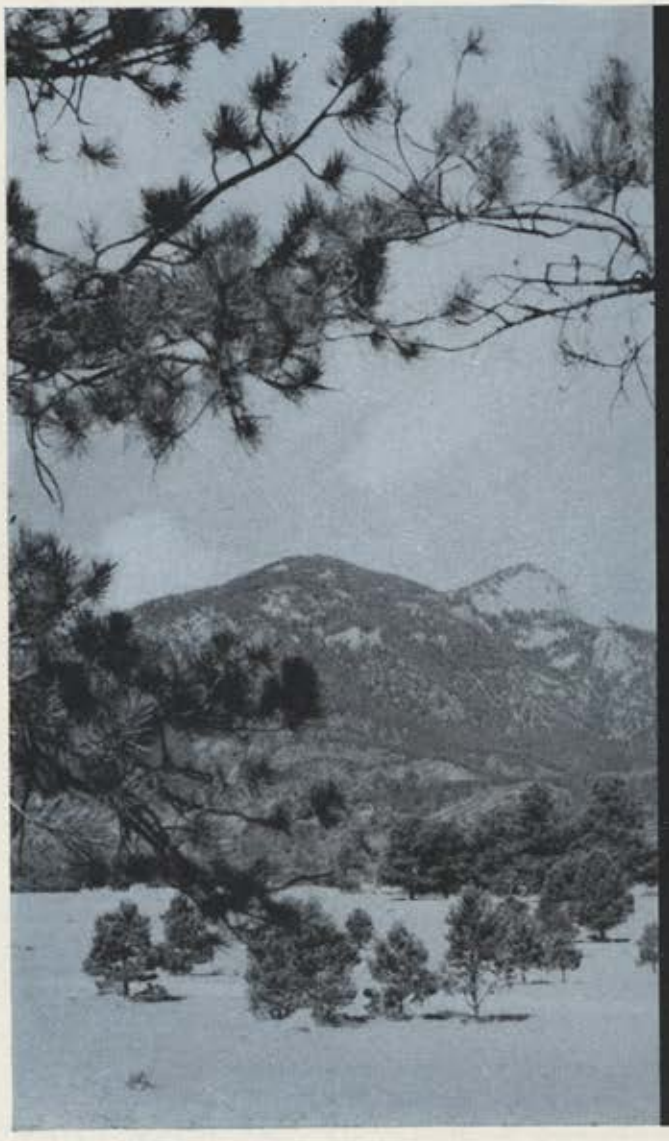
AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

December 1954 • 35c



A Tradition Is Born In Colorado

From the new Air Force Academy,
in the shadow of the mighty Rockies,
will come the Air Force leaders of tomorrow

See page 30

Wherever Man Flies

HAMILTON STANDARD . . . . leader for years in propeller design and production, is now supplying other essential equipment for such outstanding new jet aircraft as the Navy's Douglas A4D attack bomber.

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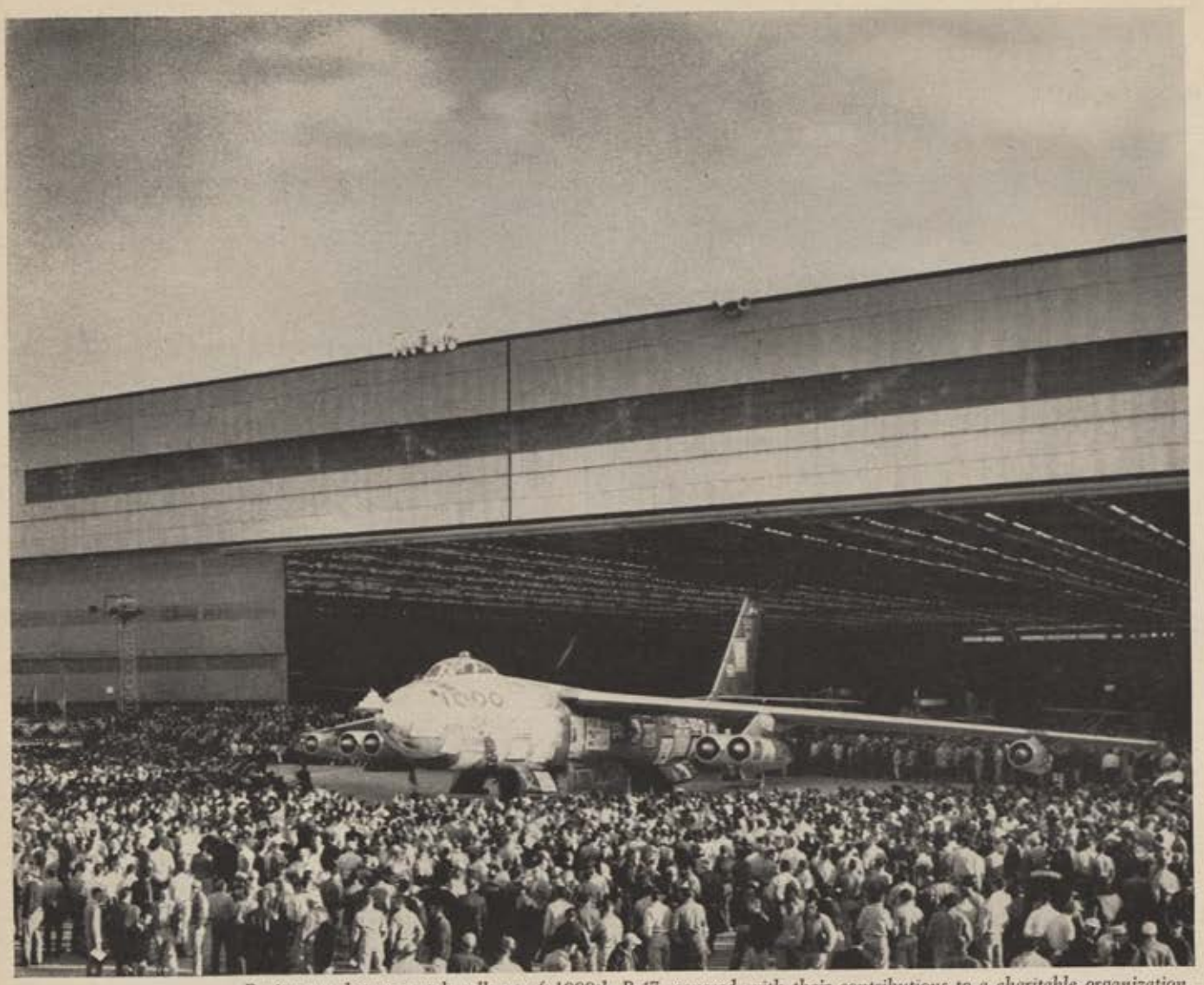


Boeing employees watch roll-out of 1000th B-47, covered with their contributions to a charitable organization.

The 1000th B-47 comes off the line

In March, 1950, the first production B-47 rolled out of the Boeing plant in Wichita, Kansas. On October 14 of this year, the 1000th Boeing-built B-47 came off those same assembly lines.

The Boeing B-47, also being produced by Douglas and Lockheed, is the Strategic Air Command's front-line, high-altitude medium bomber, and is capable of carrying a nuclear weapon 10 miles a minute. Already SAC's Second Air Force has been completely equipped with B-47s, making it America's first all-jet striking force. Additional SAC units are in the process of making the same transition to jets.

Boeing's Wichita Division has, from the first, carried out continuing programs to lower production costs and to maintain on-schedule deliveries. The advanced B-47 is now being produced with fewer man-hours per pound than were required for the much less complex B-29 during World War II. As a consequence, the cost of the B-47 has been reduced well below the best original estimates, and resultant savings have been passed on to the government.

Today, besides building B-47s, the Boeing Wichita Division is tooling up as a second manufacturing source of the B-52 eight-jet heavy bomber, which is now in production at the Boeing Seattle plant.

This crest is symbolic of the Strategic Air Command's strength and global achievements. It is found on such Boeing planes as the B-29, B-50, KC-97, B-47—and now on the B-52.

BOEING

BIGGER RADOMES FOR MORE PROTECTION. The radar Super Constellation picket plane is an extremely vital unit for U. S. protection. It can warn the nation hours earlier of enemy attack, because it has long range, high speed, plus six tons of electronic intelligence packed in radomes as big as swimming pools (like the bottom one pictured above).

WORLD'S FASTEST PROPELLER-DRIVEN AIRPLANE is turbo-propeller Super Constellation for the U.S. Navy (shown below). Now flying, it will be capable of speeds 100 mph faster than any propeller airplane now in service. Powered by Pratt & Whitney T-34 turbo-propeller engines, this plane promises new speed, new performance and greater economy potentials.

NEWEST TRANSPORT CONCEPT is Lockheed's C-130A turbo-prop assault transport, shown here in its dramatic first flight. Now in production at Government Aircraft Plant No. 6, operated by Lockheed's Georgia Division in Marietta, this giant plane literally jumped off the runway in one-third the distance required for today's commercial transports. This new cargo plane incorporates scores of new features for better handling of troops, materiel and equipment.

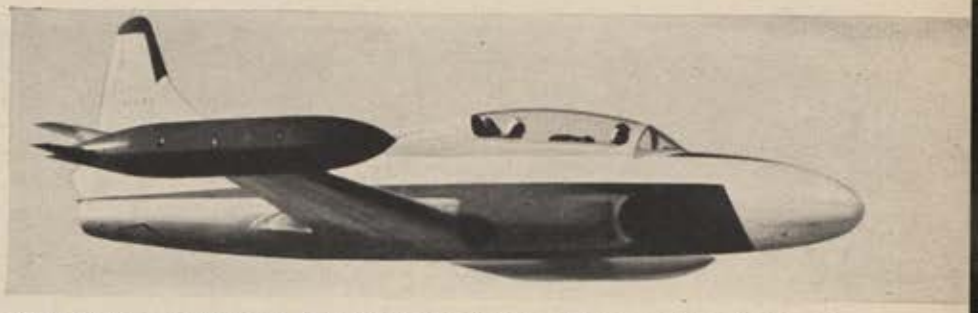
6 New Lockheeds for U.S. Protection

Powerful Team Includes Truly Amazing Jet Fighter, High-Speed Assault Transport and Vital Picket Plane

1954 has been a notable year for Lockheed, in research, development and production. Six new models in one year include: world's fastest propeller-driven transport; world's first turbo-prop assault transport; latest version of the Navy's Neptune anti-submarine patrol bomber; a new advanced jet trainer for the Navy, and a truly amazing jet fighter, the F-104 now in production, which is too secret to photograph or describe.

On these pages are shown all new models except the restricted F-104. Also photographed is the vital Super Constellation picket plane, with fantastic top and bottom radomes. The bottom radome, for example, creates between 30,000 and 60,000 pounds of drag pressure, yet to hold it securely in place only 10 bolts are needed, due to ingenious Lockheed design.

FLIES STRAIGHT UP, LANDS STRAIGHT DOWN. This is the Lockheed XFV-1 Vertical Ascender, a revolutionary new concept of aircraft developed in cooperation with the U.S. Navy. Now, every ship can have its own protective fighter umbrella, every back yard could become a landing field if needed.



NEW NAVY ADVANCED JET TRAINER. Often called the world's safest jet airplane, Lockheed's new T2V-1 advanced trainer for the U.S. Navy has so many new safety and performance features it can be used for carrier landing and takeoff and can utilize existing short fields for propeller aircraft. By training better jet pilots quicker, this trainer boosts Navy's ability to protect America. Another product of close Navy-Lockheed design teamwork.

ADVANCED GUIDED MISSILE SYSTEMS DEVELOPMENT

Eminent scientists, nuclear physicists, and engineers have joined forces at Lockheed's new Missile Systems Division in Van Nuys, California. Their mission is to solve the nation's prime defense problem, to give our armed forces *totally* reliable means of delivering our defensive and retaliatory weapons to their targets. To accomplish this vital task, Lockheed has appropriated $10,000,000 for a program of laboratory research and development.

Lockheed

AIRCRAFT CORPORATION

California Division—Burbank, California
Georgia Division—Marietta, Georgia
Missile Systems Division—Van Nuys, California
Lockheed Aircraft Service—Burbank, California
Lockheed Air Terminal—Burbank, California

LOOK TO LOCKHEED FOR LEADERSHIP

NEWEST SUB HUNTER is the Navy's latest version of the Lockheed P2V Neptune Patrol Bomber, a rugged, radar-laden flying sentinel with many secret missions. Its primary job: patrolling coastal waters against possible enemy submarines. Note new jet engines for added speed, power.

AIR MAIL

By Wire

Gentlemen: Most reluctant to make further corrections but reference to my original letter to you of August eighteenth will show that hours of successful route flying logged by British European Airways was given by me as 40,000 not 4,000 as printed in your "Air Mail" column in issue of October 1954. Should be most grateful of correction as by now this figure is nearly 50,000 flying hours with approximately 200,000 engine hours, and Rolls-Royce Dart RDA-3 engines have now been approved for 1,050 hours between overhauls.

Christopher Clarkson
US Representative
Vickers-Armstrong, Ltd.
New York, N. Y.

Every Citizen's Problem

Gentlemen: I have just read the article "American Eagles in a Bamboo Cage" in the November issue of AIR FORCE. It is a very forceful article and, needless to say, a very disturbing one. My heartfelt sympathy for these heroes and their families is strong. Their despair and frustration must be indescribable.

I am moved by this article to suggest that we do something to effect a prompt release of these men from the Chinese Communists. I am writing to my senior Senator, the Hon. Ralph Flanders, to acquaint him with our problem, and by "our problem" I mean every citizen of this country. And I would suggest that every person who reads this fine article take five minutes and write his or her Congressman. Public opinion still gets results in this country, of that I have strong confidence.

Second, I would venture to suggest a very firm stand by our diplomatic and military staffs in this matter. In the past we have seen the pitiful results from the so-called strong diplomatic notes. I believe it is necessary to prove to Communists all over the world that the lives of those fifteen flyers are as important to us as would be the lives of 50,000 American prisoners. I would suggest a blockade of the Red China coast. Many will view this as an act of aggression. However, this policy cannot be worse in the long run than continuous, humiliating appeasement. Such a blockade would accomplish two things. First, it would spotlight the plight of these men before the altar of world opinion, where it belongs. Second, it would lay bare the true intentions of the Communists—something appeasement hasn't been able to do.

I am not witless enough to believe that such strong measures will be taken. The Communists know our philosophy of never committing an aggressive, warlike act, and therefore they can hold these men forever, protected – the Communists, I mean – by our misplaced ideals of never starting something. I honestly believe that Communists the world over respect only force, and anything less is viewed as a sign of weakness.

James G. Grimes, Jr., M.D.
St. Johnsbury, Vt.

Young Fans

Gentlemen: My husband, Capt. Arcola C. Johnston, died last November 20, 1953, while serving with the Far East Command. He always enjoyed AIR FORCE Magazine very much—not to mention our two young sons' interest in it. We have

Lorren and Bradley Johnston rereading back issues of AIR FORCE.

saved all the issues we have received and the boys return to them and enjoy them over and over again. Their little sister will probably enjoy them, too, as soon as she is old enough to appreciate them and not tear the covers off.

Mrs. Lorraine M. Johnston
Portland, Ore.

Fiction Label

Gentlemen: Received your November issue a few days ago and as usual enjoyed reading it, that is, 'til I read the letter in the "Air Mail" section from Mr. Pope entitled "He Wuz Only Kiddin'." Wish to take this opportunity to thank you and Mr. Pope for setting me straight on this matter. In the past few days I have read and reread the article, and for the life of me I can find no notation whatsoever that "Lobster Tale" is fiction. So I took for granted that, like all the other articles in the magazine, it was the truth.

Now the problem for you is this: If I was taken in by this misrepresentation so were thousands of other readers. In the future I will not have the confidence in your work that I had in the past, and will check on all that you have to say on any matter. There is one thing that Mr. Pope does not give me credit for—the many years I spent in the Army Air Force and the things I saw officers do that were just as fantastic as this! In the future I would suggest that you label all the fiction tales that you are going to print.

John Warren
Philadelphia, Penna.

• *Sorry. Guess we'll have to do like the movies and say that any resemblance to actual persons, living or dead, is purely coincidental.—The Editors.*

Reenlistment Bonus

Gentlemen: The tenor of M/Sgt. Frank J. Clifford's article, "If I Was Running the Air Force," in the September issue of AIR FORCE, denotes a general misconception of the new reenlistment bonus bill which became law July 16. The premise for argument against the law becomes invalid upon a realistic and honest appraisal of the requirements and objective of the reenlistment bonus.

As indicated by the author, the new bonus scale is more attractive to the individual completing his first enlistment. It was purposely designed to be so. The services would certainly not object to paying substantial bonuses to enlisted personnel with twenty years' service. However, when considering the problem objectively, it must be realized that an unlimited budget is not available. The assets that we do have must be applied in the area where there is the greatest possibility of realizing the best results.

(Continued on page 7)

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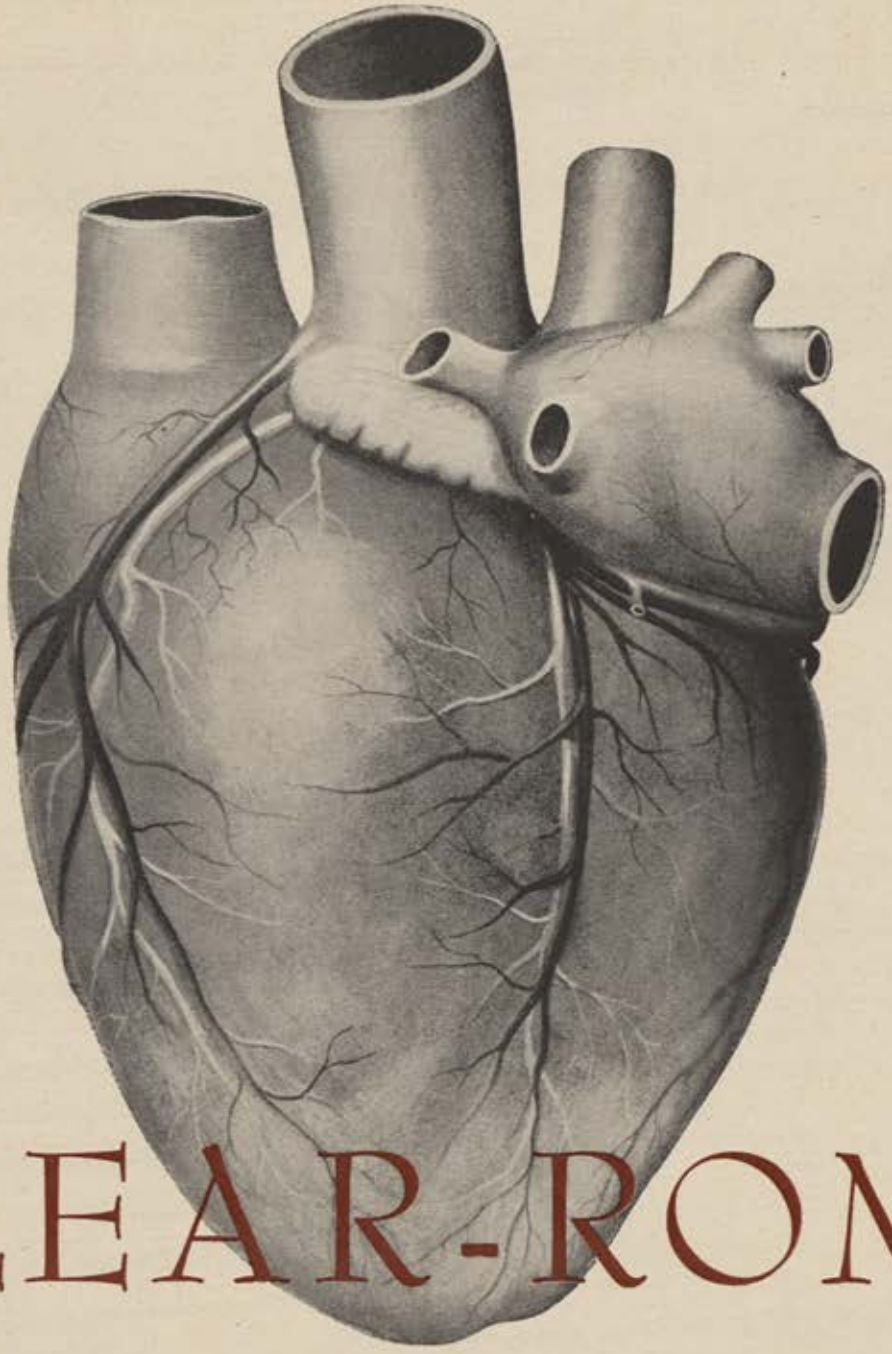

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Reenlistment rates, as computed by length of service, are lowest for airmen completing their first enlistment and progressively increase in relation to total years of service. Hence, it is only logical that the primary effort to stimulate reenlistments must be directed toward the lower rate group with a proportionately lesser effort aimed toward the higher rate groupings. The new bonus satisfies this principle.

The fundamental purpose of a bonus is to encourage airmen to *continue* in the service. It is not a supplement to basic pay. After twenty years' service, the additional retirement pay accruing as a result of further service is sufficient incentive.

The new bonus is equitable for all concerned. The amount paid for each reenlistment period is determined by the quality of the service performed, *i.e.*, the grade attained by the individual established the base pay. Practically all airmen who enlisted in the Air Force after July 17, 1950, who remain on duty for twenty years without a break in service will receive the maximum bonus of $2,000 during their career.

To encourage airmen to remain in the Air Force after acquiring twenty years' service the following policies were placed in effect: (1) airmen with twenty years or more service who have served overseas after acquiring seventeen years' service will not be selected for another overseas tour unless they volunteer, (2) airmen with over twenty years' service returning from overseas are assigned to one of three bases of their choice, providing that base has an authorization for their AFSC, and (3) airmen with over twenty-six years' service are assigned to the base of their choice regardless of vacancy.

In regard to the statement that the new bill attempts to reverse the established laws of financial and social gravity, it is believed to be more accurate to state the new law supports the established law of financial and social gravity. The relative worth to the concern, in this case the Air Force, is recognized when the reenlistee is rewarded on the basis of grade achieved as opposed to the recommendation of the author that all reenlistees receive the same bonus based solely upon length of service without regard to qualification. The Air Force believes the career man who has reached retirement eligibility can be better persuaded to remain on active duty by the offer of a choice of assignments or by increased recognition and prestige rather than by impersonal monetary considerations.

The statement that "the law is not well received" is an expression, obviously, of the author's personal reaction and opinion. Before passage of this bonus law, representatives from the Defense Department personally interviewed 605 enlisted personnel at various installations. They were first asked to indicate their present reenlistment intentions prior to an explanation of the proposed bill. Those indicating a "no" or "undecided" answer to present reenlistment intention were then asked, after the proposed bill was ex-

(Continued on following page)

plained, to answer the following questions:

(1) Do you favor the plan?

(2) Under the new plan would you be more inclined to reenlist?

(3) Will the new plan influence you sufficiently to change your mind about reenlisting?

Of the "no" and "undecided" group, eighty-eight percent indicated they favor the plan, fifty-nine percent stated they would be more inclined to reenlist, and 5.3 percent said the proposed scale would definitely cause a change of mind and they would reenlist.

Critics of this bonus system fail to realize that the maximum amount that may be received in bonuses has been increased from $1,400 to $2,000. Also, the airmen have the option of continuing to be paid a bonus under the old plan if it is to their advantage monetarily.

I recognize and appreciate the article as an enunciation of one man's opinion and, as such, it merits consideration. However, in deference to the integrity and diligence of the architects of the bill, we should exonerate them from the imputation of displaying classical naivete in its design. The contents of the bonus law was under meticulous study by the Air Force for well over a year and every possible consideration was made for the individuals affected by its measures, including the taxpayers. Since the law is applicable to all components of the Armed Forces (the Air Force was the project agency), it was subjected to detailed study, criticism, and appropriate revision by a Defense Department committee. Subsequently, it was closely scrutinized by the respective legislative committees and Congressional bodies before being forwarded for executive signature.

Col. Dean E. Hess, USAF
Office of Special Assistant
Deputy Chief of Staff, Personnel
Washington 25, D. C.

Grammar

Gentlemen: Everyone criticized ye ed for details respecting "If I Was Running the Air Force." Nitpicking, say I. Had I been assigned to choose the title my subjunctive mood would have been more classic, to wit, "If I WERE Running the Air Force." Maybe the editor quoted the author's title verbatim!

Alfred L. Wolf
Blue Bell, Penna.

• *Ain't we awful?—The Editors.*

His Reasons

Gentlemen: During some eleven and a half years of active duty with the Air Force it has generally proved to be better judgment to keep your gripes to yourself. However, a recent letter from AFA prompts me to give you some insight into my failure to renew membership in AFA.

To be as brief as posible, I watched the degeneration of the non-commissioned and commissioned officer corps until it came to pass that an officer couldn't cash a personal check any more. I watched Congress and the press smear the Air Force until a military man felt guilty and halfway ashamed to wear his uniform in view of the civilian populace. I felt Congress nibbling away at my flying pay and the so-called fringe benefits. I watched pilot schools go begging for candidates because intelligent young men could see through the flimsy promise of security and could feel the hot breath of Congress seeking to strip the last vestige of dignity from a flying career. I watched a civilian efficiency expert vilify and repudiate General Vandenberg concerning the general's findings as to how much air defense this nation needs—and I saw a President accept this civilian's opinion over the considered judgment of General Vandenberg—and I saw the general die, a broken and humiliated man. I could go on and on, but I think you have the idea.

One other thing. About the time of my release last year, there occurred a reduction in force and I observed many excellent Reserve officers being forced from the service to make room for a large crop of ROTC personnel—who didn't want to come anyway. This action hurt a lot of fine officers and gave the remaining Reserve officers a case of lasting jitters. Unfortunately, many of them had no alternate source of income and had committed themselves to houses, furniture, and automobiles.

Perhaps through AFA I got the idea that there was more organization and stability in the Reserve program. In this I was sorely disappointed—finding that the active Reserve wings in this area have no vacancies for jet instructor pilots—or any kind of pilots in my grade. They are also lacking in enthusiasm, organization, stability, and a "program."

So this old captain is up here in Arkansas eking out a living from the land, and AIR FORCE Magazine has been replaced with the *Farm Journal*. It's rough, but it's realistic and we'll make out OK if it rains.

