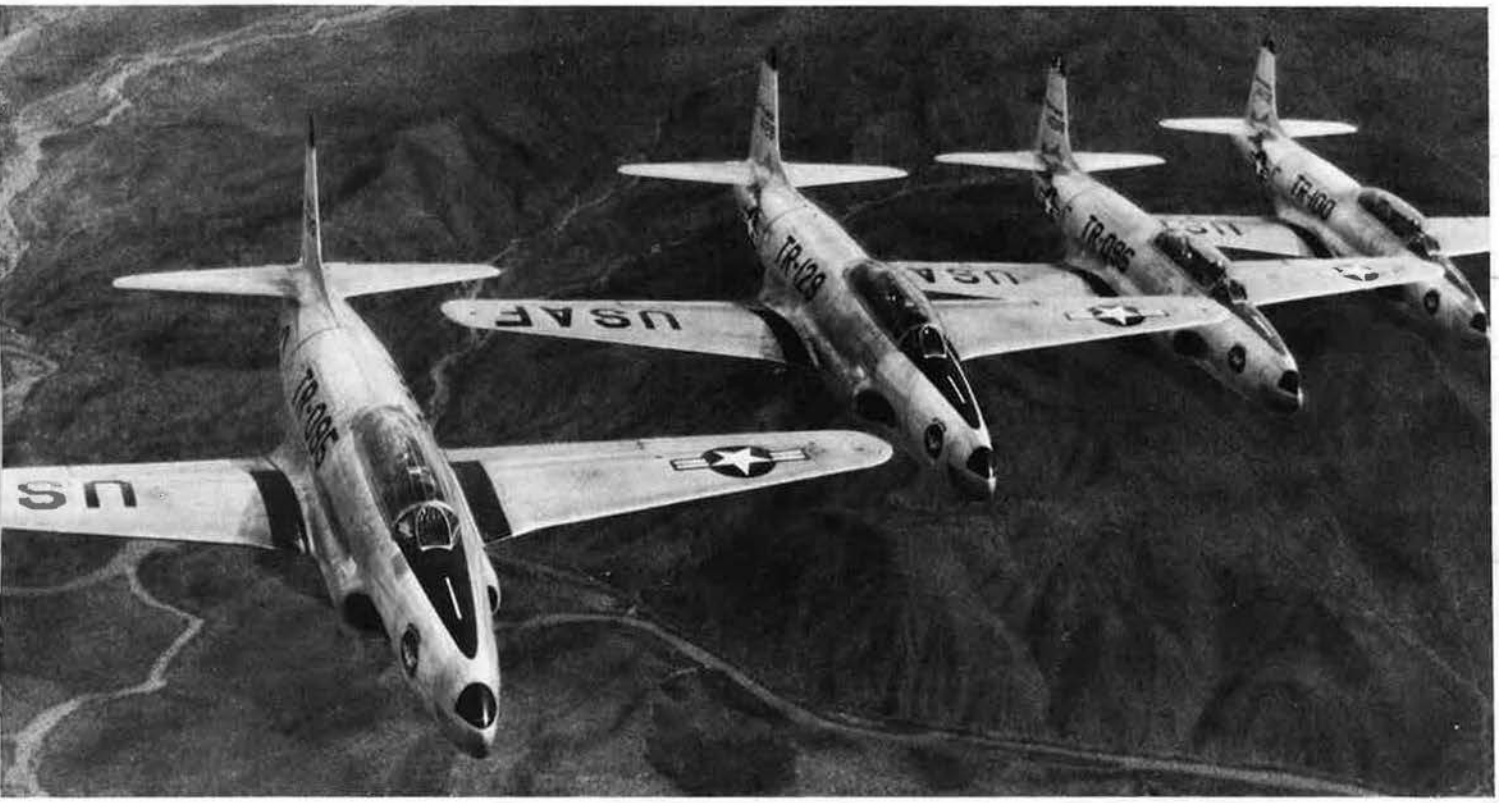
THANKS TO 4/C JOHN DARR CHEYENNE, WYO.

(THANKS, ALSO, TO 4/C STU SHADBOLT)

ISSUE CLOSED! OKAY, GUYS?

Bob Stevens

When the bird that taught the world a new way to fly needs new wings,



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Over the past 27 years, E-Systems has performed major overhaul, maintenance and modifications of literally thousands of military and civilian aircraft from the T-33 and Boeing 727 to the C-135 and E-4A.

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Minimum downtime, maximum combat-readiness. That's cost-effective.

That's the F-15 Eagle.

Ease of maintenance with lower cost and less downtime is built into the McDonnell Douglas F-15 Eagle air superiority fighter.

At the squadron level, about two years after delivery of the first operational aircraft to the Air Force, F-15 direct maintenance man-hour requirements will be no more than 11.3 hours per hour of flight. (The ratio ranges from 20 to 1 up to 40 to 1 for current jet fighters.)

Ground crews can change an engine in less than 30 minutes. (We've done it in 18 min. 55 sec.) Costly man-hours are saved because engine-driven accessories—generators and pumps—are attached to the airframe, not the engine. Major avionics systems include in-flight fault isolation. Plug-in modules can be quickly replaced on the ramp.

And spares inventories are reduced significantly. Major components such as engines, stabilators and vertical tails are interchangeable, left and right. And many pumps, valves, and electrical systems do more than one job.

Cutting downtime cuts costs . . . important, considering manpower costs represent 57% of every defense dollar.

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