Now what were you saying about giving my gripes your personal attention? Perhaps it would be worth your while, because there are thousands of Reserve officers whose views parallel my own.

Emmett O. Kirschbaum
Mountain Home, Ark.

Sure Is!

Gentlemen: In the interest of accurate reporting—and I am sure that you are interested—you say in your "Shooting the Breeze" column (October '54):

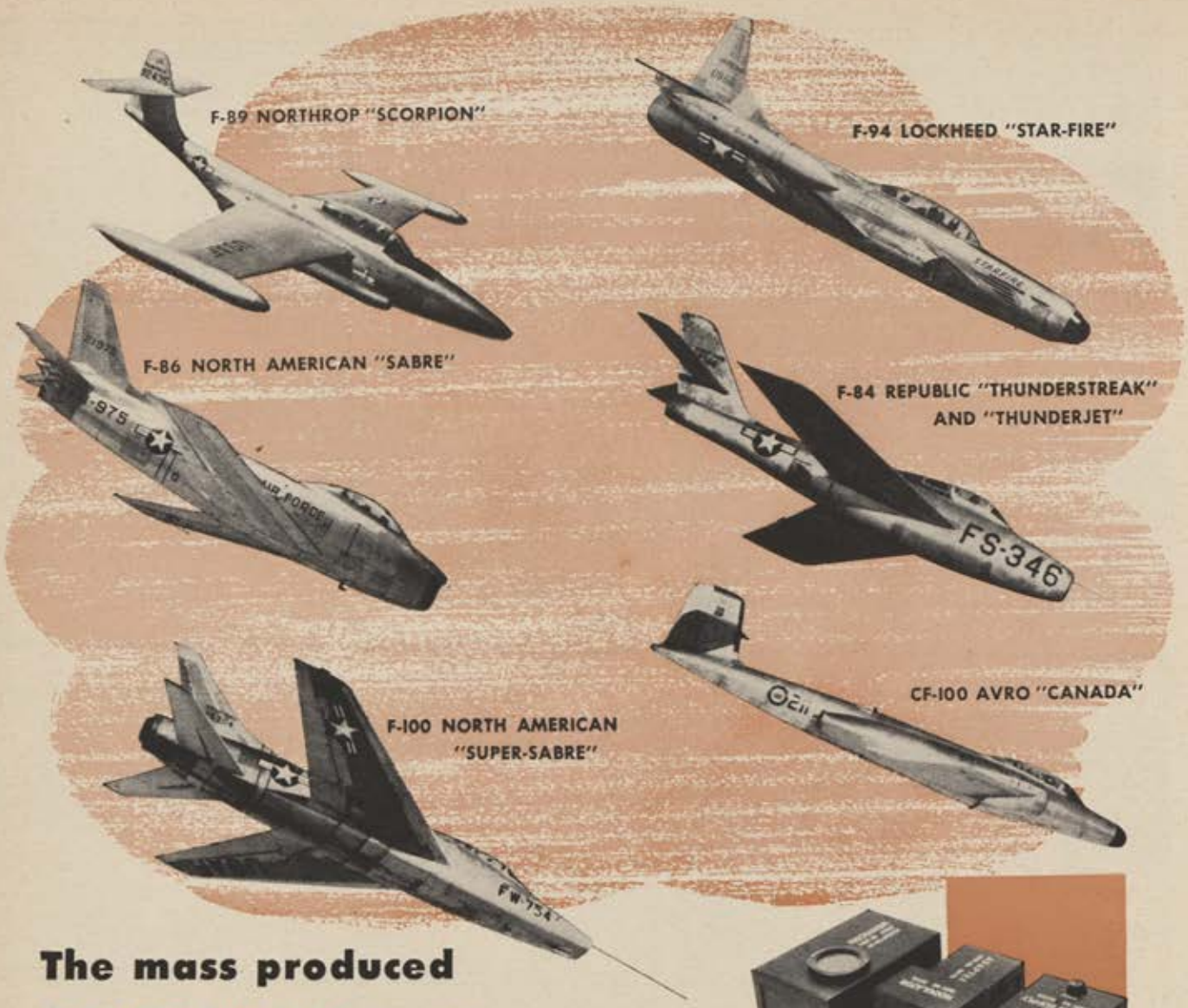
"Each, we swear, was neatly lettered exactly the same way: 'The Forty-Eight States, plus the District of Columbia, Puerto Rico and Hawaii.'"

Having one of these souvenir items before my very eyes, I am prepared to swear that it reads:

"48 States, District of Columbia, Hawaii, Puerto Rico."

After all, people quibble with *me* about the bolt position on a tommy gun—isn't it nice to get a complaint that doesn't mean a doggone thing?

William G. Key
Fairchild Engine & Airplane Corp.
Hagerstown, Md.



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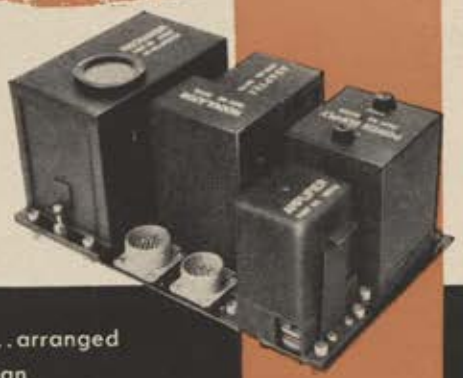

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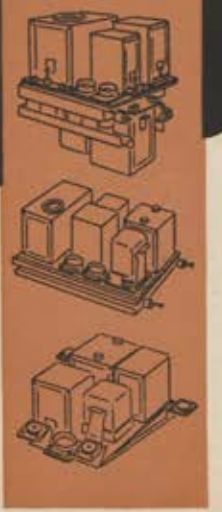

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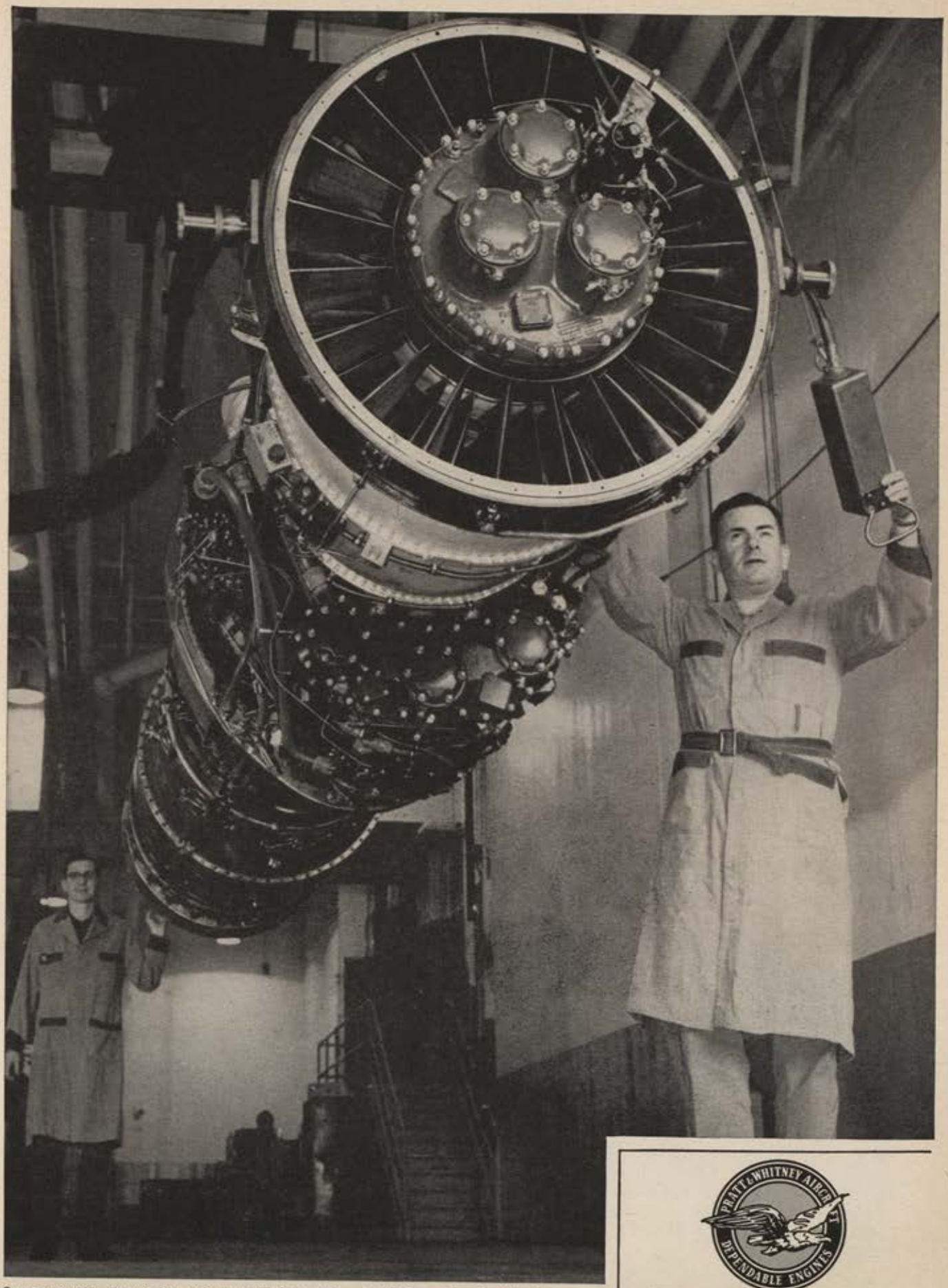

One 10,000-lb. thrust class Pratt & Whitney Aircraft J-57, equipped with afterburner for combat ratings of tremendous additional power, is the heart of the Super Sabre's supersonic performance.

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Sharply swept-back wings and tail surfaces mark the North American F-100 Super Sabre. Built around one Pratt & Whitney Aircraft J-57 turbojet and afterburner, the Super Sabre is the Air Force's first operational supersonic jet fighter.

Super Sabre Has Supersonic Performance

Sustained level flight above Mach 1 is a vital attribute of the latest U. S. fighting aircraft, and North American's F-100 Super Sabre has it.

Such hard-won capability—possessed by only a few production aircraft—is the product of highly advanced airframe design wedded to a flexible, efficient turbojet engine of enormous power.

The sleek Super Sabre is now being built in quantity for the U. S. Air Force. Equipped with the Pratt & Whitney Aircraft J-57 turbojet and afterburner, it has already set the world's speed record of 755.149 miles per hour—an enviable beginning for a fighter on which so much depends.

In the Super Sabre, as well as in other supersonic fighters and high-speed jet bombers, performance of the Pratt & Whitney Aircraft J-57 turbojet is fully justifying the long years and intensive effort required for its development and production.

Pratt & Whitney Aircraft

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In Canada: Canadian Pratt & Whitney Aircraft Co., Ltd.

wing tips

By Wilfred Owen

Coach travel on the easy payment plan now makes it possible to fly from New York to Los Angeles and return for $7.30 down and monthly payments of $3.96 for twenty months.

° ° °

Or you can take a two-week, all-inclusive tour of Europe with hotel, meals, sightseeing, and other incidentals taken care of for $66 down and $33.40 per month.

° ° °

The advantages of nuclear power for aircraft are indicated by the fact that fission of a single pound of uranium will produce as much heat as 2,000,000 pounds of gasoline.

° ° °

Passenger fatality rates for 1953 indicate that riding the airlines was five times safer than riding in automobiles.

° ° °

Last year forty-two pilots flew over 2,600 hours on rain-making projects.

° ° °

The aircraft industry has displaced the automobile industry as the number one manufacturing employer in the US.

° ° °

Sixty-six prize hens traveling by air from Portland, Ore., to

East Coast points produced four dozen eggs during a two-hour layover at New York International Airport.

° ° °

An Air Force wife—displeased with the dry cleaning service in Morocco—sent her frocks home to Savannah, Ga., on a B-47 Stratojet going that way. The dresses got back to Morocco in seventy-two hours, well traveled but clean.

° ° °

The airline distance between New York and San Francisco has shrunk from 2,600 miles to 2,260. The shrinkage is accounted for by an official shift from land miles to nautical miles in computing civil aviation distances. The nautical mile is 800 feet longer than the statute or land mile.

° ° °

British Overseas Airways pilots have been awarded a one dollar hourly wage increase on all animal-carrying flights. The extra pay is to compensate for the extra aroma.

° ° °

A non-scheduled airline flying cattle from Seattle to Anchorage goes all-out to assure the comfort of its passengers. On a recent trip the airline milked the cows and delivered a calf.

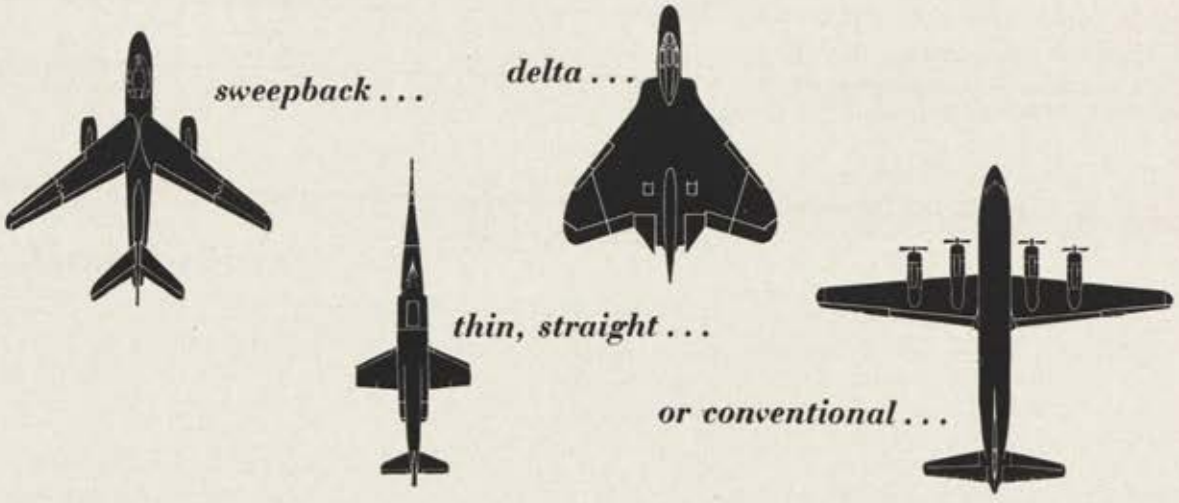
° ° °

The tail of a heavy bomber is four stories high.

° ° °

The US aircraft industry exports civil airplanes to 103 countries. Best customer is the Netherlands, with France a close second. Biggest helicopter buyer is Canada, while Argentina has purchased the largest number of utility aircraft.

Name any type of modern wing



it has been built and flown by DOUGLAS

What is the ideal wing planform? Obviously, there can be no all-inclusive answer, for wings—like power plant or size—are designed to meet certain specific tactical requirements.

Thus a sweptback modified delta lets the Douglas F4D Skyray, first carrier plane to hold the official world speed record, come in *slow* for carrier landings. The broad conventional wings of a Douglas C-118A Liftmaster contribute to the range and lift a cargo carrier needs—while the Navy's carrier-based A3D Skywarrior bomber flies at near-sonic speed on sleek, tapering, sweptback wings. Again, the experimental stiletto-shaped Douglas X-3—though bigger than a DC-3 transport—has a wingspan smaller than a DC-3's tail.

Correct design of airframes to meet intended use contributes to Douglas aviation leadership. Building planes to fly farther and faster with a bigger payload is a basic Douglas concept.

Depend on *DOUGLAS* **First in Aviation**

Cold Frontier

Up where summers are cold and winters colder, where days are long and nights seem longer, U. S. Air Force men in Northrop Scorpion F-89 interceptors stand all-weather guard along our northern frontier. These reliable bomber destroyers fly through icy fog, storm and blackness to give around-the-clock protection to the heartland of America. Northrop Scorpions have speed to intercept invading aircraft, the endurance and firepower to follow, harass, and destroy them long before they can reach their intended target. F-89's are one of many contributions to national defense made by the experienced engineering and production complex of Northrop Aircraft, Inc., America's first company in the vital design, development and production of all-weather and pilotless aircraft.

NORTHROP

NORTHROP AIRCRAFT, INC. • HAWTHORNE, CALIFORNIA

Pioneer Builders of All Weather and Pilotless Aircraft

AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

Volume 37, No. 12 • December 1954

FEATURES

DEPARTMENTS

AIR FORCE STAFF

AFA CONVENTION SET

SAN FRANCISCO IN '55

AUGUST 10-11-12-13-14

IN August 1955, the move for AFA is west, west to the Golden Gate, to San Francisco, site of the Air Force Association's ninth annual national Convention and Reunion. By plane, train, bus and cable car, AFA members and friends will travel to the top of Nob Hill, to the Fairmont and Mark Hopkins Hotels, to discuss vital airpower issues, visit with old friends, and partake of the festivities which go to make up the AFA Convention. It's a wonderful city—plan now to be on hand. Listed below are San Francisco hotels which have set aside rooms for AFA's '55 Convention. Reservation requests must be forwarded to the AFA HOUSING BUREAU in San Francisco, not to AFA Headquarters or to the hotel. First, second and third choices must be listed. A $10 deposit per room must accompany each request—deposit will be credited to your account. Requests for accommodations at the Fairmont will be confirmed on April 1, 1955. This is to assure maximum housing of AFA leaders, national and local, at the headquarters hotel. Requests at other hotels will be confirmed immediately upon receipt.

AFA HOTELS AND ROOM RATES

HOTEL	SINGLE	DOUBLE	TWIN
Fairmont	$10.50-16.00	$13.50-19.00	$13.50-19.00
Mark Hopkins	10.00-14.00	13.00-20.00	13.00-20.00
Huntington			8.00-15.00
Palace	8.00-13.00	10.00-15.00	12.00-17.00
Sir Francis Drake	9.50-13.50	11.50-15.50	13.00-19.50
St. Francis	8.00-18.00	10.00-15.00	13.00-20.00
Chancellor	5.50	7.50	8.50
Plaza	5.00- 7.00	7.00- 8.50	8.00-10.00
Stewart	4.50- 7.00	6.00- 8.00	7.00-12.00
Whitcomb	5.00- 9.00	7.00-12.00	8.00-12.00

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AIRPOWER IN THE NEWS

■ American **supremacy in science and technology** is seriously threatened by a **rapid build-up** in the number of engineers in **Russia,** according to **Dr. John T. Rettaliata,** president of the Illinois Institute of Technology. Speaking to a group of iron and steel industry executives, Dr. Rettaliata said that while the US has some **500,000 engineers** and **200,000 scientists**—compared to **Russia's 400,000** and **150,000**—the Soviet Union has been expanding training in these fields more rapidly than we have. Between 1951 and 1954 the number of Russian engineering graduates totaled 154,000 compared with our 116,000, an average of 38,500 a year against our 29,000. Dr. Rettaliata estimated that the **US needs 30,000 new engineers annually** for replacements and new jobs. In a further comparison, he said that the Russian engineering student gets more intensive training in his particular technical field than his American counterpart. "In Russia," he said, "the program is of five and one-half years' duration, and most of the program is devoted to narrow specialization at the expense of the humanities."

■ On November 1, **Atterbury AFB, Ind.,** was **renamed Bakalar AFB** in honor of **Lt. John E. Bakalar,** World War II fighter pilot, who was killed when he was shot down over Europe on September 1, 1944. Lieutenant Bakalar, whose home was in Hammond, Ind., received the Distinguished Service Cross posthumously for **extraordinary heroism** over France in August 1944, when he destroyed three enemy aircraft.

■ The difficulties in making a **trip to the moon** during the next fifteen or twenty years are financial rather than technical, according to **Cmdr. Robert C. Truax** of the **Office of Naval Research** in a speech to the Baltimore Chapter of the **American Rocket Society.** He said that in eight or nine years and for a cost of $1 billion the US could have a **"space station"** 500 miles up from which flights could be launched into space. He said that it could be done if the public were interested enough to finance the project at the rate of $100 million a year.

■ On the day that Wilfred Owen's story on the **Civil Defense dilemma** (AIR FORCE, November '54) was going to press, Erie, Penna., held a real-life evacuation test. Civil Defense officials had urged that everyone—even the ill and the aged—take part in the exercise. But they were disappointed when only 15,000 to 20,000 persons (many were teenagers) participated, out of a total population of 170,000. But officials did praise the 2,000 policemen and volunteer civil defense workers for doing their jobs well.

AF's first Negro General—Brig. Gen. Benjamin O. Davis, Jr. He is Director of Operations and Training of FEAF.

■ After more than a decade of flying in Air Force combat units, the last combat **B-29 Boeing Superfortress** bombers left the Pacific area on November 1, headed for the States and retirement. In a simple *aloha* ceremony at Hickam AFB, Oahu, T.H., Governor Sam King placed a lei around the nose of one Superfort in appreciation of the hundreds of 29s that fought in World War II and the Korean war. The only B-29s remaining in the Pacific are will be in support roles—weather recon and air rescue.

■ AFA is well represented on the twenty-two member committee named to choose the 1954 winner of the **Collier Trophy.**

(Continued on page 19)

Wide World photo

Bernt Balchen, left, and Brig. Gen. Frank P. Lahm talk to highest flyer, Maj. Arthur Murray.

David S. Smith—recently named as new Assistant Secretary of the AF, Manpower and Personnel.

If – and when – the enemy moves against Western Europe, opening tactics will probably be a sneak attack at night in fearful weather. The payload of atomic or hydrogen bombs can be delivered with the minimum of air power. No more one thousand bomber raids. It will be a rapier attack not a bludgeon, hence the specifications for the far-famed Gloster Javelin, Western Europe's primary defence in the air against atomic attack. There are a number of night fighters, but none of them has the defensive strength of the Javelin. It is a big aircraft and a powerful one, equipped with twin Sapphires and a two-man crew, a pilot and a radar man, because we in Western Europe believe the radar job is equally important to the flying of this immensely complicated instrument.

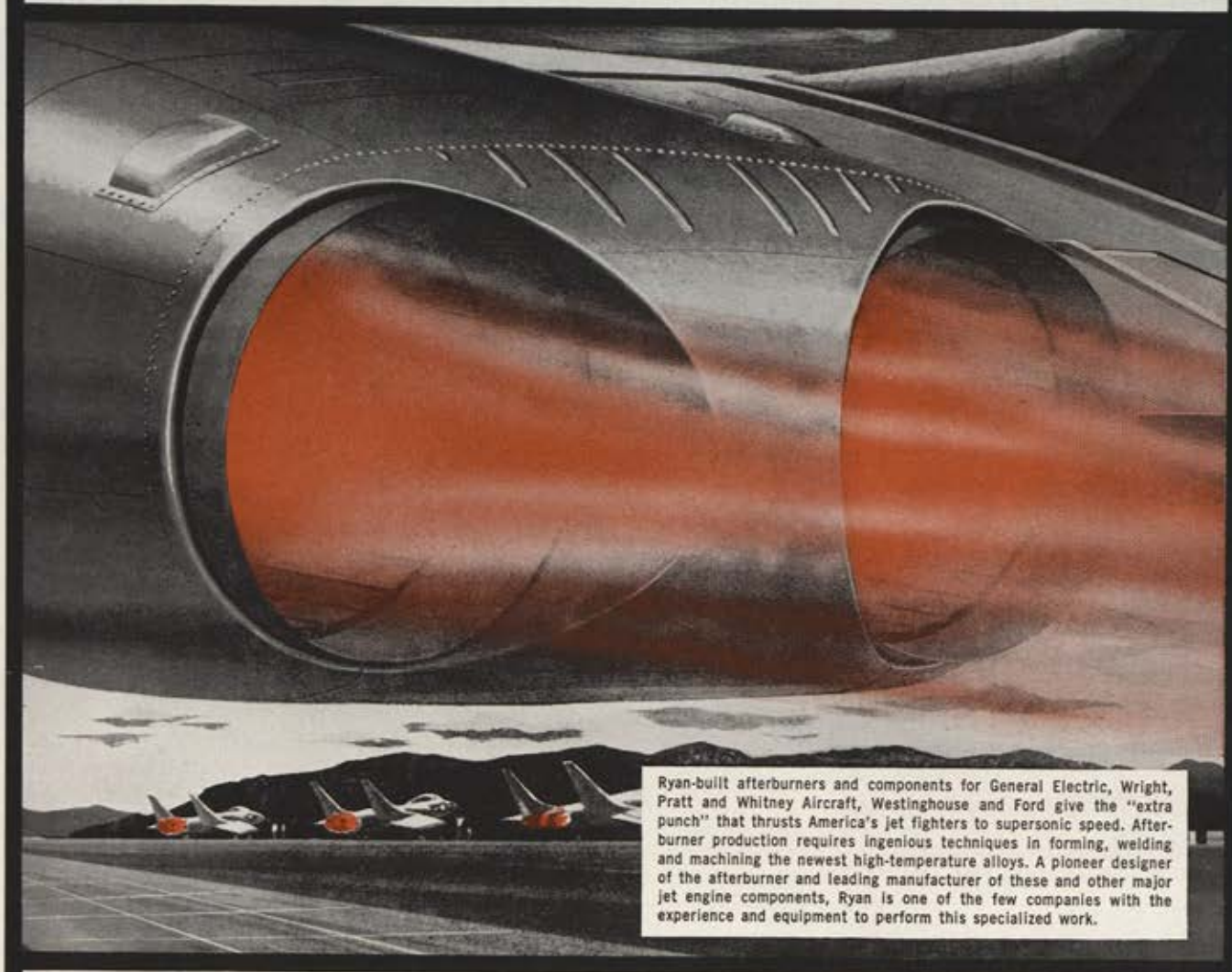
When radar signals that the enemy is en route across the Rhine, the Javelin can be at combat height, fully loaded, ready to fight in any weather, fair or foul, *in a matter of minutes* – and it can be refuelled and re-armed in minutes. No other all-weather fighter made anywhere has such range, speed, fire power or radar. No wonder then that airmen say the Javelin is the most important aircraft in Europe. It is now in super priority production for the Royal Air Force, by Gloster, makers of the world's first successful jet aircraft, and member of the remarkable Hawker Siddeley Group.

DAY AND NIGHT ALL WEATHER FIGHTER

Gloster Javelin

GLOSTER AIRCRAFT CO. LTD., GLOUCESTER, ENGLAND. *Member of the Hawker Siddeley Group | Pioneer . . and World Leader in Aviation*

RYAN AFTERBURNERS BLAST U.S. JETS AHEAD



Ryan-built afterburners and components for General Electric, Wright, Pratt and Whitney Aircraft, Westinghouse and Ford give the "extra punch" that thrusts America's jet fighters to supersonic speed. Afterburner production requires ingenious techniques in forming, welding and machining the newest high-temperature alloys. A pioneer designer of the afterburner and leading manufacturer of these and other major jet engine components, Ryan is one of the few companies with the experience and equipment to perform this specialized work.

Another Example of How

RYAN BUILDS BETTER

Because Ryan has tackled and licked the difficult, challenging jobs of the jet age, leading engine makers not only depend on Ryan for production of current models but also for new product development and initial manufacture of complex components for power plants of entirely new design. The only jet parts maker that also designs, builds and flies jet aircraft, Ryan has proven its ability to build to jewel-like precision the "hot parts" and major components for jet, piston, rocket and ramjet engines.

And in other fields, too – aircraft design, airborne electronics, drone missiles, basic research and development – Ryan has demonstrated the know-how which comes only from a background of 32 years in building planes and aeronautical products. Ryan's deserved reputation is built on producing only the best, delivering on time, and at minimum cost.

AIRCRAFT & COMPONENTS	AIRBORNE ELECTRONICS EQUIPMENT	RYAN AERONAUTICAL COMPANY SAN DIEGO 12, CALIFORNIA	AFTERBURNERS & JET COMPONENTS	PILOTLESS JET AIRCRAFT
METALLURGICAL ENGINEERING	WEAPONS SYSTEMS		ROCKET MOTORS & RAM JETS	AIRCRAFT EXHAUST & DUCTING SYSTEMS

The trophy, administered by the **National Aeronautic Association,** is awarded annually for "the year's outstanding achievement in aviation." AFA's president, **John R. Alison** has been named as chairman, and four of AFA's national directors—**Gen. James H. Doolittle, C. R. Smith, Thomas G. Lanphier, Jr.,** and **Gen. Carl A. Spaatz**—are members of the Collier Trophy Committee. Presentation of the trophy will take place on December 17 at the **Aero Club of Washington's annual Wright Day Dinner.** Other members are: **Jacqueline Cochran** (also an AFA member), **Adm. Richard E. Byrd, Frederick C. Crawford, Gen. Nathan F. Twining, Robert Ramspeck, William R. Enyart, Charles H. Cartrell, Rep. Carl Hinshaw (R-Calif.), Dr. Jerome Hunsaker, Earl D. Johnson, S. Paul Johnston, John F. Victory, Fred B. Lee, DeWitt C. Ramsey, Vice Adm. Ralph O. Ofstie, LeRoy Whitman,** and **Joseph K. McLaughlin.** Executive secretary of NAA **C. S. Logsdon** is secretary to the committee.

■ With the Democrats in control of the next Congress as a result of the **recent election,** two good friends of airpower will head the **Armed Services Committees. Sen. Richard B. Russell,** Democrat of Georgia, will be new Chairman of the Senate Armed Services Committee and **Rep. Carl Vinson,** also of Georgia, is new Chairman for the House Committee. **Sen. Carl Hayden** of Arizona will become new Chairman of the Senate Appropriations Committee while **Rep. Clarence Cannon** of Missouri will head that Committee in the House.

■ Recent weeks saw celebrations of several **milestones or anniversaries.** One of the AFs major training organizations, the **Technical Training Air Force,** graduated its one-millionth student after its first three years of operation. Established a year after the Korean war started, TTAF is charged with the responsibility of conducting all non-flying training for the Air Force.

The **USAF Extension Course Institute** enrolled its 100,000th student—**M/Sgt. Gilbert B. Gavitt,** 4032d USAF Hospital, Carswell AFB, Tex. (see cut). The sergeant applied for enrollment in the Officer Candidate Correspondence Course—the most popular of all ECI courses.

The **Fifteenth Air Force** celebrated its **eleventh anniversary** on November 1. Its past commanders include two Medal of Honor winners (**James H. Doolittle,** Lt. Gen., AF Ret., and ConAC's **Lt. Gen. Leon W. Johnson**) and the present AF Chief of Staff, **Gen. Nathan F. Twining.** Others who have commanded the 15th since it was activated in 1943 to provide aerial support for the drive into Europe from the Mediterranean are: **Brig. Gen. James A. Mollison, Maj. Gen. Charles F. Born, Lt. Gen. Emmett O'Donnell, Jr.,** and **Maj. Gen. Walter C. Sweeney, Jr.**

■ A CAA certificate of **air-worthiness** was given to an amateur balloonist in November for a contraption consisting of **eighty hydrogen-filled balloons and a plywood seat.** Its owner, **Garrett Cashman,** drifted forty-five miles from Inlet to Riparius, N. Y., in seven hours on November 7 to prove the air-worthiness of the machine to a CAA examiner. He was armed with a slingshot to pop his ballons and a knife to cut them away so he could touch down as the CAA had requested. The rig was given the name of "N60097" along with a warning that it not be used "for the carriage of passengers or cargo for hire." (For more about ballooning, see page 70.)

■ STAFF CHANGES . . . **Maj. Gen. Chester C. McCarty** has been released as commander of the 315th Air Division, FEAF, to become Commander of TAC's 18th AF, at Donaldson AFB, Greenville, S. C. (see "Ready Room," page 67) . . . He replaces **Maj. Gen. Robert W. Douglass, Jr.,** who goes to a Pentagon post . . . **Maj. Gen. Robert M. Webster,** senior AF delegate on the US delegation to the Inter-American Defense Board, retired on October 31 . . . **Brig. Gen. Alfred R. Maxwell** was recently assigned to the 1072d Medical Service Squadron at Walter Reed Hospital in Washington, D. C. He had been assigned to Hq. USAF on the staff of the Assistant Secretary of Defense for Research and Development . . . New deputy director for Maintenance and Engineering at Wright-Patterson AFB, Ohio, is **Maj. Gen. Merrill D. Burnside.** He was Deputy for Materiel for FEAF . . . Commander of TTAF, **Maj. Gen. Eugene L. Eubank** is scheduled to retire on December 31, **Maj. Gen. Carl A. Brandt,** director of AMC's engineering section at Wright-Patterson AFB, will replace him as head of TTAF . . . **Brig. Gen. John M. Breit** has been released from the Hq. 1005th Inspector General Group, Hq. Command, USAF, and assigned as Deputy, the Air Provost Marshal, USAF . . . **Brig. Gen. Donald L. Hardy** was recently assigned as Chief of the USAF section of the Military Assistance Advisory Group in Tokyo, Japan.

Left: Secretary Talbott reenlists the AF's oldest airman, M/Sgt. Horst W. Tittel, 70. He has served 46 yrs.

Center: Early Birds monument on Governor's Island, N. Y. will be dedicated December 17 to air pioneers.

Right: M/Sgt. Gilbert B. Gavitt, 100,000th ECI student, receives texts from Lt. Gen. Laurence S. Kuter.

■ PROMOTIONS . . . **To Major General:** Matthew K. Deichelmann; Merrill D. Burnside; Daniel F. Callahan; William T. Hefley; Jack W. Wood; Harold H. Bassett; Marshall S. Roth; George E. Price; Stuart P. Wright; Frederick J. Dau; Samuel R. Harris; John T. Sprague, Burton M. Hovey; Frank A. Bogart; Royden E. Beebe, Jr; John B. Ackerman; William H. Powell, Jr.; Albert M. Kuhfeld; Kenneth P. Bergquist; James C. Selser, Jr.

To Brigadier General: John C. B. Elliott; Hoyt L. Prindle; Loyal R. Easton; Emmett F. Yost; Hollingsworth F. Gregory; Tom W. Scott; Harold L. Smith; Wendell W. Bowman; Milton F. Summerfelt; Charles H. Pottenger; Clinton W. Davies; John M. Breit; Richard T. King, Jr.; Daniel E. Hooks; Moody R. Tidwell, Jr.; Donald D. Flickinger; Benjamin O. Davis, Jr.; Charles B. Root; Victor R. Haugen; Sam W. Agee; Edwin B. Broadhurst; Kenneth O. Sanborn; Don R. Ostrander; Fred M. Dean; Walter E. Arnold; Arthur J. Pierce; Marcus F. Cooper; Cecil H. Childre; Henry R. Sullivan, Jr., William E. Eubank, Jr.; Beverly H. Warren; James F. Whisenand.—END

How Many Incidents Make a War?

Simple addition won't give the answer; the problem is too complex for bargain-basement solutions

LAST month the Soviet Union celebrated the thirty-seventh anniversary of the Bolshevist revolution. In Moscow the occasion was marked by a huge banquet for foreign diplomats in the Kremlin. Seven thousand miles away, near the northern tip of Japan, Red pilots celebrated in their own fashion—by shooting down an American Air Force RB-29 which was on a photographic reconnaissance mission over the Japanese island of Hokkaido. The aircraft was unescorted and did not return the Soviet fire. The eleven crew members successfully abandoned ship, but one was drowned when he became entangled in his parachute lines after landing in the sea.

Thus, the number of Communist attacks on American aircraft has mounted to fifteen, with nine planes and fifty-one American lives the toll.

The facts in the major cases since April 12, 1950, as reported in a communication from Ben. H. Brown, Acting Assistant Secretary of State, to Senate Majority Leader William F. Knowland (R.-Calif.) and published in the *Congressional Record*, are as follows:

1. April 18, 1950. A Navy Privateer with ten on board fired on by Soviet fighters over the Baltic. Our plane and crew of ten have not been heard from since.

2. November 6, 1951. A Navy P2V under UN command with crew of ten shot down over international waters of the Sea of Japan.

3. November 1951. An Air Force C-47 with a crew of four lost their way enroute from a German base to Belgrade. Red fighters forced it down in Hungary. The United States paid $123,605.17 for the release of the men.

4. October 7, 1952. Soviet fighters shot down a B-29, with a crew of eight, over Hokkaido.

5. March 1953. Czechoslovakia-based MIGs shot down an Air Force F-84 in Germany.

6. March 15, 1953. Soviet fighters attacked a B-50 over international waters near Kamchatka, Siberia, without causing serious damage or injury to the crew.

7. July 29, 1953. Soviet fighters shot down a RB-50 with its crew of seventeen over international waters of the Sea of Japan.

8. September 4, 1954. Soviet MIGs shot down a Navy P2V over international waters of the Sea of Japan. One of ten crew members was lost when the plane ditched.

9. November 7, 1954. The RB-29 referred to above.

At this writing the most recent incident has provoked the usual exchange of diplomatic notes between this country and the Soviet Union. And, as usual, the two versions of the incident are almost diametrically opposed in details. The US note said the Russians did all the shooting and stressed that the scene was over Japanese territory. The Red reply said the RB-29 was over Soviet territory, that the Russian fighters ordered it to leave, whereupon the American plane allegedly opened fire.

In a subsequent press conference, President Dwight D. Eisenhower pointed out that the sovereignty of the territory in question is actually still in dispute and that the line has never been agreed upon beween the US and the Soviet Union. The President also pointed out that the Russian attitude seemed more conciliatory than usual and that, because of the clouded boundary line, the issue was not a clear-cut one.

A second diplomatic note from our State Department seemed to pursue the conciliatory theme, with the evident hope of finding out whether the Soviets would seriously like to avoid such incidents in the future.

Nevertheless, and regardless of the outcome of the diplomatic exchange, there would seem to be some clear-cut conclusions which must be drawn from these incidents.

First of all, the American public must accept the fact that our national policy currently does not consider such incidents as grounds for active retaliatory measures. Rather, these attacks are considered as part of the cost of doing business in an indefinite period of international tension. There are those who disagree with this viewpoint, but we would be less than realistic if we failed to acknowledge it.

On the other hand, our fighting men cannot be placed in the position of running such risks with shackled hands. They must have the privilege of fighting back in self-defense and in defense of our national interests. In all fairness, it must be admitted that our people do have orders to fire back if attacked. The commander of the RB-29 has been quoted as saying he did not exercise this right because he thought he could finish his mission.

It would seem also, as the President pointed out, that the risks of flying over touchy territory should be further acknowledged by assigning fighter escort when indicated. This point of view is borne out by the fact that an escorted RB-29 later completed the destroyed aircraft's mission.

As long as the territorial aspects involved are not clear, we must maintain our national right to continue these reconnaissance flights—and must continue them without losing American men and American aircraft.

Such considerations are pertinent to day-by-day operations. Over the long haul we cannot permit the Soviets to continually maintain the initiative in these matters.

Incidents like that of last month can only increase existing tensions. Without realizing it, we may reach the point referred to in the current Air Force Association Statement of Policy, where "the line of aggression must be drawn and the issue joined."—END

THE U. S. NAVY BUREAU OF AERONAUTICS, AND INDUSTRY, COMBINE TO ACHIEVE . . .

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The time and material savings for this one JATO part are illustrated by the "before" (above) and "after" (left) photographs.

The U. S. Navy Bureau of Aeronautics has achieved impressive savings for the government and assured availability of rocket powerplants during emergencies by conducting at Aerojet-General a production engineering program resulting in reduced cost, elimination of strategic materials and facilities, and simplification of manufacturing processes. This program, directed primarily toward the new 15KS-1000 smokeless JATO, has been a significant part of Aerojet-General's effort to maintain high standards of quality and reliability while, at the same time, reducing costs and greatly expanding its production capacity to meet anticipated Department of Defense requirements.

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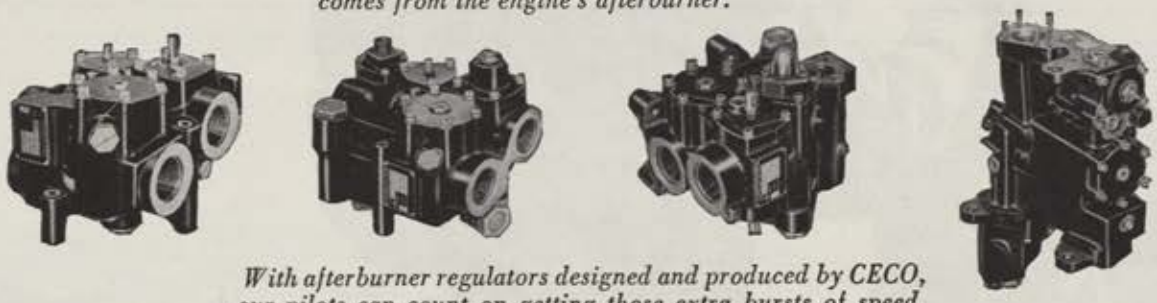

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Enlist to fly in the U. S. Air Force

HR 5337, making it Public Law 325, 83d Congress. Thus, a far-off dream of the 1920s became a reality, and a military school to train career officers for the air age was established.

The next problem was where to put it.

A Site Selection Committee appointed by the Secretary of the Air Force had travelled more than 18,000 miles and inspected sixty-seven places in twenty-seven states. Unable to agree on a final choice, they recommended three sites to Secretary Talbott. On June 24, Mr. Talbott picked one of these—a site eight miles north of Colorado Springs, Colo.—as the permanent home of the Academy.

The nearly 20,000 acres of ranchland into which the school will sink its roots lie in the shadow of Pike's Peak in El Paso County. For years, the spot chosen has been a favorite resort area, combining breathtaking scenery with cool summers and moderate winters.

Secretary Talbott hopes that ground will be broken for the permanent site by next March or April. In the meantime, workmen are swarming over the temporary facilities at Lowry AFB, to meet the deadline for the first class next July. The first two classes will begin at the Lowry school, but the AF hopes to be able to move the two classes, and enroll the third at the permanent location, by the summer of 1957.

The new school represents a long step toward solving a problem that has plagued the Air Force ever since it became a separate service—the need for a hard core of officers trained specifically for lifetime careers in the air arm, rather than in the Army or Navy. The Air Force will still need schools like the Air University for graduate training of experienced officers, but the Academy fills a specific void.

The challenging job of designing a national showplace on a par with West Point and Annapolis, and doing it on a timetable figured in months instead of years, goes to the architectural firm of Skidmore, Owings and Merrill. Associated with them are the engineering firms of Syska and Hennessy, and Moran, Proctor, Meuser and Rutledge of New York, and Roberts and Co. of Atlanta, Ga. Three well known architects—Wallace K. Harrison of New York, Eero Saarinen of Detroit, and Welton Becket of Los Angeles—will act as consulting architects and advise Secretary Talbott with respect to plans and construction.

The architects are closemouthed as to the style they prefer and they are studying materials available locally before presenting a plan. But there is much speculation. Considering the location and mission of the school, it's a good bet that the architecture will be modern, but not extremely so. No one will know for sure for several months.

The choice of Lt. Gen. Hubert R. Harmon as first Superintendent raised few eyebrows. A West Point classmate (1915) of President Eisenhower, General Harmon has been immersed in Academy matters since 1949. His job as Special Assistant for Air Academy matters since December 1949 involved him in all the phases of planning, from curriculum to site selection.

Naturally much of the initial guidance has been based on the two existing service schools. The same laws that pertain to West Point were used as the basis for establishing the Air Force Academy. The course of instruction will be the same length—four years, leading to a baccalaureate degree.

General Harmon will have two principal assistants—a Dean of Faculty, in charge of academic instruction, and a Commandant of Cadets in charge of the student body and the Airmanship Training program.

Brig. Gen. Don Z. Zimmerman has been named Dean of Faculty. A 1929 graduate of the Military Academy, he served in the Pacific with the Fifth Amphibious Force and the Strategic Air Forces during World War II. He had been Deputy for Intelligence for the Far East Air Forces before his assignment to the Academy.

Col. Robert M. Stillman will become Commandant of Cadets. He was shot down and spent almost two years as a prisoner of the Nazis during World War II. He is a 1935 graduate of West Point. He was Assistant Director of Military Personnel at Hq., USAF, before accepting the Academy post.

The AF cadet will be paid like his contemporary at West Point—$81.12 per month. In addition he will get one ration, about the cash cost of his meals. Out of this, he must pay for his meals, uniforms, textbooks and other items. And he will get quarters and medical care.

His uniform will probably be a regular AF officer's uniform—with appropriate markings and insignia. This system is used at Annapolis where the cadet can buy new shoulderboards and continue to wear his uniform after he gets his bars. The snappy uniform of the West Point cadet is about as useful as a cutaway coat on a honeymoon once he has been commissioned.

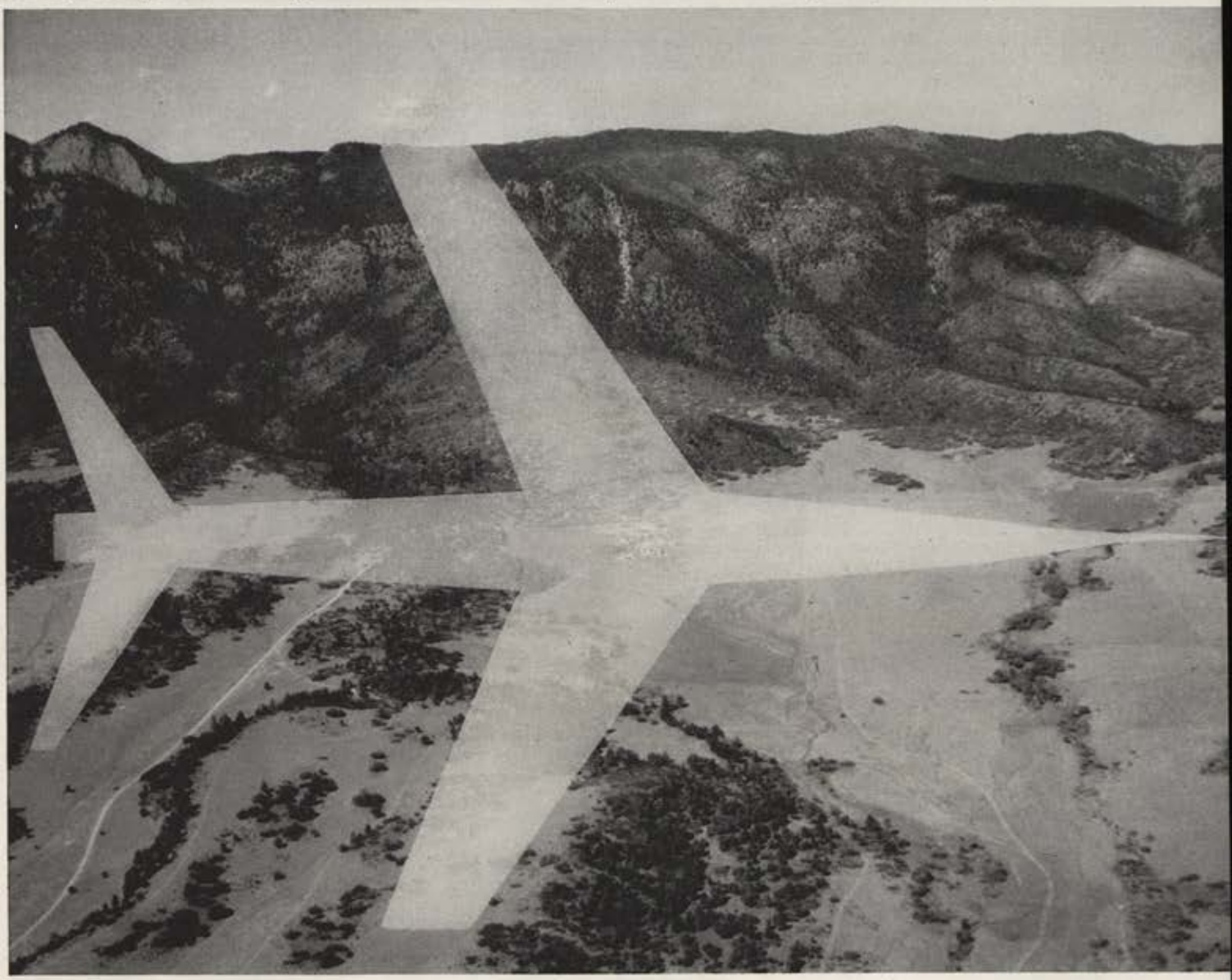
General Harmon says that the school won't spend as much time on foot-soldier drills as does West Point, but that all students will get the rudiments of infantry training.

A comparison of the curriculum with that of West Point indicates that the Colorado school will put more emphasis on the humanities. The AF

(Continued on page 35)

Some of the buidings at Lowry AFB, near Denver, Colo., where the first Air Force Cadets will begin their studies.

The sign of airpower over the age-old Rockies will soon be a fit symbol for the Academy's site, shown in part below.



Personnel—admitted that he had come into the Pentagon believing that graduates of civilian institutions made better officers. He said he still felt that way after he had studied the Stearns Report. Then, Dr. Hannah explained his revised position. He said, "My subsequent experiences in close association with large numbers of graduates of West Point and Annapolis and visits to the two Academies have led me to a complete change of viewpoint." He urged the establishment of an Air Force Academy as being "necessary from the standpoint of national defense, and wholly desirable from an educational point of view."

Congress agreed and on April 1, 1954, President Eisenhower signed

(Continued on following page)

The US Naval Academy at Annapolis, Md.

The US Military Academy at West Point, N. Y.

After signing Academy legislation, President Eisenhower shakes hand of Secretary Talbott.

School for air officers prepares for first students

That New AF Academy

From a fledgling eagles' nest in the shadows of the mighty Rockies will come the Air Force leaders of tomorrow

By Lee Klein

Lt. Gen. Hubert R. Harmon

Brig. Gen. Don Z. Zimmerman

Col. Robert M. Stillman

Lt. Col. Robert V. Whitlow

NEXT July, 300 select young men will begin their studies as the historic first class of the United States Air Force Academy, not in hallowed halls of ivy but in the spartan setting of busy Lowry Air Force Base, Colo., the Academy's temporary home. But if all goes well, these youngsters will get their commissions as second lieutenants in the Regular Air Force at a beautiful new service academy hugging the foothills of the Rocky Mountains near Colorado Springs.

The dream that began in the 1920s started taking concrete shape in 1949, when Secretary of Defense James Forrestal appointed a Service Academy Board to find out whether a separate Air Force Academy was actually needed. The Board—Dr. Robert L. Stearns, president of the University of Colorado, was the Chairman and Gen. Dwight D. Eisenhower, then president of Columbia University, was Vice Chairman—also took a close look at the functions of Annapolis and West Point. The outgrowth was the Stearns Report, which heartily endorsed the concept of service academies and approved the idea of a separate Air Force Academy.

But there were those who disagreed. Many respected educators held that it would be better to train future officers in civilian schools, then send them on to military institutions for graduate work.

One of these was Dr. John A. Hannah, President of Michigan State College. In his remarks to Congress on the bill to establish the Air Force Academy, Dr. Hannah—then Assistant Secretary of Defense, Manpower and

to rescue anybody from the central area, there will probably be vital tasks to be performed in areas of lighter damage. Even here, it may be beyond our capacity to deal with the seriously wounded, because of their probable numbers, but the lighter casualties can be saved.

Organized mobile rescue squads, medical facilities and supplies, hospitals and emergency hospitals built away from city centers, will be a mandatory requirement.

Fire fighting may be of prime importance. Almost certainly "fire-storms" will draw the conflagration to the devastated center, but some of the outskirts may be salvageable, or at least may be made to disgorge their survivors before they are burned to death. The drilling of the population in this and in rescue work is therefore urgent, as also is the decentralization of fire fighting apparatus, which today tends to be concentrated in city centers, where it would be destroyed or at least immobilized by an atomic explosion.

Measures of Emergency Administration. Without some strong administrative framework, the population might well break down into formless chaos after an atomic disaster.

Decentralization of the organs of government, so that they can function independently even if the central administration or their communication with it should be destroyed, is therefore a prime necessity.

Civilian and military forces may have to work side by side, and preparations for the control of an atomic emergency should form an important part of military training. Liaison with police and all similar officials should be built up immediately and such people should be trained in advance for the role they might have to sustain. Side by side with them, citizens' organizations may have to be created. Emergency systems of food supply and wireless communication should not be difficult to devise.

In this situation, there would be particular opportunity for enemy agents and subversives to operate effectively. It would be impossible to deal with these people after an emergency occurs. The time to root them out is now.

Measures to Accumulate Stores. Perhaps this is the most important of all the measures for survival which lie open to us.

It is unlikely that there would be much production between a wholesale atomic attack and the end of the subsequent war. Factories cannot be constructed quickly, and they are mutually dependent, so that the destruction of one link in a production process may well halt even factories which are undestroyed. Repair facilities for even minor damage may be unavailable by reason of complete destruction elsewhere. The outcome of a "broken-back" war is likely to depend upon stocks accumulated before its onset, rather than on material produced during its course.

Apart from the primary decentralized stores of fighting equipment and emergency stocks of food, a wide range of goods and raw materials will have to be held at decentralized points and on a scale never before envisaged. All manufactured goods which are considered necessary for the maintenance of life and fighting potential in the "broken-back" phase will need to be provided for.

Factories which make essential goods and which are fortunate enough to be decentralized so that they themselves would have some reasonable chance of escaping destruction will need to accumulate supplies both of their raw materials and of their maintenance requirements, so that they can survive as producing units, even if the main factory complex upon which they depend should be destroyed.

Indeed the greatest factor telling in favor of the Free World in the race for survival against Russia may well prove its capacity to accumulate stocks against any possible disaster. It may well be that in other aspects Russia has the advantage, but in total productive capacity and the power to put stocks aside the Free World easily outdistances her.

Measures to Preserve Transport Systems. Road transport is not very susceptible to the effects of an atomic explosion (which destroys an area rather than a line), provided, of course, that gasoline stocks are available. Rail transport is moderately vulnerable at junctions and major structures, for which by-pass facilities may have to be considered in advance.

Sea transport is likely to be more affected because of the ease with which developed harbors can be put out of action by atomic weapons. In such circumstances, sea traffic will be largely dependent upon lighters and small craft (particularly flat-bottomed landing craft types) which can operate on beaches or in small ports. These should be made ready in large numbers. Concurrently, plans should be put in hand to make the best use of ports and anchorages which are at present undeveloped. A small amount of hydrographic work, road work and jetty construction, if carried out now, might pay big dividends in an emergency.

Measures of Long-Term Decentralization. The process of invention is irreversible, and the atomic menace is unlikely to disappear in the foreseeable future. Systems of atomic inspection and control, which would have been worth relying upon at an earlier stage, are now less trustworthy, since, although atomic factories can be efficiently policed, no inspection can give assurance against atomic explosives already produced, which are comparatively easy to conceal.

Accordingly, a high degree of decentralization is justified upon a quasi-permanent basis. New buildings and factories should, wherever possible, be sited with atomic considerations in mind. New factories with direct defense significance should specially conform to this criterion. The economic loss occasioned by this decentralized siting of new works will in general be fairly small.

It is otherwise with the movement of existing buildings or installations. The colossal cost of this process implies that many years would be necessary to achieve any significant security by means of it. Probably in the next few years it will only be possible to move the most vital factories and the workers who man them, though even a decentralized factory can be immobilized for lack of raw materials or maintenance facilities.

It may well prove that measures of long-term decentralization will conflict with the requirements of production needed to build up vital stocks. In such case, the stock position should be given priority, and the long-term measures should stand aside until sufficient material has been accumulated in decentralized stockpiles. The efficient operation at full capacity of existing factories which turn out essential goods for our stockpiles is the prime consideration, and no long-term plans should be permitted to interfere with it. There is no point in preparations to survive over the long term unless we can first insure our survival over the short term.

The above principles, as has been already pointed out, are expressed in the most general terms and doubtless their application will be different in each different nation. They are meant only as a framework upon which details can be hung.

Nevertheless, it is abundantly clear that something must be done, and done without delay. Public opinion must be educated to accept a defense effort of quite a different order of magnitude from that at present being undertaken anywhere in the Free World. Each individual must be made to realize that his or her personal survival is in question, and will depend upon the common effort made to ensure it.—END

Ordinary plastic tablecloths served as tenting in church group's weekend "Operation Survival" outing.

Church Group Camps Out In Atomic Survival Experiment

Civil defense ordinarily vies only with the weather for top honors in both conversations and inaction. Hence, it is particularly refreshing to find a group of rugged individuals who need no bureaucratic prodding to spur them into action.

This fall, as part of the civil defense activity of the Seventh Day Adventist Church, a group of thirty-three men, women, and children from the church's Takoma Park, Md., headquarters, including students from its Washington Missionary College, spent a weekend camping in sub-freezing temperatures. Aptly, if tritely, called "Operation Survival," the exercise was designed to discover what it takes to survive on the land in case of an atomic attack.

Campers carried survival kits containing enough packaged food to subsist on for three days and used plastic tablecloths for tentage. Bed rolls were the only other items of equipment besides personal clothing.

The group fared well. One man, who hiked 11½ miles to the bivouac area toting his bed roll, lost six pounds. Several actually gained weight. Most held their own.

The youngest camper was a six-week-old infant, who was taken home after the first night to avoid a cold, although indications were the child could have stuck it out with no ill effects. One adult reported catching cold, although the case was balanced by another camper who cured a case of sniffles during the outing.

Experience gained on the weekend excursion will be used by the church in developing survival kits which will be made up in quantity and distributed to Seventh Day Adventist members nation-wide.

But the main thing proven was the fact that civil defense, like any kind of defense, must begin with the people.—END

Students at Seventh Day Adventist Washington Missionary College warm a meal over canned-heat stove.

the stores and the workers who man the factories. We cannot, of course, stockpile all we want in a short period—but then, neither can the Russians. It is not the absolute, but the comparative which is important.

Our air forces will have to be prepared to operate without large and vulnerable installations, and our navies without dockyards or developed harbors—the latter being especially vulnerable to atomic attack. This may seem difficult—but again it will be just as difficult for the Russians. We must learn to survive as the better fighting force.

It is also most important to see that all enemy agents are removed from the armed services, and especially from the atomic installations which are our means of retaliation, and which would be the chief objects of Russian sabotage. In no part of the Free World, it would appear, have the implications of this been faced up to frankly or adequately.

Measures of Protection Against Effects. Deep shelters can only have very limited use, because of the probable shortness of the warning before attack, the danger of their collapse in the case of an underground explosion, and the tremendous cost of constructing them, which is correlated with the time necessary to complete them on any worthwhile scale. It may, however, be worthwhile to construct shallower shelters on city peripheries, in the hope of saving some of the inhabitants of those areas where the force of the explosion may be less.

It is certainly worthwhile to drill the population in personal protective measures, and to establish a radiation monitoring service to check residual radioactivity in areas adjoining the devastated center.

Measures of Evacuation. The best protection against an atomic explosion is not to be there when it happens.

There is unlikely to be sufficient warning to enable any worthwhile evacuations to take place after a crisis. We are therefore concerned with measures to evacuate well before a crisis, and measures to evacuate survivors of an explosion.

Naturally the movement out of cities should be encouraged as from now. Action in this direction is, of course, limited by housing difficulties and also by the problem of maintaining production. People must live near their work, which is itself tied to facilities which cannot be quickly moved.

Nevertheless, some things can be done. By financial and other inducements, new building can be decentralized. Governmental and local authorities can prepare properly decentralized sites, with public utilities provided. Where it proves impossible to move workers away from city factories and offices in the short term, non-essential population may be induced to move out, thus providing the necessary accommodation facilities for "anchored personnel" in the locations they leave.

Better use can perhaps be made of existing rural and decentralized dwellings, and at least some special effort should be made to get the children away.

It cannot be too strongly emphasized that the appropriate time to start on such drastic measures is not in the vague future, but here and now. We are unlikely to be afforded any greater indication of impending crisis than we have now been given.

Measures to evacuate survivors should be planned now. Each city will have its own problems of geography. Plans should be flexible, since no one can forecast areas of devastation accurately, but most cities have suburban populations which will escape the full force of the explosion.

Alternative evacuation routes will need to be planned. Camp sites with tentage, water, and sanitation will need to be prepared in advance. Stores of food, and medicine, and the necessities of life will need to be established.

Measures of Rescue. Although it may prove impossible

The Author's Answers . . .

Security . . . *We must tighten our guard against enemy agents—from within and without.*

Fighting Back . . . *Our military forces may have to be drastically reorganized and made less dependent upon centralized headquarters and supplies.*

Shelter . . . *Though deep shelters are of limited value, shallow ones outside cities may be valuable for saving inhabitants where the force of the explosion is not so great.*

Evacuation . . . *It is unlikely that we will receive enough warning to carry out a worth-while evacuation in a crisis. Our best bet is to start moving people out now.*

Rescue . . . *It is imperative that the population be drilled in fire-fighting and rescue work. The facilities for this work should be moved away from the city centers.*

Administration . . . *To prevent chaos after an attack, branches of government must be able to function independently even if the central administration is destroyed.*

Stockpiling . . . *There may not be enough time in a "broken-back" war for production, so we must accumulate the needed stockpiles, at decentralized points, before it starts.*

Transportation . . . *We must have a large supply of small craft capable of operating from beaches, and should plan bypass facilities for rail and highway transport now.*

Decentralization . . . *A program for long-term dispersal of facilities must be carried on in such a way as not to jeopardize our present productivity.*

RECENT atomic developments now compel the Free World to make an "agonizing reappraisal" of its basic defense concepts.

The position which we must envisage is that (1) Russia has "saturation stocks" of atomic explosives; (2) we cannot rely upon any measures to prevent Russia from delivering atomic explosives "on target."

It is possible that this is not the position as of *today*, but even if that be not so, at least it will be the position in the near future, before any plans we now make can be brought to maturity.

The Free World must therefore plan its defenses upon the uncomfortable assumption that it cannot insure the safety of its cities from atomic attack. This does not, of course, necessarily mean that they are going to be attacked, since we hope that we can deter Russia from such aggression.

The greatest deterrent is, still, our power of retaliation. Under no circumstances should we permit this to be relinquished or even diminished while Russia preserves her own capacity to launch an atomic attack against us. Unilateral atomic disarmament would be the death warrant for our cities and the signal for our defeat. Communist propaganda is endeavoring to edge public opinion in this direction, but happily so far with little success.

Our powers of atomic retaliation are probably adequate today. Our stocks of atomic explosives will continue to grow. Our apparatus of delivery is almost certainly efficient, and doubtless will be improved to keep pace with any developments in the Russian defense system.

It is far otherwise in relation to our preparations to survive atomic hostilities, against which our plans so far lack both intensity and realism. And yet, without them, the whole defense plan may fail. Victory may easily come to the side which is best prepared to face the "broken-back" phase which would follow an atomic catastrophe.

Atomic attack may prove different from all previous warfare, in that the events of the first few days—perhaps of the first few hours—could be decisive against those who are unprepared to meet them. A Pearl Harbor upon a world scale is by no means inconceivable. In such cases, the effort made after the onset of hostilities would be virtually negligible. It would be what is done before the attack which would count. Those who do not make ready in advance are unlikely to be conceded the time in which to repent of their folly.

Furthermore, preparation for survival would be a deterrent against Russian attack second only to our own powers of atomic retaliation. If Russia judges that the loss of our cities would knock us out completely, whereas she could herself survive the initial shock, then she may feel the more tempted to try for the knock-out blow. She might then reason that, with the cities of both sides gone, she would achieve eventual victory over a chaotic world.

On the other hand, if Russia believes that her first blow would not knock us out, so that she would not only have to suffer retaliation from us, but also endure a long slugging match in which she might well be defeated, then she might be the less inclined to launch that first atomic attack.

The situation where Russia is organized against atomic catastrophe and we are not is thus one of peculiar danger. It not only risks defeat, but also it invites attack. Even if victory in the "battle of the remnants" seems scarcely worth the winning, nevertheless preparations to insure it concurrently reduce the chances of such a situation ever emerging.

For the Russian rulers, the prospect of defeat may be a more potent deterrent than the prospect of the sufferings of their own people. The Kremlin clique is little concerned with the feeling of the Russian masses; but the victory of their Communist system is to them a far dearer concern. Let it be remembered, also, that an atomic attack can be carried out by a selected cadre, and does not require mass consent in the same degree as does aggression with conventional weapons.

For all these reasons, Russia's moves may well depend upon her estimate of our capacity to withstand an atomic blow. Proper preparation to meet such a contingency may thus be a decisive deterrent against its occurrence.

In other words, we must prepare now to *survive without our cities and concentration points.* If we do this, if we in the Free World can survive as an organized force even in the face of an atomic disaster, then we may never have to face it. Otherwise, we probably doom our cities to destruction and ourselves to defeat.

Preparations for survival are not, of course, the only aspect of defense. Nevertheless, the survival aspect could be crucial, and is apparently receiving, as yet, inadequate attention. For the sake of redressing the balance of defense concepts, therefore, it requires to be stressed.

Our problem then is as follows—

What preparations can the Free World make to survive as an organized force in the event of a full-scale atomic attack by Russia?

Each nation will have its own peculiar problems in relation to survival; but there are certain general principles applicable to all.

Measures to Prevent Atomic Smuggling. These include appropriate customs procedure, and the keeping of suspect ships and airplanes (which might explode an atomic bomb without ever unloading it) away from vulnerable areas. Diplomatic privileges and territorial immunity will need to be withdrawn.

More important, enemy agents must be treated with quite new rigor. A Communist who can carry death to a million people can no longer be ignored or allowed to move freely in our cities. The disparity between the tight Soviet control over our sympathizers in Russia and our laxity towards Russian sympathizers in our midst is no longer tolerable—it confers too great an advantage upon the Soviet in this new atomic era.

It is true that such measures cannot give one hundred percent security, but that is no reason for not undertaking them. At present Russia has an open field. The introduction of some security procedure would at least provide one deterrent for her—namely, the fear of premature detection.

Measures in the Fighting Forces. These would, of course, include warning radar screens and other defenses against planes and rockets. Here also, no devices can give more than a partial protection. We cannot hope to prevent delivery, but only to make the enemy's task more difficult.

Drastic reorganization may be necessary to insure that the forces will themselves continue to operate after a heavy atomic attack. Dependence upon concentrated headquarters and supply dumps must be reduced. Units must be made more flexible, more mobile, and more able to live off the land. Complexity should give way to simplicity.

Most important of all, operating supplies must be built up and stored in widely decentralized areas. A "broken-back" war would not be won by munitions made after its outbreak, because the general destruction of the factory complexes would make it impossible to manufacture any but the most rudimentary munitions. Rather would the outcome of such a war depend upon stocks accumulated before its outbreak and put into storage. It is possible to decentralize such storage quickly, where it would take years or decades to decentralize the factories which make

(Continued on page 28)

AIR FORCE
DECEMBER 1954

TO FIGHT BACK, WE MUST SURVIVE

Winning

The Broken-Back War

By W. C. Wentworth
Member of Parliament, Commonwealth of Australia

W. C. Wentworth has been a member of the House of Representatives of the Australian Parliament for the past five years. His publications include the books "Demand for Defence" (1938) and "Time and the Bomb" (1953). It was a reading of the latter volume that caused the editors of AIR FORCE *Magazine to invite him to prepare the article which appears on the following pages. Much has been written of the catastrophic effects on our civilization of a nuclear war, and of the need to prepare our civilian and military defense to cope with them. Little has been set forth in the way of concrete measures designed to that end. Mr. Wentworth has grasped that nettle firmly and we believe his ideas are worth the thoughtful consideration of all Americans.*—The Editors.

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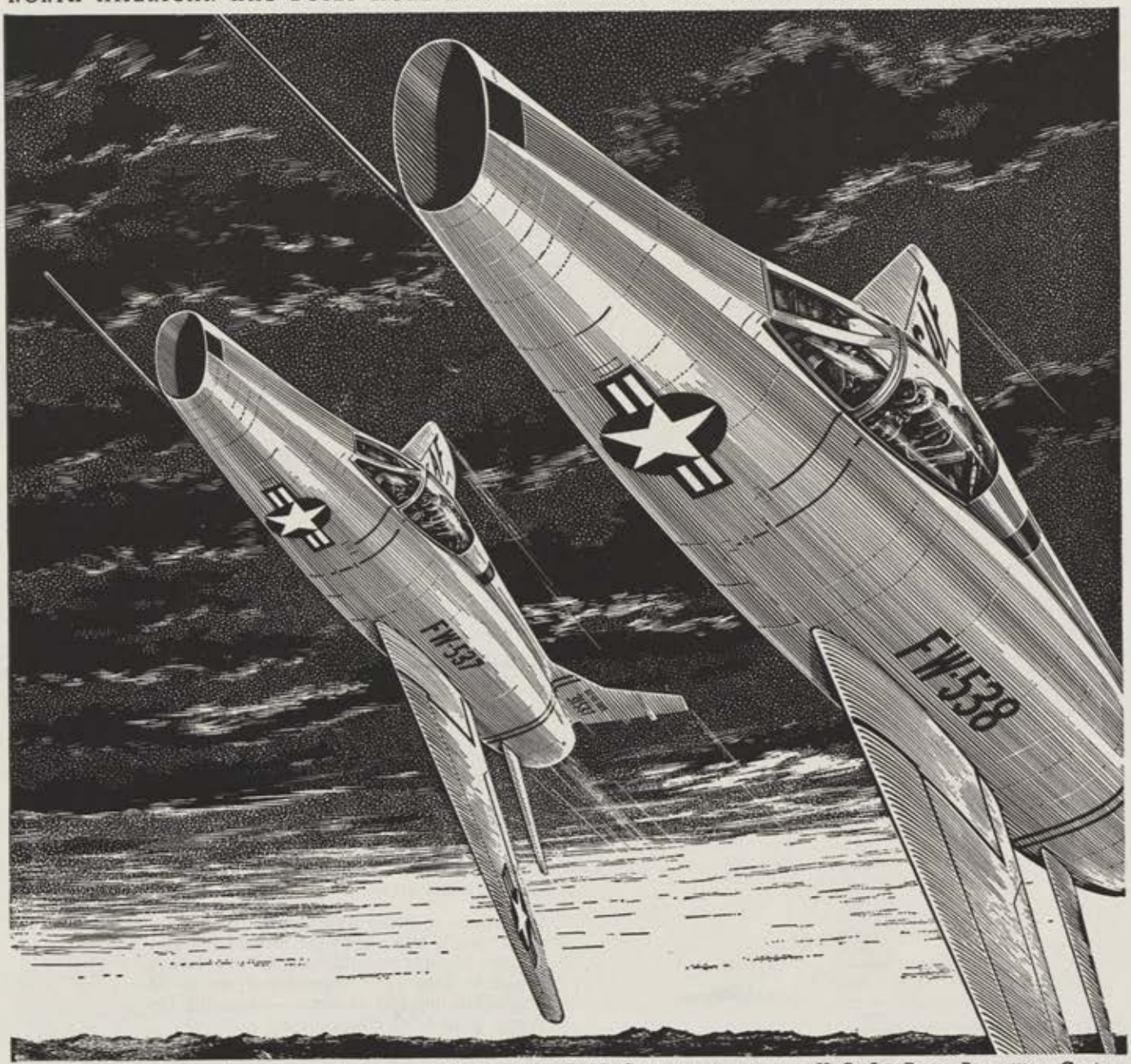

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cadet will receive more English and history, and his engineering instruction will be related to aircraft equipment and aviation problems.

Actually, the foundation for the proposed curriculum was laid at the Air University at Montgomery, Ala., in 1948—before the campaign for the Academy had started. A group of Air Force and civilian educators, unhampered by custom or tradition, designed a course of instruction that has been studied and endorsed by leading educators.

Since a military school must give its students a broad background in social studies as well as the technical sciences, it will be impossible, according to General Harmon, to turn out fully trained aeronautical engineers in the time allotted. The Air Force Academy cadet will get about 1,600 hours in classroom and laboratory work in the technical subjects, as against 2,400 hours for the student at the Massachusetts Institute of Technology. The AF feels, however, that selected students can earn an engineering degree in a civilian school after graduation. And, of course, they will continue to take in technical specialists from civilian sources. (Even when the Academy is operating at capacity, the Air Force will only get half its Regular officers from it. The others will still come from other sources, such as AF-ROTC.)

Besides the strictly academic curriculum, an Airmanship Training Program will include basic training, physical training, flying training, and leadership training.

Basic training will teach the cadet marksmanship, drill, and other ground training considered essential. Physical training will be based largely on a vigorous intramural athletic program. The Academy also plans varsity competition.

This poses quite a problem, with no athletic fund and no alumni. Government funds cannot be used for inter-school competition. So a non-official Air Force Academy Athletic Association has been formed. Football fans are evidently confident, for the athletic office has already been flooded with requests for tickets to the first Notre Dame game. Lt. Col. Robert V. Whitlow, 34, a former three-letter man at West Point, is Athletic Director. The prospect of a third Service team whets the appetite of American sports fans. The cadets will choose their own mascot, but it is a safe bet that it will be either an eagle or a falcon.

The Flying Training Program has probably caused more confusion than any other thing about the new Academy. It is not a flying school, hence the title United States Air Force Academy or, Air Force Academy, rather than "Air Academy." None of the graduates will be rated pilots.

However, each cadet will have to qualify physically for flying training before he is admitted. During his first two months, he will begin to learn the standard operating procedures of the Air Force. He will go up on flights, spend a lot of time in the maintenance shops and the flight line, and will learn how to clean and service aircraft. During his four years, he will get 355 hours of ground instruction and 171 hours of actual flying. He will receive his wings as an Aircraft Observer when he graduates, and will be fully qualified in aerial navigation and bombing.

In his senior year, the cadet will receive pilot training, including fifty hours of instruction in the air and 150 hours on the ground. If he shows the necessary aptitude at this stage he will go on to an Air Force flying training school to get his pilot's wings.

Most of the training leading to the Observer rating will be given right at the Academy—probably in T-29 navigation trainers. Since the pilot training given in the senior year requires so many airplanes, the cadets will probably be flown in groups to regular flying schools for this phase.

By qualifying as an observer, a cadet will have mastered many of the skills he would normally have to pick up later in his pilot training. The ones who do not go on to earn their pilot wings will be available for assignment to other combat crew positions.

The fourth phase of the Airmanship program is leadership training, which will closely follow the one developed at West Point. The cadet will learn the psychology of leadership in the classroom and put this training to practical use when he becomes a cadet officer or non-com or a coach or manager of an intramural athletic team.

Naturally, the first classes of Air Force cadets will have no upperclassmen to lead them. This is an important part of the training program at West Point and Annapolis. The problem will be solved by fifty selected young Air Force officers, just out of flying school, who will live and eat with the cadets and act as leaders, for the first and second years.

Organization of the faculty is well underway. All the head professors have been chosen. They are all Air Force men, and the Air Force does not plan to hire civilians right now because the AF believes it has a good supply of qualified men in the service.

What type of boy is the Air Force looking for? General Harmon wants more than just a good student. Naturally he will have to be in top physical shape to pass the flight aptitude and physical exams. But he must also love flying and want to fly for his country. Much emphasis will be placed on his aptitude for leadership.

Eventually the nomination, examination, and appointment of cadets will be based on the same procedures as at West Point—except for the differences in requirements. However, for the first six-year period the Secretary of the Air Force has been authorized to limit by competitive tests the number admitted yearly.

Allotted to the forty-eight states will be 255 of the first 300 vacancies. The additional forty-five will be chosen from the following sources: AF and Army Regular and Reserve military personnel, sons of deceased veterans of World Wars I and II and the Korean operations, sons of Medal of Honor winners, Presidential appointments and Vice Presidential nominations, and allotments for the Territories of Hawaii and Alaska, the District of Columbia, the Panama Canal Zone, and Puerto Rico.

Each member of Congress may select up to ten nominees without designating a candidate as principal or alternate. Appointment will be made from among qualified candidates in order of merit as established by competitive examinations.

All nominations must be forwarded to the AF Academy Appointment Branch, Hq., USAF, Washington, 25, D.C. All military personnel must complete their preliminary screening examinations by December 31, 1954. Deadline for other nominations is February 18, 1955.

The Air Force had received about 1,000 applications and 5,000 inquiries by November 12, and would like to have 6,000 applications by deadline time. If that many apply, the Air Force should be able to pick out 300 outstanding young Americans.

These men will have won over some pretty tough competition to arrive at Lowry AFB next July. A big responsibility for the future of the Air Force will be theirs. Judging by the high traditions of honor, valor, and devotion to duty spawned by West Point and Annapolis, the Air Force Cadets will carry this responsibility well.—END

'A look through a window at World War III'

Montgomery on AIRPOWER

Field Marshal Viscount Montgomery
DEPUTY SUPREME COMMANDER, ALLIED FORCES, EUROPE

These remarks by Field Marshal Montgomery are particularly significant, we believe, in light of his present post as Deputy Supreme Commander, Allied Forces, Europe. They were given at Whitehall, London, before the Royal United Services Institution, a dignified, inter-service forum. Although the thoughts rival those of the most zealous airpower advocate, they come from one of the most famous and respected ground commanders of the modern era, the man whose Eighth Army took Rommel's measure in North Africa, who served as field commander of all Allied ground forces during the Normandy invasion and later headed the 21st Army Group and who, during the immediate postwar period was Chief of the Imperial General Staff. Incidentally, it was during the North African campaign that present USAF air-ground doctrine had its genesis in the skilled collaboration of Montgomery and his air commander, Sir Arthur Coningham of the RAF. As this issue of AIR FORCE Magazine *went to press we were informed that Field Marshal Montgomery was scheduled to make a three-week visit to the United States during late November and early December.—The Editors.*

I SPEAK as an international soldier who is the servant of the fourteen governments of NATO.

If we are to make progress in keeping up-to-date, it seems to me that some statements must be made by responsible Service Chiefs that are more precise than those that have been made in recent times.

What I have to say represents my own personal views and I hope it will be regarded as a contribution to constructive thought on defense problems.

I would ask you to note the title of this lecture: "A look through a window at World War III."

Some may say that World War III is already in progress and that, as usual, it has taken a different form from any other war. It has come to be called the *cold* war. It might well have been called the "cold peace."

As we advance further along the road of development of atomic and thermonuclear weapons, guided missiles, and ballistic rockets, it will become increasingly clear that a *hot* war will be mutual suicide for the contestants. Therefore, the great problem regarding the cold war now in progress is how to win it without precipitating a hot war.

Local wars, *e.g.*, Korea, Indo-China, Malaya, Kenya, will no doubt continue to form part of the cold war, but there is a vast difference between them and a hot war. Both are global, the cold war *and* the hot war.

In trying to win the cold war one side or the other may miscalculate and bring on a hot war, though neither side wanted it.

I consider that the present state of world affairs, and the present tension, will continue for a long period. Therefore, the true objective of all military thinking today must be how to combine most economically the military measures needed for success in the cold war, with the development of the military strength needed to convince our enemies that a world hot war would result in their own destruction: no matter how great the surprise they achieved at the outset, nor how ruthlessly they conducted the contest.

The cold war calls for the use of conventional weapons; success in the hot war calls for new weapons.

It is obvious that the use of atomic and thermonuclear weapons will have a profound effect on the conduct of war, on weapon systems, on strategical and tactical conceptions, and therefore on the organization of forces.

In our reorganization, we may often find a clash occurring between conventional weapons which we know about, and new weapons which we do *not* know about. Whenever that clash occurs, the solution should be on the side of the long-term new weapons. New weapons must be "phased in" gradually to our existing weapons systems so as to reduce, or eliminate progressively, equipment and weapons which will become out of date as the years pass.

I want to make it absolutely clear that we at SHAPE are basing all our operational planning on using atomic and thermonuclear weapons in our defense. With us it is no longer: "They may possibly be used."

It is very definitely: "They will be used, if we are attacked!"

The reason for this action is that we cannot match the strength that could be brought against us unless we use nuclear weapons; and our political chiefs have never shown

Absolute defense against the air attack will be impossible in the future. A deterrent, the means with which to hit back instantly and to give more than you receive, is the surest way to make an aggressor think twice before he attacks. The West must build up such a deterrent, capable of being delivered immediately through the air.

It is then vitally necessary to guard against a surprise attack, and against treachery, and to be able to hold such an attack long enough to enable nations to spring to arms behind the shield and mobilize their collective strength.

The Western nations must also retain the ability to absorb atomic and thermonuclear attack, and must insure that their means of instant retaliation are not compromised by surprise or treachery.

Now, as never before, real preparedness is vital.

The nation that can organize itself properly in peace as regards its manpower, its production, its armed forces, and its civil defense, and can turn over easily and quickly from a peace to a war footing, taking the emergency in its stride and riding the storm easily—that nation will gain the initial advantage and will win.

In spite of everything I have said, I would issue a most definite warning against rushing into major changes until we are certain that they are sound.

What is needed today in every nation is a roll of drums and a clarion call. That call must be one to discard out-of-date doctrines and methods, and to organize our affairs to take full advantage of the progress of science. In particular, I would draw the attention of all National Chiefs of Staff to a verse in the New Testament, First Epistle of the Corinthians, which reads as follows:

"If the trumpet give an uncertain sound, who shall prepare himself to the battle."

I Corinthians, 14, 8.

We need a clear and "certain" sound, on an inter-service key.

On the subject of inter-service relations and cooperation in the international sphere, I would say this: there is room for much improvement. Before the late war the activities of the fighting services were largely uncoordinated, in the UK at any rate. During the war inter-service cooperation reached a high standard. Since the war it has deteriorated. In some nations it is good; in other nations it is bad.

We talk about the need for international unity and cooperation; we can hardly expect it if we ourselves do not give a lead with good inter-service cooperation.

Political, financial, and economic considerations will make it impossible for armed forces to have all they want, or do all they would like. It will become more important to have all they want, or do all they would like. It will become more important than ever to concentrate on essentials and to have our priorities right.

In the scientific age into which we are moving, which is also an age of ever-increasing costs, governments have got to insure that their armed forces and security measures are built up within a framework of economic realities and against a background of sound inter-service responsibilities.

If what I say has validity, then the future will call for:

- Bigger air forces.
- Smaller and more immediately ready regular armies with great strategical and tactical mobility. Better organized and more efficient reserve armies.
- Smaller navies.
- The organization of the three fighting services based on more atomic and thermonuclear power, and less manpower.
- A civil defense organization which exists in peace to the degree necessary to insure it can operate in top gear in an emergency. It must be understood in this respect that while great destruction may be caused at the point of burst of a nuclear weapon, tremendous saving of life and property will be possible on the fringes.

The over-all aim should be to get financial expenditure on defense geared to a level which will carry a reasonable defense budget over a prolonged period of years; thus giving continuity and stability of planning.

I do not imagine for one moment that all present here today will agree with everything I have said. My objectives will have been achieved if during the course of this address I have been able to make some contribution to constructive thought on a problem which affects the security of the Western world.

I would like to put a few points to you in conclusion.

First: In the Navy, the Army, and the Air Force we have a team. By themselves the individual members can achieve little. The team can achieve victory. The progress of science is likely to change the former responsibilities of the three members in certain directions. Parts of the load are shifting from the shoulders of one service to the shoulders of another. In particular, the air is coming to the front as the dominant factor in war, and the decisive arm. This is going to introduce difficult problems, and in solving them do not let us bother unduly about the color of our uniform: khaki, dark blue, light blue.

I suggest to you that there are two factors about airpower which affect the issue. (1) How best to use the mighty weapons of airpower so as to win the war quickly. This will call for a high degree of centralization. (2) How to insure that the air will play its full part in the team. This calls for decentralization.

These two factors may seem to conflict. I do not myself believe that they are conflicting and I am certain that the answer can be found. Indeed, it must be found. And the important point is to reach the right answer without ill-feeling and inter-service quarrels.

Second: I have forecast greatly increased responsibilities for air forces. Today, it is doubtful if the air forces could cope with those added responsibilities. If what I have said is true, then the air forces must be got ready over the years to handle the tasks that will fall to them.

Third: We spend today enormous sums in scientific research and development. But new weapons and technical equipment will avail us little unless we have first-class officers and specialists to operate and maintain them. All the fighting services are below establishment in regular personnel and technicians, more because of the "conditions" of service than because of inadequate pay. Would it be a good thing to get a better balance between the two requirements of scientific development and skilled personnel, since both are essential? In other words, should we spend a little less on scientific development and more on improving the conditions of life in the fighting services?

Fourth: The mobilization systems of today need drastic overhaul. Most of them look archaic against the background of nuclear warfare, being far too leisurely. The mobilization system of an atomic age must be such that on national radio warning it is effective in a matter of hours rather than days; it must be based on a decentralized method of call-up and dispersed equipment depots; it must be founded on a body of reservists all of whom know in peace time exactly what to do on mobilization, and are able to do it quickly.

Fifth: Civil defense must be moved up to take its rightful place in the national war machine.—END

Silent Night IN RED KOREA

By Maj. David F. MacGhee

IT WAS the third Christmas season as prisoners of war for some of us and our first in "No Name Valley," a dead-end street for "reactionary" POWs in North Korea.

For several weeks we had been working on Tsai, the friendly little liar who acted as interpreter for the Chinese Camp Commander, to let us share our Christmas with Lt. Carroll Wright and Lt. Paul T. (Digger) O'Dowd. In May 1952 these two Army officers and three Air Force officers had been sentenced to jail by the Chinese Commander Ding Chan, for attempted escape and other "hostile activities." They weren't expected to get out of the pokey until sometime the next spring or summer, as a Communist jail sentence is a rather indefinite proposition.

Each time Tsai brought us more of the propaganda trimmings furnished for our Christmas celebration, Maj. David Little asked again for permission to visit the boys in jail on Christmas Eve. To the Communists Christmas was just another opportunity for a propaganda effort on freedom of religion, and with the peace talks on, they were going all-out to erase unpleasant memories of past treatment.

They had promised beef, pork, and fried chicken for our holiday feasting. We had received rations of candy, fruit, tobacco, wine, and beer, which details were breaking down into individual shares. They had even come up with a Christmas tree and curtains for the makeshift stage that was to be the scene of our Christmas and New Year's Eve POW camp shows.

Just after supper Tsai ushered in the beer and wine ration and told Dave that after dark he would take him and two other POWs to see Wright and O'Dowd. Last minute feverish operations were under way: packages to wrap and Santa Claus to dress. This was to be a Christmas we would never forget, a real one, rather than just the propaganda Christmas that had "Official Permission."

Having neither a calendar nor contacts, Carroll and Digger weren't sure whether today was Christmas Eve or whether it was tomorrow. It might even have been yesterday. Just to play it safe, they very softly wished each other a Merry Christmas and then desolately pulled their blankets up over their heads. It didn't help much against the cold, but at least it kept the light from the guard's flashlight out of their eyes during his regular ten-minute checks.

Carroll and Digger had long since talked themselves out—they knew all there was to know about each other. Although some conversation would have made things less lonely, the grueling years of 1950-1951 had taught them that only the weak are foolish enough to allow themselves the excruciating luxury of thoughts of home and what might have been "if" . . . such thoughts were like water to a man dying of thirst—you can allow just the few precious drops necessary to maintain sanity and life.

Even so, visions of his beautiful wife would knife into Carroll's thoughts—"Merry Christmas, Darling! It's rough to have had only six days together, but someday we will have a real Christmas. . . ." Sheer will power brought him back to the tedious problem of keeping from freezing to death. "Eighty-eight days till the first day of spring! We'll still be around too, Lolly!" "Oh damn . . . damn these slant-eyed b——s! I sure could use a cigarette but even if we had some tobacco, we haven't got any matches. Wonder what time it is. It's dark enough to be midnight, but it can't be later than about six-thirty. . . . This is going to be a long, long night for both of us, Lolly!"

Suddenly, the frozen stillness was broken by the strains of "Silent Night, Holy Night." "The only thing that's good about those voices is that they are American," mumbled Carroll through his blanket. "Wonder what those guys have to sing about, Digger?" Then after a pause, "Sounds like they are coming up this way!"

"Wright . . . you're stir crazy!"

Digger's rejoinder was followed by a cloud of breath fog. He had held his

(Continued on page 45)

Major MacGhee's by-line last appeared in AIR FORCE *over his "A POW's War Is Never Over" in our July '54 issue. He was a prisoner of the Reds in Korea from November 1950, after he bailed out of the first B-29 shot down by a MIG, until his repatriation in September 1953. Now assigned to the Psych War Division, Hq., USAF, in WW II he flew 25 B-17 missions with the 8th Air Force.*

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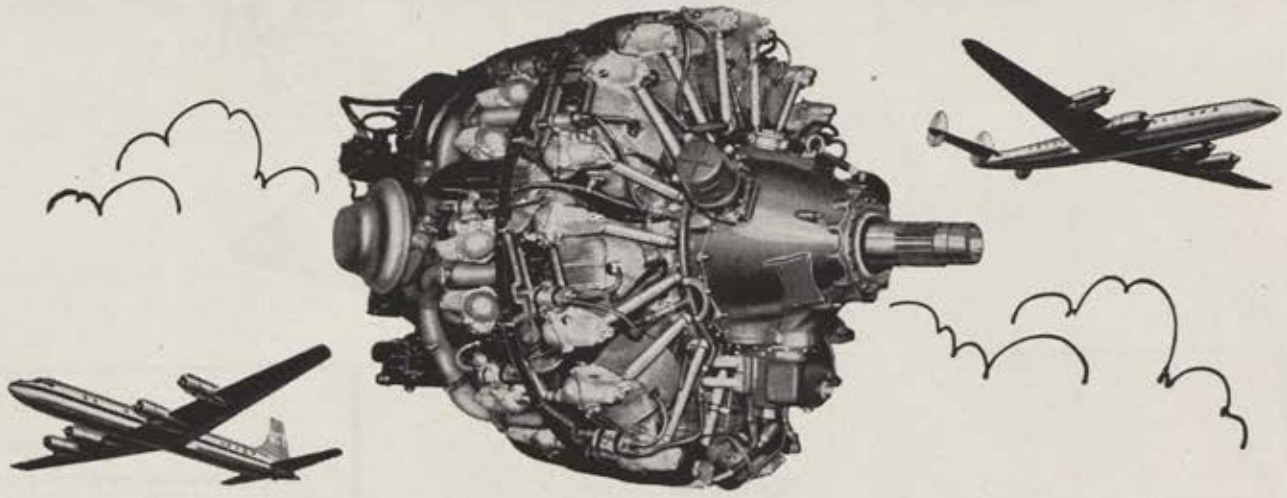

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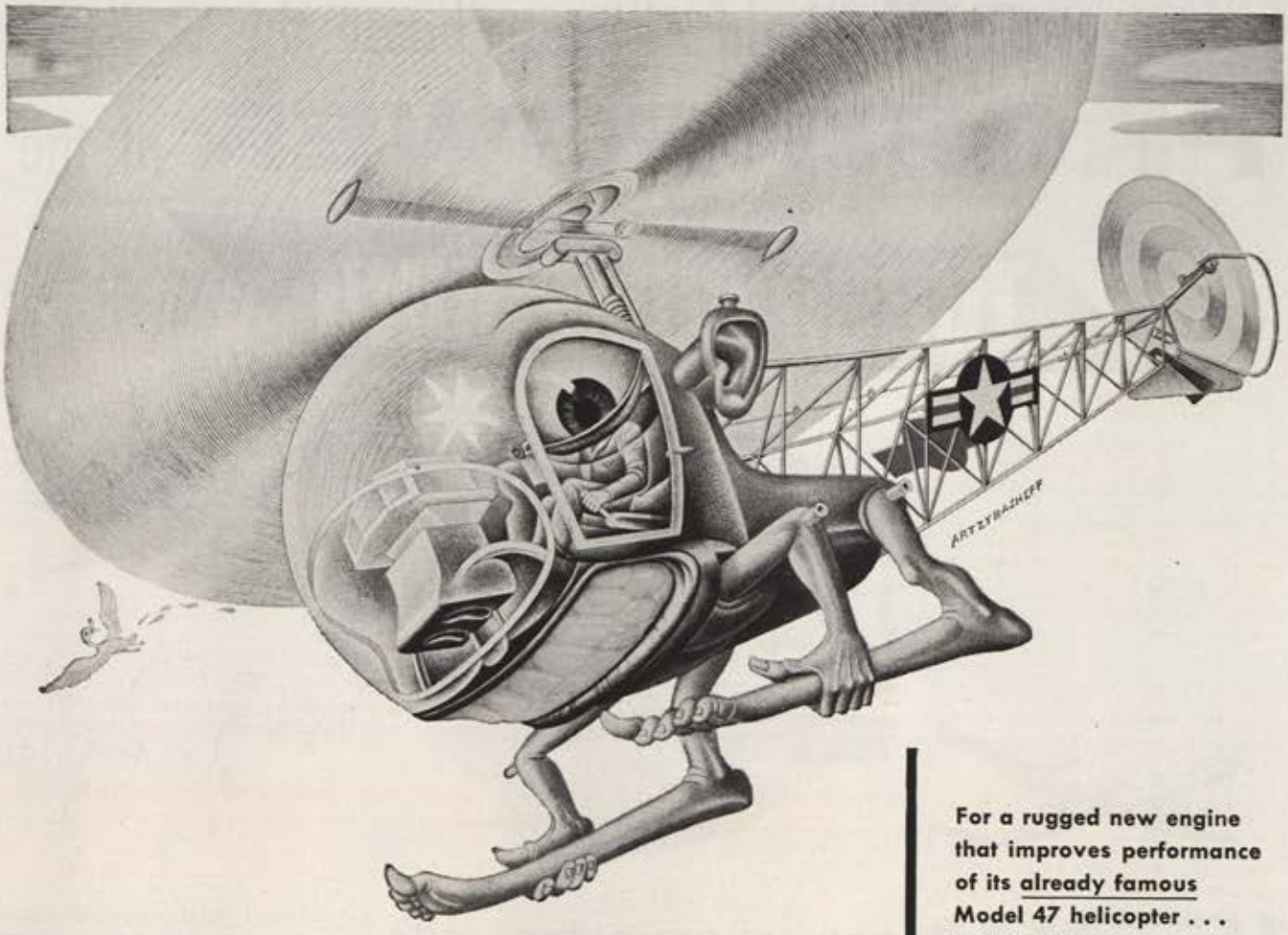

New "vitals" for this Korean air vet

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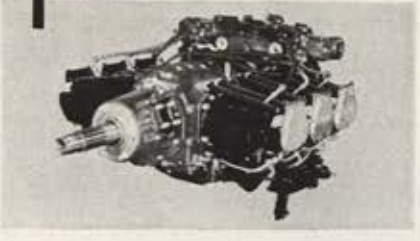

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HOW GREEN IS THAT GRASS?

Here's the story of one man who chose civilian life over a military career and says he's regretted it ever since

The grass is always greener on the other side of the patch. That's exactly the way it seems to you airmen with regard to us lucky civilians. "One year, two months and three days." How often I've heard that. I hate to shock you, but it just isn't worth counting the days, because the longer you're in the more days of happiness, carefreeness and friendship you'll be enjoying.

I was in the Army from 1942 to 1946. I received my discharge in April 1946 and have regretted it ever since. In April 1946 when the Army was dwindling away, the colonel called me into his office. I was staff sergeant and sergeant major, the last remaining key man in the organization. The colonel wanted to know whether I was re-upping or would he have to break in someone else. I took the wrong turn and have been puffing along as a discontented civilian ever since. The Air Force or any of the armed services can always do without you. On the other hand, you'll find later that you'll want them much more than they'll need you.

Well, here are the arguments I gave him then and I would like to see whether they have changed much with the passage of time:

1. I wanted to finish my schooling. I only needed a few points to finish and receive my degree in Business Administration. I could easily have taken these few courses in a college or university near practically any base where I would have been stationed, or even through the Armed Forces Institute.

2. I wanted to be free. This was very important. To be free of definite hours, passes, leaves, inspections—the shackles that are so definitely a part of the military career. I still was to learn that there are civilian shackles just as strong and perhaps even more stringent than those welded in the military. Perhaps your CO is a bit difficult at times, but he has his job to do, and usually it is nothing more than the wish to do a job well that produces this pressure. When the pressure eases and the job is done you'll find, more often than not, that the pace will be slower and the rewards satisfying. Those brief tempests-in-a-teapot are usually nothing more than that. They blow over quickly.

Have you ever put ten years in a civilian job and been sacked because the boss's favorite nephew needed a job? In your Air Force there is no such problem. Perhaps you are surplus at some base, or you just can rub someone the wrong way, and first chance he gets you are on the road. But he can't put you out of work for weeks, and you won't have to take a place that may pay much less and start back from the bottom of the pile.

This civilian shackle to your job is even stronger when you are married and have greater responsibilities. Speak to your older Air Force men about this, and also those airmen who have decided to rejoin your Air Force after a considerable stay on the outside.

The greatest reason I wanted out in 1946 was because I wanted to make my mark in civilian life. I wanted to go into business. I wanted to make money, more than the miserable $96 I was getting. Why, even my unemployment insurance while I was looking around would be almost that. And when I got into business I would be really coining the stuff. Well, my wish did come true. I have been in business for the last seven years. I have been successful, at least I believe so. I have a medium size department store selling men's, women's and children's wearing apparel. Now we are getting into something where I can show you in black and white that your Air Force is by far your better deal, financially speaking.

Here are my annual personal expenses:

Personal	$1,500.00
Rent	650.00
Insurance	1,500.00
(retirement policy at age 55)	
Housekeeper	750.00
Food	1,500.00
Clothing	250.00
Hospital	54.00
Dental	25.00
Telephone	75.00
Light	75.00
	6,379.00
Withholding & all taxes	1,400.00
	$7,779.00

I must bat out this $8,000 annually to keep up with things. While in your Air Force, your salary, while it might seem small, is a net salary. You are free of some of these civilian expenses. Check the figures.

So, you're in business coining the stuff. Well, you're also taking home your work and worries every spare hour of your life. Does your Air Force demand such a personal sacrifice? Speak to successful civilian people. Find out what they've put up with, and you'll find that their gravy train isn't all you've thought it was.

I have toward our Air Force the earnest feelings of an old revivalist minister, hoping that in my humble way, I can save some of the flock from erring by leaving the greatest career for a civilian one.

Now in case you are determined, and do want out, at least one last favor you can do yourself is to stay in your active Reserve. At least you keep the door into active service open while you earn your retirement credits, meet with your military friends and go to summer camps.

A/1C Theodore Loewy, USAF Res.
New York, N. Y.

LET'S HAVE YOUR JET BLAST

In "Jet Blasts" you can sound off on any subject you want. Each month we'll pick the letter or letters we feel will interest our readers most and pay a minimum of $10 for each one printed. Please keep letters under 500 words.—The Editors.

Down With Vox Pop

As I understand the purpose of this department, it is a place where the reader may air his opinions on sundry topics in a constructive manner.

However, both in the "Jet Blasts" department and in your letters to the editor, I note what is to me an alarming trend toward anonymity. I can understand how officers and airmen on active duty may desire to have their identity concealed when writing on controversial matters, for fear of possible reprisal, official or unofficial. But I say that if a man is unwilling to have his name connected with his publicly printed ideas, then he obviously does not feel as strongly about his subject as he thinks he does.

Down with anonymous Vox Popperoffs, say I! To paraphrase Voltaire, I may not agree with what you say, but I will defend to the death, not only your right to say it, but your inescapable obligation to stick your neck out thereby.

E.g., I feel that the cover on your November issue was an artistic monstrosity. The idea was a good one but I had to look twice and reflect a good deal before it dawned on me that you were not touting Thanksgiving, complete with turkey. The turkey turned out to be an eagle after all, and in a bamboo cage, by golly!

But if I attempt to criticize your artistic efforts, I would be but half a man if I were unwilling to publicly attach my name to this diatribe.

Half A. Man
(Name withheld upon request)

Up From the Ranks

Why should we avoid an academy for the Air Force? Because it will undoubtfully fall into the same pattern as the other schools. Is this bad? Well, neither have ever turned out enough officers to run the show once the shootin' starts. That's reason enough to save the money. Certain qualified people are shut off from applying because there are political considerations in appointments. Many qualified enlisted men would welcome the chance to guarantee regular appointments. What happens to these? Applications should be accepted only from enlisted ranks if an academy must exist for the creation of a regular officer corps.

breath to listen even though he was too cautious to believe—just yet. But now it was obvious that the carolers were coming up this way. The clickclack as the guard slammed a round into the chamber of his rifle dispelled any remaining doubt. His grunting challenge brought only a soft "low-Tsai" in reply and the carolers never skipped a beat even though some of their notes sounded a little winded and a few badly bent.

Suddenly the door opened. Carroll and Digger slid their heads out from under the blankets, and there in the light of three candles was Santa Claus —red suit, Coca-Cola Santa Claus beard, and presents!

"Merry Christmas," roared a hearty voice with an accent that could only be South African. "Season's greetings from the United Nations." Digger and Carroll fought back the choking sensation that made speech temporarily impossible for either of them, as Tsai, the little Chinese interpreter who had made this surreptitious effort possible, pushed Lt. Chris Lombard, our South African Santa Claus, and his two helpers, Maj. David Little and Lt. Charles W. Maultsby, into that icy little room. Following a flurry of Christmas greetings, Tsai asked, "Wright, you no believe in Santa Claus? Even Christmas presents. Better than last year, yes?"

As three visiting POWs held the candles, the two "jailbirds" opened their gifts. A cautious word from Dave Little suggested that the two big ones be unwrapped later, "after all of us have left." And then in a very cautious whisper, "There's some matches and pieces of candles hidden in the bottom! Merry Christmas, Junior!" Tonight Carroll didn't find that nickname even a little irksome!

Apples, peanuts, candy, wrapped in colored paper, even Christmasy bows and gift cards. And then a sudden grapeshot broadside of conversation from Santa and his helpers: "Chuck Maultsby made the suit by sewing a piece of red cloth over my jacket . . . all the boys chipped in a share. . . . Bruce and 'Jumbo' send their greetings. . . . I've gotten two letters from Val and a picture of the twins. . . . Eisenhower beat Stevenson. . . . The Yankees beat Brooklyn in the Series. . . . They've settled the Second Point. . . . The beard, oh, it's real—just a little flour and pork grease."

The welling tears reflected the flickering of the candles and gave more than enough proof that the Iron Curtain was no obstacle to old St. Nick! Not if you believe in Santa Claus! —END

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As stated previously, the Air Force would be better off if the above were not the case. Any academy should be a graduate school for officers only, those officers chosen from the ranks and given B.A. degrees in various civilian colleges. OCS should be abolished, of course, and ROTC modified. These former enlisted men who have gained B.A. degrees and commissions should then be sent to the proposed Air Academy for top level training. We would then have a direct line of advancement to the top, allowing for necessary educational advantages with no special privilege groups prevailing. With such a plan would the reenlistment rate continue to drop?

Civilian industry has used a system similar to the academy approach. College graduates are brought in as management trainees and this special class alone can get to top brass positions. Would unions act so tough if this form of the academy idea were abolished and workers were pushed up the line and educated along the way? Perhaps industry can afford continual labor unrest. I doubt that the military can.

Edward J. Carlin, Jr.
Philadelphia, Penna.

• *For a different slant on the hows and whys of the new Air Force Academy, see page 30.—The Editors.*

By Default?

Whether America's aerial defense is based upon piloted planes or guided missiles in any future war may be decided by the default of piloted aircraft without regard to the relative merits of either system. Personnel and production problems could cause such a default.

The inability of man to perform certain aerial maneuvers is without question, but such drawbacks do not in themselves rule out the need for pilots to perform other, equally vital, functions. However, if war were to break out, a current shortage of fully trained pilots, bombardiers, navigators, and crew members would leave us fearfully shorthanded. Senator Russell of Georgia has stated his concern by saying that to have one crew per plane is not enough; reserve crews are needed.

However, length of training may be even more important. Since it takes many years of training for an air crew to handle a B-47, emergency stepped-up training programs cannot save us in an atomic war as they did in World War II. Rapid aviation developments in the last decade require longer training periods and make obsolete most of the training given to airmen in World War II who have not been on active duty since that time.

In an atomic war America might be forced to turn to the guided missile, which is self-operated or guided by a radar operator who can be trained far faster and cheaper than can pilots or crew chiefs.

Conventional aircraft also cannot compete with the guided missile when it comes to production under atomic attack.

(Continued on following page)

Aircraft production requires a heavy, not easily replaceable, investment in plant and equipment as well as highly skilled workers. Most of these plants are located in cities which would rank high on the target priority list of any enemy and would be attacked in the first assaults. Missile production, however, is considerably less vulnerable.

The Germans, in 1944, by using largely semi-skilled slave labor, produced large and steadily increasing numbers of V-2 missiles, despite a terrific aerial bombardment. Component parts and minor assemblies were produced in small plants scattered throughout Germany. These parts were brought together for safe assembly in underground plants. The missiles were then scattered and brought to the launching sites by diverse routes. This dispersal made effective bombing difficult. Also, missiles do not require elaborate, easily found and destroyed airfields or launching sites. The Germans used fields and tree-lined roads for launching sites and we could do the same.

The electronic industry, necessary for building missile guidance systems, is well dispersed throughout the nation, and the fabrication of missile structures can be broken down and similarly scattered among medium-sized plants in small towns. Missile design is simpler than aircraft, since no crew is needed and relatively little maintenance is required. Though missiles are a one-shot affair, a favorable cost relationship to conventional aircraft has been achieved because of easier mass production techniques, lack of overhaul and maintenance costs, and because of the elimination of highly trained aircrews.

If we are subjected to severe atomic punishment we will have little choice but to concentrate on guided missile production if any kind of relief is to be achieved in time.

Gordon F. Shea
College Park, Md.

Why Reenlist?

I have asked myself this question several times in the past, and am faced with it again. Frankly, there is no good reason!

The Air Force has what it calls a Reserve Program. It's true that the Air Force very probably has a place for the enlisted man if he is near enough to an Air Force base to be a weekend warrior. Personally, I have never been that lucky. I could take a Mobilization Assignment and get two weeks' training a year, and it might have some value, but that is all the Air Force Reserve has to offer me.

How the so-called planners can be so stupid is beyond me! Look at the programs for past years, and this fiscal year, and see who they are aimed at. Commissioned personnel, of course.

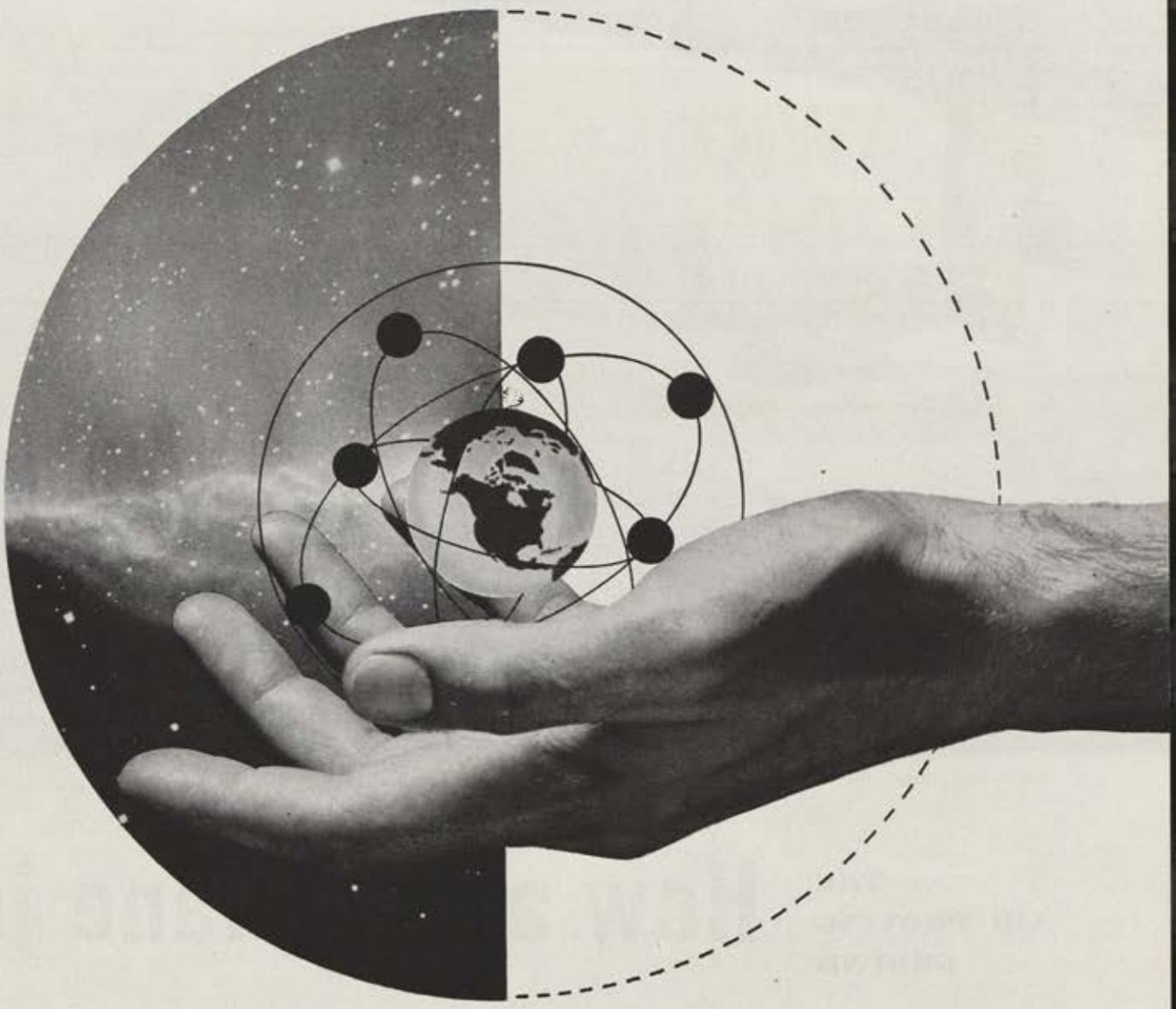
I know what answer I'm going to get—long-range planning will include the enlisted man. Don't give *me* that poppycock. The Air Force has not had, does not have, and will not have a realistic Reserve Program anywhere in the foreseeable future. Previous to my Reserve time I had nearly five years' active duty, and was of the opinion that the Air Force was a good organization to belong to. How wrong can you be?

Now let's get down to facts. What is the mission of any Reserve? In my estimation it should be an organization which is ready to step into an active unit and start operating. In other words, a reservoir of trained or partially trained men, to supplement the Regular Forces in case of war. So let's break down the picture. How many people out of the total number in the Air Force Reserve are even part-way ready? If all units are like the one I belong to, you might find a half dozen in each former VART squadron. And, I'll bet you that the greater bulk of your Reservists are in the outlying, or former VART, areas, and not in the metropolitan areas. *Real* training facilities are in the metropolitan areas. Penny wise and pound foolish. If the various grades run about the same as ours, the enlisted man is outnumbered about ten to one. If the Air Force had a training program, the figures would be more nearly comparable with those of the Regular establishment. If the enlisted man percentage is coming up it's because of the obligated Reservist. They're in because they can't help it and for no other reason—and it's a poor organization that can't attract and hold men without force!

Now, I thought that the reason for the recent survey was to reclassify all personnel so that their civilian jobs and Air Force specialties would be comparable. In that event, any man should be able to step into some Air Force specialty. So all this poppycock we're being fed as a training program could well be done away with, and instead, the following program be instituted: Everyone in the Air Force Reserve must take two weeks' training a year in whatever specialty the Air Force has decided he best fits. All Reservists must fill out a questionnaire stating what time or times he can go on duty; those who can go any time so state. In the Regular establishment, all personnel desiring to go on regular leave must give a sixty-day notice of intention. This will give whatever organization has the *Reserve Files* time to notify the individual Reservists that he or they will go on active duty to take the place of this Regular, and will give the Reservist time to notify his employer that he is going on a two-week tour. The Reserve is then living up to its mission. The Reservist gets two weeks' duty and pay, and training in his specialty, and the Air Force never becomes undermanned in a great number of specialties because there were Reserves to take the place of the greater share of Regulars when the Regulars go off on leave.

By the way, I never did say why I was going to reenlist. Three more hitches and I can get out of the fouled-up outfit and at the age of sixty draw enough pension to buy my beer and cigarettes.

Hugh D. Watson
Burlington, Iowa



brand new world

As a major development in its program of advanced design, Martin has expanded its operations into the field of atomic power.

This means that a top team of scientists, physicists and engineers is now ready at Martin to carry on a strategic long-range program in the application of nuclear energy to weapons systems development.

Yesterday, Martin took the lead in recognizing the importance of electronics, integrating this new science into its operations with engineering and development facilities second to none in the industry.

Today, the horizonless science of nuclear power has been added—again ahead of the calendar.

And tomorrow you can expect Martin to develop techniques for harnessing the potential of each new science to come.

You will hear more about Martin!

MARTIN

BALTIMORE · MARYLAND

Air Force equipment can be tested at sixty-five degrees below zero in the climatic hanger at Eglin AFB, Florida.

THE AIR PROVING GROUND

How an airplane joins

By Allan R. Scholin

AT EGLIN Air Force Base, in a Florida setting of palm trees, white sand, glittering blue water, and an atmosphere of peace and relaxation, you find an organization whose mission is to increase the already stupendous destructive capacity of American airpower.

Eglin is the home of the Air Proving Ground Command, an organization believed unique among the world's air forces. Though the smallest of USAF's major commands, it represents a cross-section of them all.

In the words of its commander, Maj. Gen. Patrick W. Timberlake, the Air Proving Ground Command is a "laboratory for testing the aircraft, weapons, and equipment used in air warfare."

"It is our job," he explains, "to take this new Air Force equipment and see what it can do under all possible operating conditions and in all types of climate."

Eglin's facilities are just about ideal for its mission. Within its forty- by twenty-mile boundaries lie almost 500,000 acres of land, including bombing and gunnery ranges and ten auxiliary air fields. Its massive climatic hangar, whose floor measures 200 by 300 feet, can reproduce temperatures of from sixty-five degrees below zero to 160 above, and smaller rooms off the hangar floor can simulate any weather conditions found on earth or in its atmosphere.

However, APGC teams roam the world to conduct tests as much as possible under the exact climatic and terrain conditions that might be encountered in combat. In the past year, almost three-fourths of the test hours were logged away from Eglin.

Insistence on combat conditions, like combat itself, can be dangerous, and Proving Ground pilots have been killed when test equipment failed under stress.

Maj. Edward A. (Rabbit) Johnson had a narrow escape but lived to report his problem and help see it overcome. He was at Edwards AFB, Calif., as part of an APGC team assigned to test a new fighter. The schedule called for a napalm bomb run. He checked earlier test records and read reports from both the manufacturer's test pilots and USAF pilots at Edwards that the plane was well suited to this type of mission.

Major Johnson, who had flown napalm missions in Korea, brought the plane in on target at top speed, just as he did when Commie anti-aircraft was firing at him. As soon as he hit the napalm release, there was a violent reaction, for which he was

totally unprepared, and he was severely buffeted around in the cockpit. A less experienced pilot might have fought the controls and crashed, but Major Johnson instinctively let up on the stick, the plane leveled itself out, and he brought it in safely.

Further tests in the next few days showed that a fix would require extensive redesign of the airplane, and would sacrifice some of its highly desirable characteristics. Instead, Major Johnson took it up again and again to determine the maximum speed at which it was safe to release napalm tanks, and that speed is now emphasized to all pilots checked out in the aircraft.

APGC is a major command (see chart, page 56) for one good reason —to assure its objectivity. Responsible to no one but the USAF Chief of Staff, Proving Ground calls the results as it sees them. It recognizes no responsibility to back up the decision of an individual who approved the manufacturer's design or to support people who are impatient, or perhaps reluctant, to let a production contract.

"As a separate command, we don't have to worry about someone else's problems," General Timberlake explains. "We don't concern ourselves about the factors that went into design of the equipment, though we appreciate that they must be numerous and complex. Nor do we care whether or not the manufacturer has the money or the facilities to produce the item in quantity. We try to find out only one thing—will it do the job?"

Since the ultimate job of each piece of Air Force equipment is destruction of the enemy, APGC project officers whittle down the question to a sharper point: "Is it a killer?"

This is the perspective with which they approach each test, and its value to the Air Force has been proved countless times.

The test history of one fighter-interceptor model is a typical example. Every airplane being built for the Air Force has its growing pains and the Proving Ground invariably adds to them. When its test pilots joined those from Air Research and Development Command in flying the plane in phase tests at Edwards, the two commands found a lot wrong, but were enthusiastic over its superior potential.

"As is usually the case with a complex weapon, we came up with a list of fixes a yard long," says Col. Walter B. Putnam, chief of APGC's operational test center. "But the manufacturer went back to work on the bird and built us a real airplane."

Eglin's mission is apparently unique. The Navy's Patuxent Air Station performs some of the functions handled by APGC for the Air Force, but calls on Eglin's facilities to carry on many exhaustive tests. Britain's Farnborough handles some parts of the missions of USAF's ARDC and Air Materiel Command, but leaves operational tests to RAF commands.

Colonel Putnam believes that Russia has no counterpart to APGC, basing his opinion on USAF evaluation of the MIG-15. Though he regards the MIG as a good fighter plane, he believes several of its areodynamic deficiencies could have been caught early and corrected if the plane had been subjected to centralized operational tests.

This is in line with the opinion of some experts that the Soviets, intent on numerical superiority, are committing approved designs immediately to quantity production, without taking time for modifications in the production line. If this is true, it is possible that the Soviets are being influenced by the German designers they pressed into their service, for this same concept of standardization made possible Germany's formidable *Luftwaffe*—and helped bring on its eventual defeat. On the other hand, it would be careless to presume that the Soviets had repeated that well-known error of rigidity.

Two factors govern APGC in its efforts to bring about better combat quality in Air Force materiel. As General Timberlake summarizes them: "We've got to be quick, and we've got to be right." In the development of new equipment, Eglin overlaps the point at which Air Materiel Command takes over from Air Research and Development Command. The Proving Ground isn't interested in purely experimental equipment, but it gets interested when ARDC comes up with an item that deserves a place in the Air Force inventory.

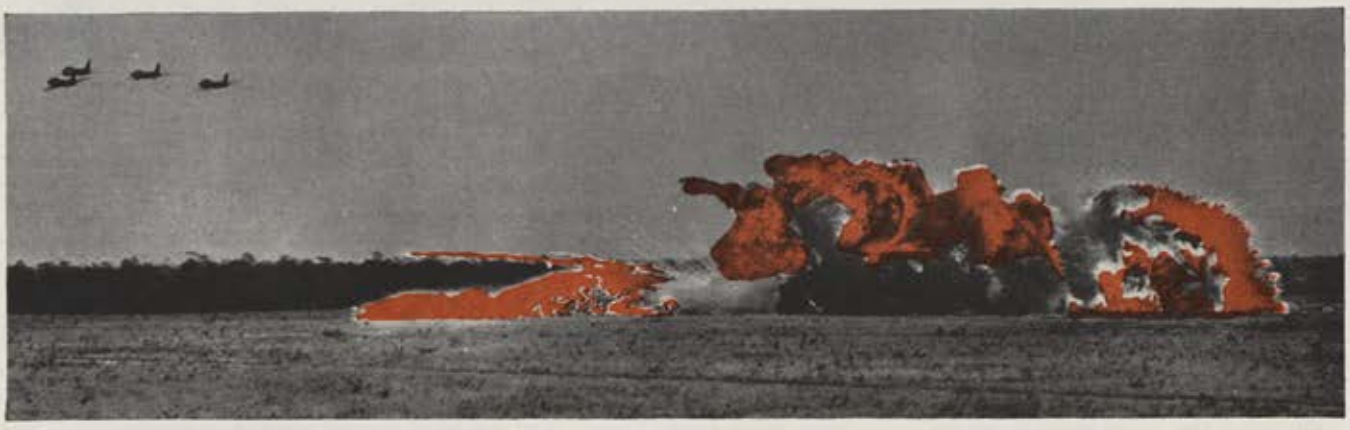
As Chief of Staff, the late Gen. Hoyt S. Vandenberg gave the Proving Ground a little breathing room between ARDC and AMC when he directed that early production schedules would be slackened to allow APGC to do its work and make recommendations for design changes to decrease costly retrofit of equipment produced in the meantime.

Nevertheless, considering the state

(Continued on page 55)

the AIR FORCE

In a setting of palm trees, white sand, and blue water is an organization whose mission is to increase the destructiveness of American airpower



A flight of F-86Hs fly away from a direct napalm hit during an aerial firepower demonstration at Eglin AFB, Fla.

New Turbine-Powered Cargo Carrier

hauls big pay loads faster

Allison T56 Turbo-Prop Engines Power New Lockheed YC-130 Transport

The initial flight of the YC-130 Medium Cargo Transport marks another great forward stride in transport aviation.

This giant carrier, built by Lockheed for the U. S. Air Force, is the first U. S. A. F. cargo plane designed from the very beginning for Turbo-Prop engines.

Powered by four of the new Allison T56 Turbo-Prop engines, this great new cargo airplane can haul heavy pay loads long distances at speeds required by our new modern combat jet Air Force. It is ideally suited to carry many types of heavy military equipment, on either long-range operations or in close support of troops. It also can be fitted as a combat troop carrier or an ambulance plane. The YC-130 can operate from shorter runways with greater rate of climb than either reciprocating or Turbo-Jet engine aircraft.

All this, plus its economical use of lower cost fuel, label the Turbo-Prop engine as the "work horse" power for future transports. And Allison, with its unmatched experience in high-powered Turbo-Prop design and manufacture, today offers both T56 and T40 engines to serve a broad range of modern flight requirements.

GM GENERAL MOTORS Allison Division of General Motors, Indianapolis, Indiana

of the world and the vital necessity to keep ahead of the USSR in the technological race, APGC is under constant pressure. The pressure for speed is intensified by the realization that it had better be right in its conclusions. Vetoing a potential winner could be disastrous, but approving a lemon could be almost as bad in wasted money, productive resources, and materiel.

"It's a rough, tough environment," says Colonel Putnam. "Our pilots leave here with hearts pounding, eyes dilated, stomachs upset. But they know they have made more impact on the Air Force in this assignment than they could have contributed in any other. It's an excellent proving ground for combat leaders, too. When a man leaves here he really knows how to get the most out of his equipment."

Testing for operational suitability is only half of APGC's job. The other half is to put AF equipment through every conceivable maneuver to see what it can and can't do in a combat situation. The Command does this with each piece of new equipment—for instance, a new fighter will be rated in a series of tests on its capability as an interceptor, a long-range fighter-bomber, and a tactical support plane—but it also conducts tests on entire weapons systems in USAF use.

Basically, these are operational readiness tests in which every action of every participant is carefully noted and related to the total effort. To conduct these tests, APGC assembles experts from all commands concerned. If an interceptor pilot fails to find and hit the bogey, is it pilot error, or controller error, or did the airborne or ground electronic equipment fail, or did the attackers use extraordinarily effective evasion techniques? Perhaps the equipment just isn't good enough to do the job, or the personnel need more specialized training. Usually it is a combination of all these factors. APGC, with the help of other command representatives on the team, draws up a report pointing out ways to improve the net result.

There is an important corollary to these test assignments, too, which APGC performs. It provides valuable combat intelligence data by running tests to figure out what tactics an enemy might use against our combat operations and what we can do, in turn, to offset them. Naturally, these results are seldom made public. (One noted exception: during 1949 Congressional hearings on the vulnerability of the B-36, Eglin ran interception tests, found the big bomber's speed and maneuverability at altitude more than a match for 1949-model fighters. Then jet pods were added to help the B-36 maintain its edge over later model interceptors.)

APGC also tests enemy aircraft and materiel—as soon as it can get hold of these items or can put together enough information to simulate them—to give our combat units a reading on their potential employment.

Almost as a sideline, APGC is also an airpower salesman. Several times each year it is host to the Joint Civilian Orientation Conference, a group of leading civilian businessmen, educators, labor leaders, clergymen, and doctors assembled by the Department of Defense for briefing on the military establishment. At Eglin, APGC provides them with a firepower demonstration.

"It's impossible to appreciate airpower in the abstract," Colonel Putnam asserts. "People may read about the Air Force and see pictures of our planes and consider themselves well informed on airpower. But they just can't understand how powerful this weapon is until they see it. That's the purpose of our firepower demonstrations—to show the public how destructive airpower can be—to us as well as to an enemy."

APGC is not without its Air Force critics. In its insistence on objectivity, it is about as popular with other interested commands as the Inspector General. Some combat organization commanders are unwilling to accept APGC evaluation of aircraft destined for them and believe, besides, that their own crews are better qualified to develop combat techniques.

"We know operating commands can improve on our findings," Colonel Putnam admits. "Maybe as much as fifty percent. But that may come literally years after our tests, using airplanes that incorporate the changes we have recommended, and when we all know a lot more about the airplane."

To its critics, APGC points out that its findings are advisory only, and that USAF is the final authority on whether or not its recommendations are to be adopted.

General Timberlake concedes the limitations of APGC's work. "In our business we can never get an ideal test," he has commented. "We always

(Continued on page 59)

"Look, Ma, no hands." A ground crew at the APGC at Eglin AFB brings a B-17 drone in for a landing. This is one of many activities at the Florida base.

The Air Proving Ground Command

EGLIN AIR FORCE BASE, FLA.

Chief, Air Defense Division
Col. Thomas D. DeJarnette

Chief, Support Services Division
Col. Preston C. Newton

Chief, Electronics Division
Lt. Col. Philip E. Hopkins

Chief, Tactical Air Division
Col. Robert A. Elder

Chief, Operations Division
Col. Robert H. Allyn

Chief, Detachment #1 Hq AFOTC Nuclear Weapons Division
Col. William L. Orris

Chief, Strategic Air Division
Col. Joe C. Briley

Inspector General
Col. Charles F. Matheson

DCS/Operations
Col. Harry E. Goldsworthy

Commander
Col. Walter B. Putnam

AF Operational Test Center

Adjutant
Col. William C. Hood

Chief, Office of Information Services
Lt. Col. DeWitt R. Searles

DCS/Materiel
Col. Walter W. Woodard

Commander
Maj. Gen. Patrick W. Timberlake

Deputy Commander
Brig. Gen. Daniel S. Campbell

Surgeon
Col. Paul C. Gilliland

DCS/Personnel
Col. David S. Blackwell

Commander 3200th Test Wing (Maintenance)
Col. Donald B. Diehl

Commander 3205th Drone Group
Lt. Col. Edward F. Hoover

Commander 3201st Air Base Group
Col. Clifton D. Wright

Staff Judge Advocate
Col. William S. Dolan

DCS/Comptroller
Col. Hugh A. McCollum

Commander 3206th Test Wing (Technical Support)
Col. Marion Malcolm

Commander 3201st Air Base Wing
Col. Frank H. Mears

Commander 3201st Field Maintenance Group
Lt. Col. Nicholas Arabinko

Staff Chaplain
Lt. Col. Stanley M. Powers

Commander 3202d Installations Wing
Col. Ralph Canter

Commander 3240th Support Squadron (Command)
Lt. Col. Frank J. Hancock

Commander 3201st Supply Group
Lt. Col. Conrad H. Diehl, Jr.

An *AIR FORCE* Magazine Chart
(Corrected as of November 10, 1954)

Last "Bird Dog" joins the Army

In October, the Army took delivery on its 2,480th L-19 "Bird Dog"—and a brilliant four year phase of Cessna military production came to a close. The last of the L-19's had been produced.

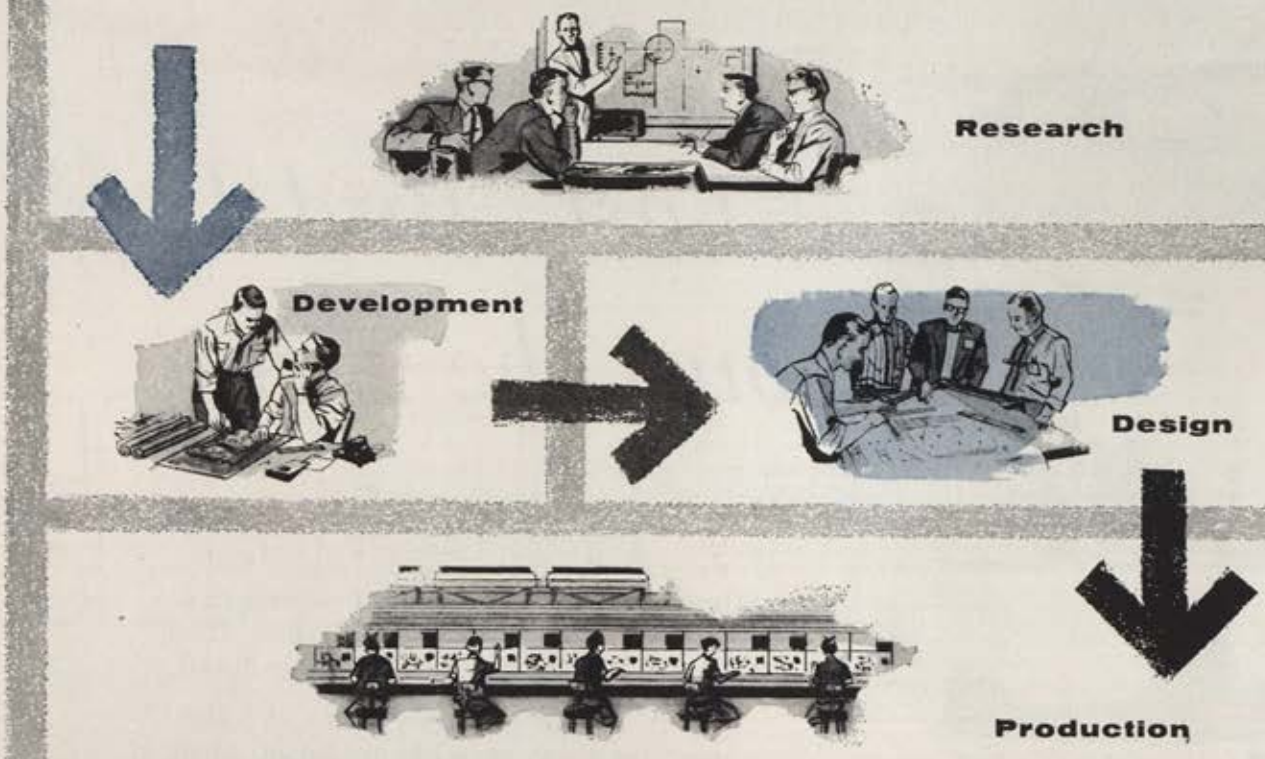
But there is not even a hint of retirement for these versatile airplanes. Most L-19's are still on the job. They will stay in service indefinitely, handling an amazing variety of assignments for seven basic Army branches.

Cessna's IRAN program (Inspect, Repair as Necessary) will keep the L-19's flying. Only recently, the *second* L-19 off the production line returned to Cessna. "Number 2" needed only minor repairs and modification. It will go back to active duty after its visit to Cessna's IRAN.

Here at Cessna, there will always be a warm spot in our hearts for the "Bird Dog." We could set no higher goal for future Cessna military contributions than to match the great record of a great airplane—the L-19.

CESSNA AIRCRAFT CO., WICHITA KAN.

Cessna®
AIRCRAFT COMPANY



AN INTEGRATED ELECTRONICS OPERATION

Navigational Gear
Guided Missiles
Radar
Noise Rejection
Counter Measures
Computers
Communications
Terminal Equipment
Transistors

Hoffman's reputation for getting things done is due, in part, to the unification of Research-Development-Design-Production into one closely integrated electronics operation. At Hoffman – instead of the usual four completely separate operations – one technical director is assigned to co-ordinate each new project from start to finish. Every new project is developed in close cooperation with the divisions ahead, including the practical problems of quantity production. This integration practically eliminates the all-too-common duplications and overlapping of functions, the errors and re-work caused by poor liaison, and materially cuts down the usual time lag between the testing of the prototype and actual production. Hoffman has become a leader in electronics by doing progressively complex jobs – to specifications – to cost estimates – and on schedule.

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have to compromise between undue thoroughness which leads to delay, and undue haste which leads to error. The information we provide must be factual, but it must also be timely."

How it meets both these objectives was underscored in APGC's solution to a problem presented to it during the Korean war. USAF armament experts had come up with two similar rockets which appeared to be equal in every respect—in target penetration, dispersion ratio, and other ballistics factors. Yet combat performance records showed that pilots were making twice as many hits with one type as with the other.

It was essential that the armament people find out what there was in the one rocket which made it so much more effective in combat—yet their tests showed no appreciable differences. Perplexed, they turned the question over to APGC.

As usual, APGC project officers went to great pains to duplicate the Korean air combat situation—and came up with the answer. They knew that in Korea's hilly terrain, well fortified with Red anti-aircraft, and against troops well schooled in concealment, fighter-bomber pilots coming in full-bore often had only a second or two to spot and hit a target before they had to pull up. Reconstructing these tactics, APGC pilots discovered that in firing the successful rocket they could observe its track better, for, though both reached the same peak velocity, the first one possessed greater *initial* velocity. On the firing range and in ordinary strafing tests, this factor had been overlooked. But, as APGC proved, this split-second advantage in combat made it possible for the pilot instinctively to correct slightly while still on his brief run and often made the difference between hitting or missing the target.

No factor of USAF's combat performance is beyond APGC's scope. Its interests range from communications circuits to delivery of nuclear weapons. Its conscientious, dedicated men, working in their "rough, tough environment," make this midget among USAF commands a driving force to keep USAF's lead among the world's air powers.—END

ABOUT THE AUTHOR

Allan R. Scholin has contributed several articles to AIR FORCE Magazine in the past three years. An Air National Guard officer, he's employed in the Office of Information Services, Hq., Air Training Command, Scott AFB, Ill.

RENDEZVOUS

Where the Gang gets together

AIR MUSEUM: The National Air Museum is endeavoring to complete its reference library. Part of the national aeronautical collection, this library is used by the Museum staff and the aviation fraternity at large for research into aviation history.

Scattered issues of aviation magazines are needed to complete partial volumes already on hand. Our "want list" and a list of duplicate issues available for exchange can be supplied upon request. *Robert C. Strobell, Associate Curator, National Air Museum, Smithsonian Institution, Washington 25, D. C.*

CHINA-BURMA-INDIA VETS: As a service to all Air Force men who served in CBI, we offer a neat 3-inch decal of the CBI shoulder-patch in full color for your car window at only 5¢ each. Send self-addressed envelope to *Ex-CBI Roundup Magazine, Box 1769, Denver 1, Colo.*

"JONAH'S JAYBIRD": Approximately 300 "Jonah's Jaybird" certificates are being held at the Navy Department for lack of current addresses of recipients.

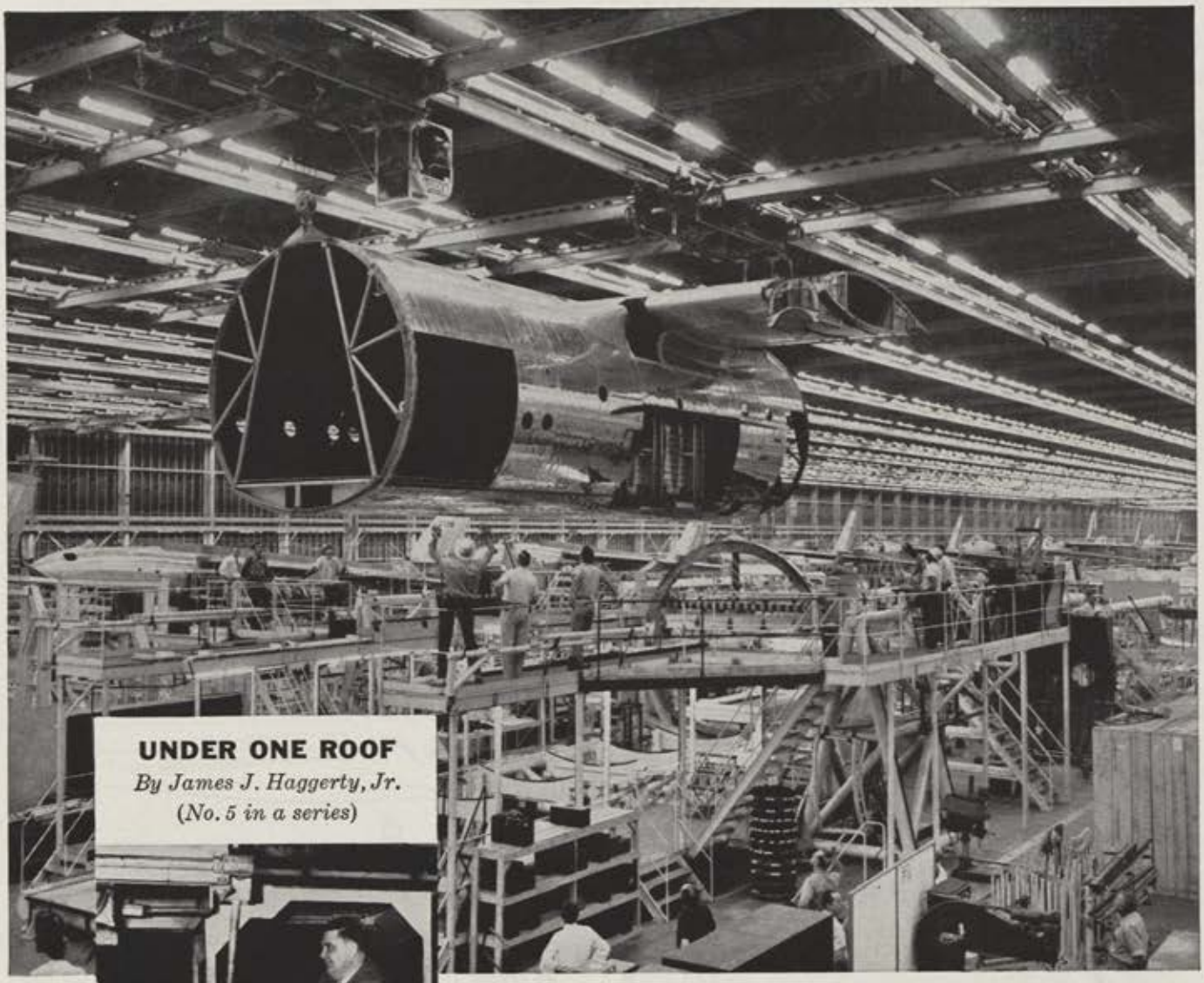
These certificates commemorate the rescue of Navy, Marine and Army Air Corps personnel by US submarines off the coast of Japan during World War II. Individually prepared and suitable for framing, the certificates are signed by Vice Adm. Charles A. Lockwood, Pacific wartime submarine commander.

US submarines cooperated with Army and Navy "Dumbo" aircraft to rescue 504 American flyers from enemy waters and beaches in some of the most dangerous operations of the war.

Any veteran who believes himself eligible for the "Jonah's Jaybird" certificate (they're free) should send in his name, rank at time of rescue, unit to which attached, approximate date of rescue, and name of the submarine to *Chief of Information, Navy Department, Washington 25, D. C.*

OLD BUDDIES: I would appreciate hearing from members of the old 70th Air Base Group, 76th Material Sqdn., who helped pioneer this base with me in 1941-44. Especially "Wally" Brondstatter, James Mason, James K. Deemer, Mueller, and the old gang. Back here after a tour of eighteen months in French Morocco I found a number of changes such as new buildings and many barracks closed since leaving here Spring 1944. *T/Sgt. Edwin D. Haberly, 3750th Installations Sqdn., Box 87, Wichita Falls, Tex.*

To be sure your Rendezvous item appears in the February issue, we should have your request by December 15.—THE EDITORS.



UNDER ONE ROOF

By James J. Haggerty, Jr.

(No. 5 in a series)

"Even the man in the rafters is on the line for teamwork at GAP-6 in Georgia"

Says James J. Haggerty, Jr., Aviation Staff Writer, Collier's

GAP-6 (Government Aircraft Plant No. 6), in Marietta, Georgia, is the free world's largest aircraft manufacturing plant *under one roof*—operated for the U.S. Air Force by Lockheed. It is currently building six-engine B-47 jet bombers and four-engine turbo-prop C-130A military assault transports—and there is room for additional aircraft projects.

GAP-6's main manufacturing building is big with a purpose. Its production areas are serviced by a 26-cab crane system operating over 39 miles of overhead track. Cabs are dispatched by short-wave radio for faster production and reduced man-hours.

The economical use of the radio-controlled crane system is but one example of the facilities available at GAP-6. The entire 76 acres of production floor space under one roof are equipped and laid out to speed the flow of material, reduce long hauling, shorten lines of communication and promote teamwork in manufacture of multi-engine jet aircraft.

These facility advantages are reflected in fewer man-hours and lower costs, making GAP-6 a vital part of America's defense industry.

U.S. Air Force
Govt. Aircraft Plant No. 6

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Aircraft Corporation

Georgia
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(a Lockheed advertisement)

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DOUGLAS DC-4

MARTIN SILVER FALCON

Eastern Air Lines (in common with most of the world's airlines) derives multiple advantages from the use of Vickers Hydraulics. First, it has the best aircraft hydraulic equipment available. Second, it obtains the many benefits of standardization. Third, it has the undivided responsibility of a single source.

Vickers Hydraulic Equipment has proved by hundreds of thousands of hours in the air its claims of longer life, greater dependability, better performance and lower maintenance.

The interchangeability resulting from standardization means a smaller and more flexible inventory of spare parts. It minimizes the number of test and inspection fixtures. It makes for quicker and easier training of maintenance personnel through the need for familiarization with fewer products.

Write for Bulletin A5200-B describing the complete line of Vickers Hydraulic Equipment for Aircraft.

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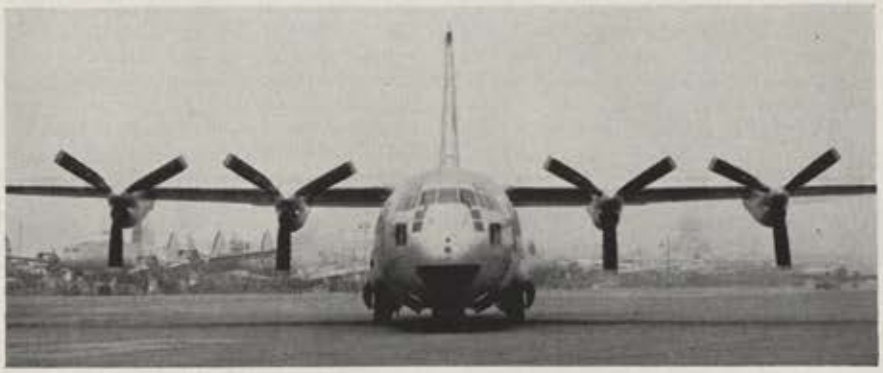
ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

TECH TALK

The Navy has announced that the "stinger" protruding from the tails of its **Lockheed P2V Neptunes** (see cut at right) contains special gear for spotting submerged submarines. Called the "MAD-bird" (MAD is short for magnetic airborne detector), the device spots its quarry by registering disturbances in the earth's magnetic field. MAD is based on physical principles that were used in World War II military operations and later in mineral exploration. New refinements permitted its incorporation within airplanes.

The long, pointed tail on this Navy Lockheed P2V contains special apparatus for spotting submerged submarines. It registers magnetic field disturbances.

In November, the **Air Research and Development Command** announced the development of a new **fixed gunnery trainer**—a classroom device for teaching fighter pilots the tactical use of a modern fire control system. The new flight simulator, designated F-86D/F-151 Fixed Gunnery Trainer, is aimed at improving crew quality by providing supervised training in basic techniques and procedures of air-to-air and air-to-ground gunnery. The trainer employs a **television pick-up** and projection system to portray a realistic simulation of targets and maintains a continuous true to life situation between interceptor and target. It was designed and manufactured by the **Rheem Manufacturing Company,** Philadelphia, in cooperation with the Wright Air Development Center, Dayton, Ohio.



The smiling mouth on this Lockheed C-130 is a plastic radome. The happy-appearing turbo-prop transport is now undergoing flight testing for the AF.

The Army has ordered more of these Hiller H-32 Hornets. They are powered by ram jets mounted in blade tips.

The Army has ordered an additional number of **H-32 Hornet** helicopters for field evaluation from **Hiller Helicopters,** Palo Alto, Calif. (see cut). The H-32 is powered by small, twelve-pound, 90-hp, ram-jet engines mounted on the rotor blade tips. It has an empty weight of about 500 lbs. and **can lift more than its own weight,** according to Hiller officials. An additional quantity previously contracted for by the Army, Navy, and Marines is scheduled for delivery by the end of this year. The ram-jets used in the H-32 were the first of that type engine to receive certification from the Civil Aeronautics Administration.

The development and production of a new **radar height-finder** with radiated energy strong enough to ignite a flashbulb (see cut), was announced by the Air Research and Development Command recently. The new set, developed at the **Rome Air Development Center, N. Y.,** concentrates radar energy in a narrow beam, like the rays of a searchlight, and can detect planes almost three times as far away as previous units of this type. The new set is used together with search radar to detect high-flying aircraft, providing information on distance, altitude, and direction of flight.

(Continued on following page)

A flashbulb ignited in mid-air by the energy radiated from a powerful new radar provides light for this photo.

On the morning of November 2, **Convair's** new vertical-takeoff plane, the **XFY-1,** rose from a runway at the Brown Naval Auxiliary Air Station near San Diego, Calif. At an altitude of 175 feet, the turboprop delta-wing "Pogo" went into the transition from vertical to conventional flight. After flying for a few minutes in the level flight attitude, the pilot ("Skeets" Coleman, Convair's engineering test pilot) came back over the field, pointed the nose skyward, hovered a few seconds and eased down, tail-first, to the runway. The historic flight lasted twenty-one minutes.

Observers who were gathered for a demonstration of the plane a couple of days later witnessed a tragedy when the Navy's **YF2Y-1 Sea Dart** disintegrated over San Diego Bay. Convair engineering test pilot Charles E. Richbourg, 30, was killed when the seaplane exploded at about 800 feet and fell into the water. He was on a combination engineering and demonstration flight and was traveling at about 600 mph when the accident happened. Company officials were unwilling to guess why the Sea Dart exploded.

Gas turbine engines would give helicopters twice the power of piston engines of comparable weight, according to **Harold T. Hokanson,** director of development of a gas turbine helicopter engine at the **General Electric Company.** Speaking before the **American Helicopter Society in Washington,** Hokanson said that weight to horsepower improvement, fuel economy, low noise level, durability, and reliability were some of the reasons that gas turbines were "tailored to helicopter requirements."

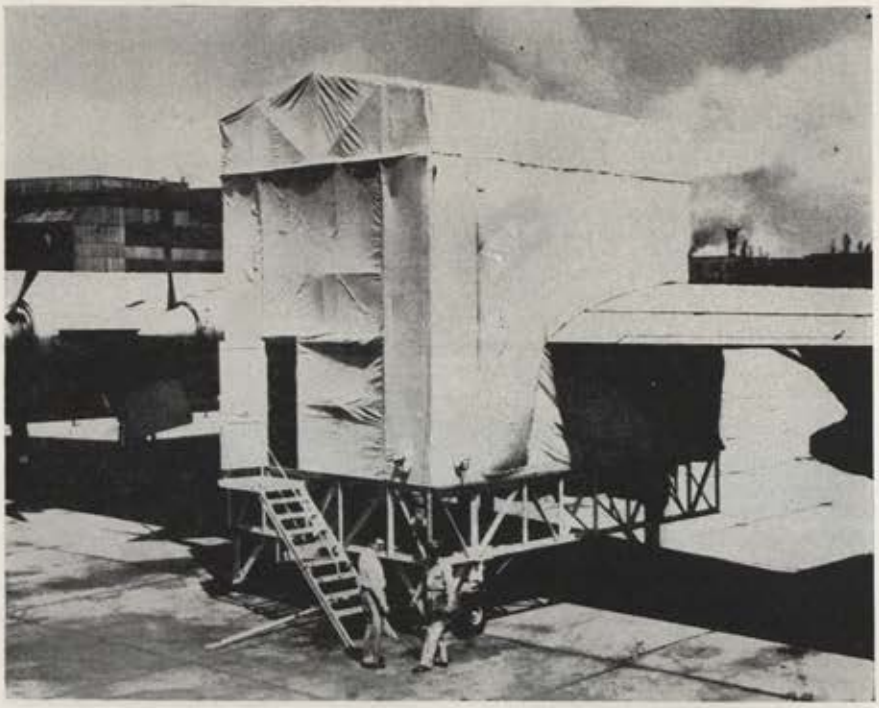
Latest in the Bell Model 47 series — the 47H — is a streamlined version for the passenger and executive market. It will be available early next year.

A new mobile **"wrap-around' maintenance shelter** for servicing B-36s (see cut) has been developed for the USAF by the **Luria Engineering Co.,** Bethlehem, Penna. Mounted on four wheels, the shelter can be installed by a crew of six in less time than it takes to get the plane into a conventional hangar, according to Grant A. Sattem, vice president of Luria. The shelter consists of a structural steel framework with corrugated aluminum roof, and sidewalls covered with fabric.

The Army has ordered additional production of the **Sperry and Army Ordnance "Skysweeper,"** 75-mm anti-aircraft cannon for defense against low-flying attacks beneath missile range. The weapon was designed to meet the threat of **supersonic attacks** at low or medium altitudes and is said to be capable of spotting jet aircraft, tracking them, and computing range data within the few seconds allowed by high speeds.

An Air Force contract "in excess of $6,000,000" for remote-controlled, radar-directed aircraft **armament systems** has been awarded to the **General Electric Company's Aircraft Products Department.** The systems will be used in the AF's new Douglas RB-66 and B-66 bombers.

Boeing Airplane Company has developed a camera device for making multiple exposures on a single piece of film at speeds up to one three-thousandths of a second for **photographing wind tunnel experiments** with bombs, missiles, and droppable fuel tanks. Called "Pinwheel," the device consists of a nineteen-inch aluminum disk with four slots near the rim that revolves in front of the lens of a standard Speed Graphic camera. As the wheel rotates, the slots admit enough light to expose the film, thus giving a sequence shot of the drop on a single negative. This provides engineers with a quickly available picture of the tumble and drift of objects without having to process and view hundreds of feet of motion picture film.



The AF has placed an order for a number of these J-2 maintenance shelters. Developed by Luria Engineering Co., the shelters are "wrapped around" the wings of the B-36 to provide speedy engine servicing in any kind of weather.

General Electric Company has proposed a new concept in the development of jet engines that they say should reduce lead time and costs. Speaking in Miami recently, G. E. Fouch, General Manager of G. E.'s Jet Engine Department said that G. E. plans to "investigate new principles, revolutionary new ideas, and put them together in actual engines to demonstrate whether or not these new principles work, and to find out as quickly and as inexpensively as possible." Mr. Fouch said that lead time could be cut by a full year or more by using a **"demonstrator" engine.** This concept would also permit construction of a "dream" engine using radical departures from existing designs to see if it would work.

Ryan Aeronautical Company's new jet engine test cell is being equipped with elaborate silencing equipment to muffle the noise created when testing powerful jet engines and afterburners. According to officials at the company, the silencing

New Piper Tri-Pacer has increased hp.

equipment will cut sound wave intensities down to the point where persons immediately outside the test cell will be able to converse in normal tones with no more interference than would be caused by an unprotected turbojet operating at a distance of four miles away.

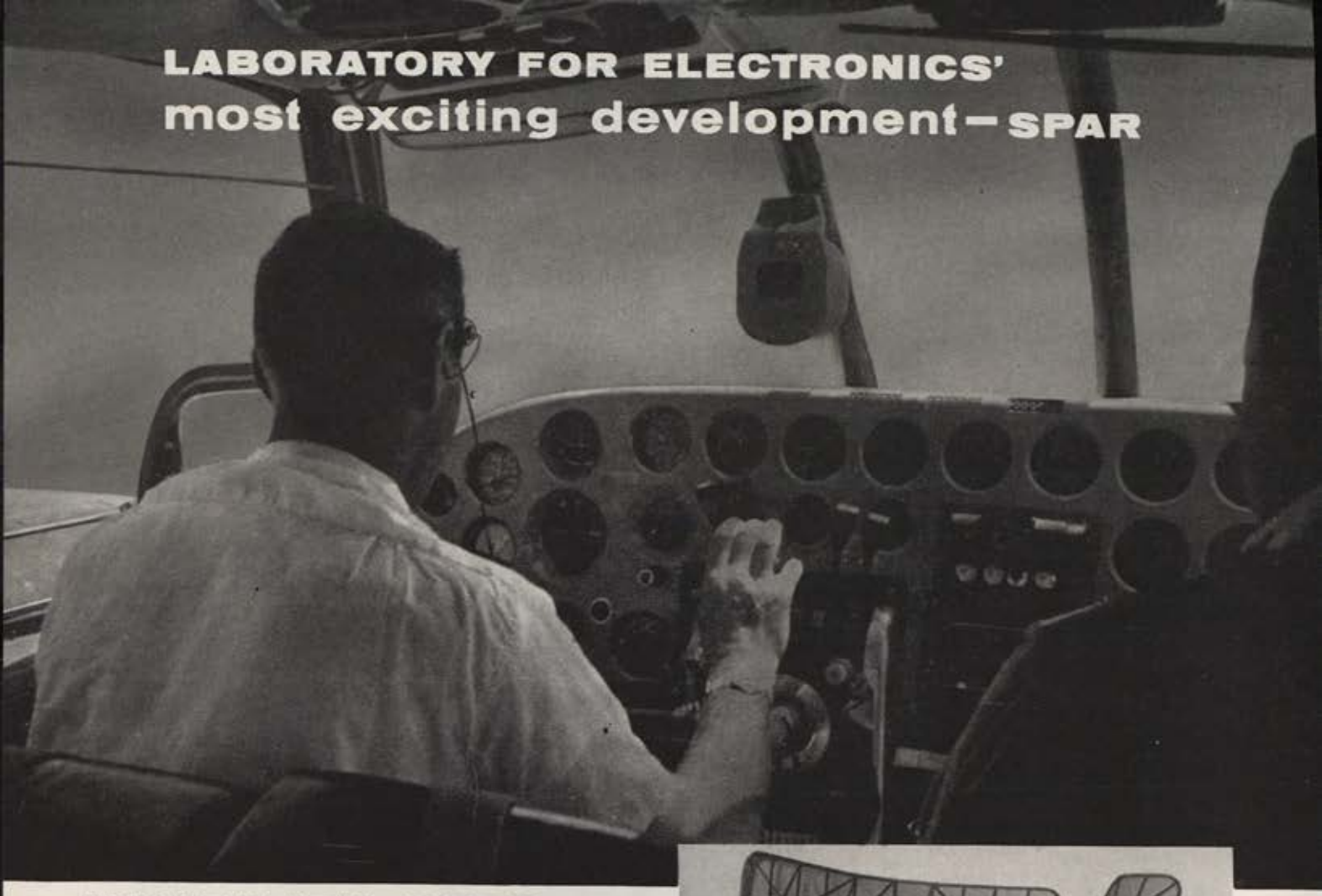
TECH NOTES . . . Vice Adm. Charles E. Rosendahl, USN-Ret., veteran lighter-than-air pioneer, recently said that an **atom-powered dirigible** might be the efficient way for transporting cargo, and urged that Congress investigate the subject . . . **Boeing Airplane Company** re-

Beechcraft Model C50 Twin-Bonanza.

cently rolled out the 1,000th B-47 Stratojet for the AF at its plant in Wichita, Kans. . . . **The North American FJ-4,** latest carrier-based jet, has made its first flight . . . The **Riley '55,** a more powerful version of the Riley twin engine conversion of the **Navion** has been introduced by **Temco Aircraft Corporation** in Dallas, Tex. It has a new 170-hp Lycoming engine . . . The new **Piper Tri-Pacer 150** has a **150-hp Lycoming** engine, an increase of fifteen horsepower over the engine used the previous two years . . . The **Beechcraft Model C50 Twin-Bonanza,** latest version of the six-place executive aircraft, has fifteen more horsepower than the model it supercedes . . . A $3,-

Shown in Dallas—Temco's Riley '55.

000,000 AF contract has been awarded to **Lear, Inc.,** for an initial quantity of a new Lear autopilot for **Republic F-84F Thunderstreak** jet fighters . . . The Navy has awarded McDonnell Aircraft Corporation a $38,700,000 contract for development of an advanced all-weather, attack fighter.—END



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L/E SPAR

The READY ROOM

The stage is being set for the newest in a long series of **Universal Military Training** programs to be sent to Congress.

The Eisenhower Administration's version will go to the 84th Congress shortly after it convenes next month, and it will call for the principle that **"everybody serves."**

After months of consideration by committees, commissions, and government agencies, including the Department of Defense, the "new look" UMT program contemplates that America's youth will serve **either six months, two years, or four years.**

Selective Service registrants could volunteer for any of the **three categories** of service. Realizing that the majority will volunteer for **six months of active duty**, the Administration program is designed to make this phase as unattractive as possible. This will be accomplished by stepping up the Reserve obligation of this group **from six to ten years;** by establishing a **flat pay scale** of thirty dollars per month; and by ruling these trainees **ineligible for GI benefits.**

Those who volunteer for **two years of service** would be permitted to enter only those services which accept two-year men. At the moment, there is only one such service—**the Army.** The man who elects to go for two years would have a six-year Reserve obligation.

Those who volunteer for **four years** would enter either the **Navy** or **Air Force,** the two services which require four-year original enlistments. Upon completing four years in either of these services, a man would have a **four-year Reserve obligation.**

Legislation to implement the program is being prepared in the Pentagon and the whole package is scheduled to go to the Bureau of Budget to have a price tag affixed on or about January 8.

The plan **represents a compromise** between proponents of two-year, across-the-board service, to be followed by six years of Reserve obligation, and the Navy and Air Force who have insisted during the lengthy discussions that their four-year enlistment requirement must be kept inviolate. They based their arguments on the fact that both services are so highly technical that it takes at least two years to train a man before he can begin to perform his special skill.

In essence, the "new look" program represents **no major variation** from the present Selective Service law. The **principal change** is that it introduces the six-month category of service and it will make available, potentially, a larger pool of manpower to the Reserve components.

The Administration plans a major information effort to acquaint the American public with details of the program in advance of the convening of Congress.

° ° ° °

In an effort to encourage greater participation, Air Force plans to **survey some 80,000 Reserve officers** and give them their choice of:

- Taking part in the Reserve program.
- Retiring.
- Resigning.

Maj. Gen. Robert Browne, right, First Air Force, was on hand for the opening of New York's Air Reserve Center. Others, in usual order: Col. Bernard C. Rose, Center, commander; Col. Leslie R. Shope, and Col. Jesse Williams.

Maj. Gen. Chester E. McCarty, new commander of TAC's Eighteenth Air Force, flew 99 combat cargo missions into Korea during the wartime operations on that peninsula.

The tremendous project is tied in with provisions of the **Reserve Officers Personnel Act** which is scheduled to go into effect next July 1. ROPA requires that Reserve officers participate in order to be eligible for retention and promotion. The degree of participation is determined by the respective services and Air Force has decreed that its Reserve officers must accrue a minimum of fifteen points per year.

The 80,000 to be surveyed are, for the most part, currently inactive. Air Force hopes a large percentage will elect to earn the required fifteen annual points after they have been notified of the three options open to them.

The final determination of who will be retained on the active rolls and who will be dropped will be made by screening boards to be convened at the Records Center in Denver.

Two categories of officers are certain, however, to be retained. One category includes those who served in **both World War II and Korea.** The other category includes **doctors, dentists, nurses and key specialists** in critical fields.

Meantime, Air Force is preparing a number of amendments to ROPA, to be submitted early to the 84th Congress.

The principal amendment deals with **date of rank,** the seed from which ROPA sprang. The bill provides that the Reserve officer's date of rank begins with the date of his appointment to the grade he holds. Air Force wants date of rank adjusted to reflect the number of active-duty days served, or points earned. This is essentially the system Air Force now uses in adjusting date of rank for the Reserve officers it calls to active duty.

Another Air Force proposed amendment would permit the service to promote second lieutenants to first lieutenants after eighteen months in grade. ROPA requires three years in grade before this jump can be made.

° ° ° °

The Air Force Association's **National Air Reserve Council** will be reorganized in the coming year, according to a decision reached at a Council meeting in Washington last month.

(Continued on following page)

Mrs. John Elliott, Kansas Women's Aeronautical Association president, presents her group's annual flying award to ROTC Cadet Ronnie Williamson of Wichita U. On hand for the presentation were Lt. Col. Elmon Cobb, the PAS&T, and his assistant, Maj. William Borders, who's at right.

The new Council will include **one member from each AFA region,** to be appointed by the President upon recommendation of the regional vice president. The Council chairman will be selected by the President without regard to region.

The Council will undertake two studies and consider action on both at a meeting in Colorado Springs, February 11 and 12. One deals with creation of an **Air Force Reserve Bureau** in the Pentagon similar to the Air Force Division of the National Guard Bureau. The other concerns the possibility of **Reservists earning points** through participation in the **Ground Observer Corps** program.

° ° ° °

Maj. Gen. Chester E. McCarty, who was recalled to active duty for the Korean war, has been named commander of Tactical Air Command's **Eighteenth Air Force.**

A life member of the **Air Force Association** and former president of the Air Reserve Association, which merged with AFA a year ago, General McCarty served principally with Air Transport Command during World War II and was called to active duty for the Korean war in April 1951, as commander of the 403d Reserve Troop Carrier Wing. He took command of the 315th Combat Cargo Air Division in Japan in April 1952, and held this post until his assignment to Eighteenth Air Force.

Between 1948 and 1951, General McCarty was a member of the Air Force Section 5 Committee on Reserve Policy. He also has served as a member of Defense Department's Reserve Forces Policy Board.

° ° ° °

Air Force policy which requires that **non-prior service Air National Guard airmen** enlist in the Air Force as basic airmen, although they might have completed basic training in the Guard, is causing some concern among Air Guardsmen.

Air Guardsmen must pass the same aptitude and general classification tests as those who enlist in the Regular Air Force. Further, they are given basic training as outlined in ConAC Manual 5-2. Many non-prior service Air Guardsmen are graduates of Air Force service schools. The presence of any—or all—of these factors, however, cuts no ice when the non-prior service Guardsman decides to join the Regular establishment. He goes in as a basic airman.

In contrast, a **Civil Air Patrol airman,** who has received a Certificate of Proficiency, can enlist in the Air Force as an airman third class. This, say a number of Guardsmen, smacks of discrimination and requires correction.

AFA's Air National Guard Council has been asked to recommend to the Air Force an amendment to the policy which would permit ANG airmen, who have completed basic training in the Guard, to enlist in the grade of airman third class. Proponents of the amended policy further ask that ANG airmen in the higher grades—up to airman first class—be permitted to enlist in grade.

The Council also has under study a proposal to equalize travel allowances between ANG student officers and some 4,000 ROTC graduates who received ANG commissions several months ago.

ANG student officers are not authorized dependents' travel allowances. Within a month after the ROTC graduates received their ANG commissions, the law was amended to extend these benefits to those ordered to active duty in excess of one year.

The married Air Guard officer, who attends an Air Force service school, should receive the same consideration as the ROTC Guard officer, the Council has been told.

Col. David L. (Tex) Hill, once of the Flying Tigers and now commander of the 8707th Reserve Pilot Training Wing, is briefed by Maj. Thomas Preston, Jr., before jet flight.

° ° ° °

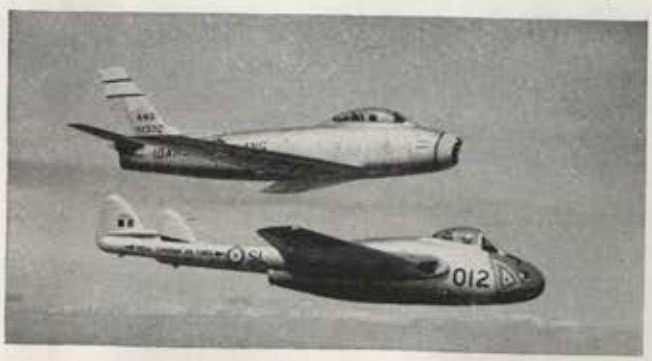
Air Guard weather units have been given mobilization assignments to six Air Force weather squadrons in this country and in Hawaii.

National Guard Bureau reports that the ANG weather units will train primarily toward integration with the Air Force squadrons in the event of mobilization.

° ° ° °

Notes on the back of a Form 175 . . . Some sort of record may have been set on a recent weekend when the **121st Fighter Squadron,** DCANG, put every aircraft assigned, including its T-6s on a sustained two-day operation, and came off the exercise with every one still in commission . . . Baltimore's Junior Chamber of Commerce has taken a strong stand in favor of the **ANG's 104th Squadron** being permitted to base at huge Friendship International Airport . . . But **New Jersey's 108th Wing** squadrons at Newark Airport are still being denied permission to operate jets there.—END

Canada's 19th Reserve Wing trained this year at Boise. Here, a Vampire runs with an F-86 of Idaho's 190th Sqdn.



FRIEND or FOE? *How many? How far? How fast?*

Time: 0314, on a U.S. Aircraft Carrier somewhere on the high seas. Wind 44 knots; visibility zero. And, somewhere out there in the fog are four "objects"—either as friendly as a neighbor's puppy or as deadly as a rattlesnake!

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On October 15, 1783, in Paris, France, Pilatre de Rozier made history when he ascended eighty-four feet in this balloon.

The day the Balloon went Up!

By LEN MORGAN

EVERYONE knows that Orville and Wilbur Wright flew the world's first airplane, but who remembers the first man to fly in any sort of machine? His name was Pilatre de Rozier, whose voyage into space was successfully accomplished several years before the birth of Dan Wright II, grandfather of the famous Dayton brothers!

It all began with a silk petticoat and two French brothers named Stephen and Joseph Montgolfier. Relaxing before the fire one evening, Stephen noticed the peculiar effect of heat waves on the drying family wash. His wife's voluminous undergarment, if placed too close to the hearth, would rise of its own accord from its wicker frame and float toward the ceiling. The brothers, papermakers by trade and experimenters by nature, quickly decided to harness these weird, heat-created "gases." After considerable tinkering the pair announced an invention with which they could "dispatch a great weight into the heavens that would rise and sail about amidst the clouds and sink to earth at human bidding." A public demonstration was scheduled on June 5, 1783, in the village of Annonay, south of Lyons, and formal invitations were sent to local government officials.

When the Montgolfiers arrived in the marketplace to make good their boast, they set up a framework supporting a large pile of linen and lighted a fire of straw beneath it. Slowly, as the mystic "gases" rose from the flames, the linen stirred and swelled into a huge, elaborately decorated ball, 110 feet in circumference, its interior bulging with 22,000 cubic feet of hot air. Total weight of the amazing affair was 300 pounds. At last the great ball would hold no more. In the words of an excited spectator: "Strong arms are required to retain it. At a given signal it is loosed, rises with rapidity, and in ten minutes attains a height of 6,000 feet; it proceeds 7,668 feet in a horizontal direction, and gently falls to the ground."

Thus France can rightfully claim the invention of the world's first successful flying machine. An obelisk marks the spot from which the frail craft rose, one hundred and seventy-one years ago. Word of the incredible feat traveled quickly and a dispatch was soon on its way to the brothers from King Louis XVI at Paris, requesting a royal performance. Three months later the king had his wish when a new aerostat ("balloon" was a word of the future) soared skyward at Versailles, carrying a live sheep, rooster and duck, bringing the take-off weight to 700 pounds. The ball rose promptly, climbed to 1,500 feet and drifted with the breeze for almost two miles before cooling and settling into a wood. The rooster was found to be injured, not from the rigors of flight but from a fight it had with the sheep.

The inevitable question arose—could the thing lift a man? The brothers were confident it could but declined to offer themselves for the experiment. And there was a complete lack of volunteers from among their fans. King Louis had a suggestion. He would provide two men under sentence of death and reward them with pardons—if they survived.

It was then that young de Rozier entered the picture. "What, Sire," he is said to have exclaimed, "are vile criminals to have the glory of being the first to ascend into the air?" The 29-year-old scientist offered himself for the try.

On October 15 the Paris launching site was packed with the curious. De Rozier climbed boldly into the gallery of the giant new *Montgolfière* and gave the signal. The bag of hot air rose to eighty-four feet, the limit allowed by the restraining cords, and held the height for four and a half breathtaking minutes while de Rozier heaped straw and wood onto the blazing grate suspended beside his seat. Upon returning to earth he reported "not the slightest inconvenience whatsoever of giddiness or shock."

In late November the new hero of France and a friend were cut entirely free in a two-ton aerostat and sailed aloft

(Continued on page 73)

Upon returning to earth, de Rozier reported that he had felt "not the slightest giddiness or shock."

In September 1783, King Louis XVI witnessed the first ascent of living animals at Versailles. A rooster, a duck, and a sheep went up in this Montgolfier balloon.

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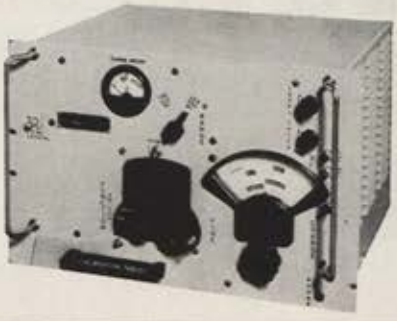

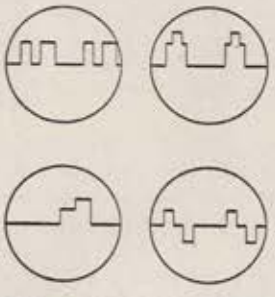

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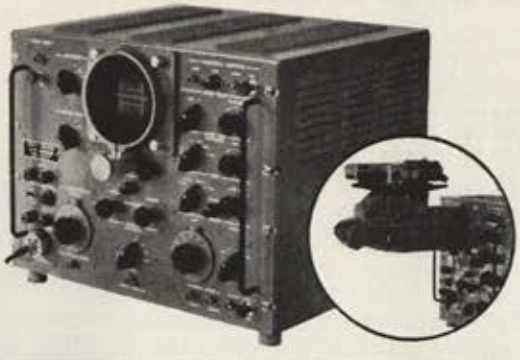

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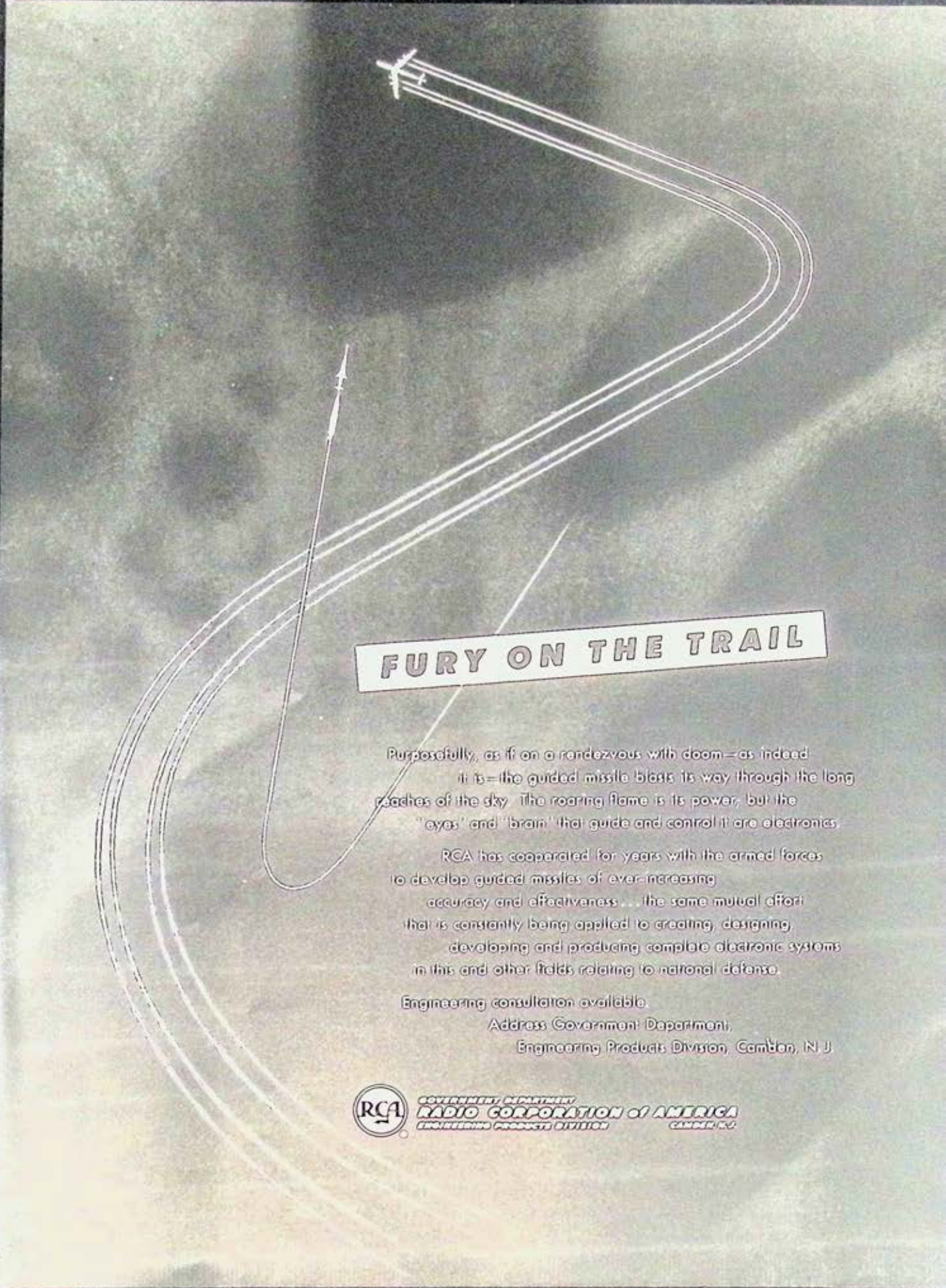
* * * HAPPY LANDINGS WITH GILFILLAN GCA QUADRADAR * * *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First AFA Units Formed in Germany

FIVE SERVICE SQUADRONS ARE ORGANIZED TO HONOR RETIRING COL. DIXON ALLISON

AFA is growing overseas as well as at home, with the formation this fall of the **first AFA units in Europe.** Five AFA Service Squadrons have been formed in Germany, in the USAF's 7050th Air Intelligence Service Wing.

The Wing's Operations Officer, **Col. James H. Hickerson,** first contacted AFA Headquarters about this program. The Wing wanted to honor its Commander, **Col. Dixon M. Allison,** who will soon retire after thirty-two years on active duty. The men of his command felt that the existence of AFA Squadrons in the area would be the best expression of their feeling for Colonel Allison.

It was on the eve of his departure for the US that AFA Charters for five new Squadrons were presented to him, along with a Charter for the Dixon M. Allison Group, named in his honor. In addition, the Squadron members gave him a Life Membership in the Association.

The ceremony was held during a banquet at the Neroberg Officers Club, Weisbaden, Germany, in October, with 200 people present. Brig. Gen. Edward H. Porter, Deputy Chief of Staff, USAFE, presented the Life Membership pin to Colonel Allison.

The five new Squadrons are Rhein/Main, Bad Tolz, Munich, Frankfurt am/Main, and Mannheim. The Allison Group consists of these five units, some 100 officers and airmen. Colonel Hickerson is the AFA Group Commander.

Harold R. Hansen, Seattle, a member of the Rainier Squadron, has been appointed Commander of the Washington Wing, according to an announcement from Winfield G. Young, Northwest Regional Vice President.

Hansen has been active in the Air Force Reserve program for many years, and was a member of the Seattle ARA Chapter before the ARA-AFA merger last year. He was instrumental in the conversion of the Chapter to AFA.

The new Wing Commander says plans for the future are concerned primarily with the organization of new units in the eastern section of the state, where there has been only limited AFA activity.

SQUADRON OF THE MONTH

Wilbur & Orville Wright Memorial Squadron
Dayton, Ohio
CITED FOR

outstanding programming in the field of Youth Aviation Education. Tours of Wright-Patterson Air Force Base sponsored for high school seniors of the area have resulted in increased interest in Air Force problems.

On September 29, Dayton's **Wilbur & Orville Wright Memorial Squadron** was host to 100 enthusiastic high school seniors from Beaver Creek, Chaminade, Patterson, and Roosevelt High Schools, for a tour of **Wright-Patterson Air Force Base.**

Official guides for the tour were Capt. Edmund P. Sykes and M/Sgt. Robert L. Oyler, both with the 3500th USAF Recruiting Wing. The Base Office of Information Services cooperated on the "open house."

The day included a tour of the base

(Continued on page 83)

Colonels Hickerson (left) and Allison at AFA meeting in Germany (see text).

Colonel Allison and General Porter talk over new AFA activity in Germany.

The Santa Monica Squadron's October meeting featured J. C. Garrett (center), President of the Garrett Corp. With him are Squadron Vice Commander Fred Cohen (left) and James Czach, Cmdr. of AFA's "Squadron of the Year."

Dayton high school seniors hear details of the McDonnell XF-85 from Capt. Edmund Sykes and A/3C Kenneth Mobley, 3500th USAF Recruiting Wing. The students toured Wright-Patterson AFB as guests of the Wright Squadron.

How TEMCO helps Boeing build B-47's

Thousands of man-hours of TEMCO's production skill are incorporated into the famous Boeing Stratojets performing so sensationally around the globe today. For over three years, TEMCO has been delivering aft fuselage sections to Boeing, Wichita. Proud to be associated with such an outstanding aircraft builder, TEMCO believes that such cooperation within the industry is a big factor in the Nation's defense potential.

Boeing is but one of the industry leaders relying upon TEMCO to help simplify production. Current contracts also include fabrication of major components for Convair, Lockheed, McDonnell, and Republic. TEMCO earned these contracts because of its established reputation for delivering a quality product, on schedule, at one of the lowest costs in the industry.

Rear fuselage sections for the B-47 Stratojet have been rolling from TEMCO's assembly lines since 1950. On the overhead conveyor assembly line shown above, final equipment items are installed in the components.

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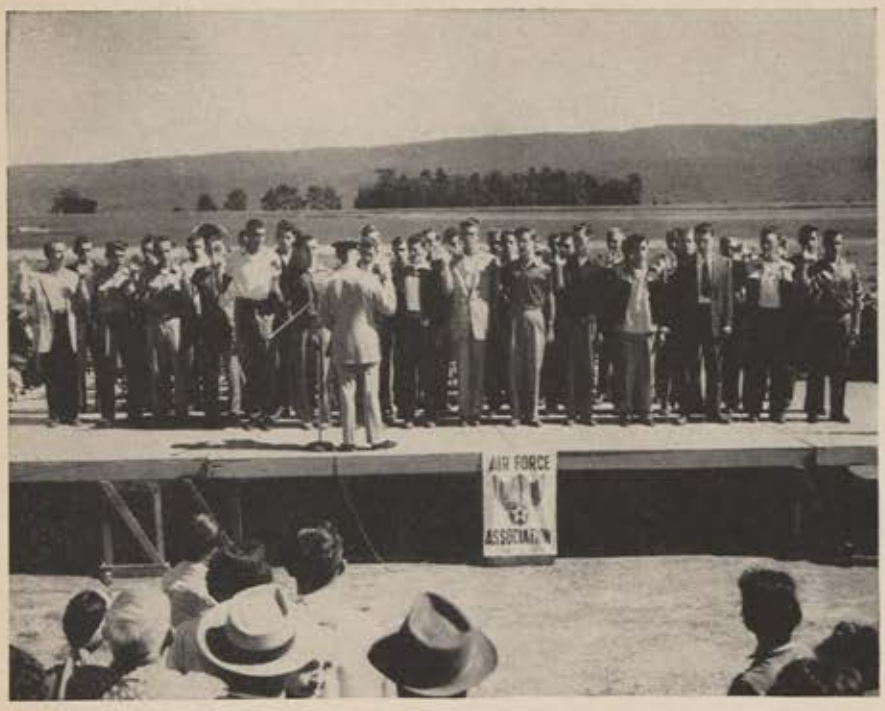

In Pennsylvania, new USAF recruits are sworn in during an Air Festival sponsored by AFA's Mifflin County Squadron. Members of the Squadron helped the AF recruit the group.

AFA NEWS——CONTINUED

facilities, including the AF Technical Museum, a visit to the Wright Brothers Memorial and the site of the Wrights' first hangar, and a luncheon.

Paul Mantz, veteran pilot who holds many speed records and trophies for precision flying (including the Bendix Trophy, which he won three consecutive years, 1946-47-48), has been honored by the **Washington, D.C., Capital Squadron.** Mantz received the Squadron Trophy for "outstanding contributions to aviation," for piloting the converted B-25 that flew across the nation while scenes were being filmed for the "America the Beautiful" portion of the movie "This Is Cinerama."

William F. Kraemer, Squadron Commander, presented the award, a miniature of the Billy Mitchell bomber, during an intermission of the film at the Warner Theater in Washington. AFA's Regional Vice President, **Willard W. Millikan,** spoke briefly to the audience.

Praising the spectacular flying and camera work of the crew in Mantz's airplane, Kraemer said that as a result millions of Americans had been able to see America in a new and thrilling way.

Last month the **San Francisco Squadron** participated in the dedication of that city's brand new International Airport. Eight hundred thousand people attended the opening, which extended over a three-day period, and many of them were introduced to AFA through the information booth set up and manned by Squadron members.

(Continued on following page)

AFA NEWS——CONTINUED

Carl Gamblin was appointed by Commander Elmer Barber to head the committee arranging the Squadron's participation. Bob Dobbins and Phil Lense helped him.

Frank Peipenbring, Jr., 1222 E. Maine, Enid, Okla., has been elected Commander of the new **Northwest Oklahoma Flight.** This is the first AFA unit formed in the state, but at least two more Squadrons, in Tulsa and Oklahoma City, are in the process of organization.

Coleman Smith was elected Vice Commander, Clyde Dains, Secretary, and Walter Morgan is the Treasurer. Councilmen are Bert Dryden, Gene Woelke, Rodney Kessinger, and Vernon Epp.

On January 19-23, the **Miami Squadron** is co-sponsoring **Aerorama**, a display of industrial and aviation developments at Miami International Airport, reports Wing Commander **Alex Morphonios.**

Detroit's Vandenberg Squadron recently held an awards luncheon at Selfridge AFB at which two of the city's top newspapermen were honored. **Brewster Campbell**, Executive City Editor of the *Free Press*, and **Edwin Pipp**, Aviation Editor of the *News*, were named honorary members of the Squadron. Philip Rosenberg, Squadron Commander, presided.—END

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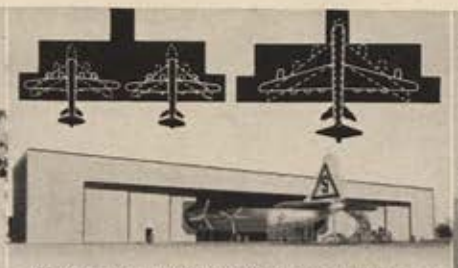

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Are Education and College Degrees Synonymous?

Bootstrap or Blackjack?

By Lt. Col. Edward R. Kandel

IS YOUR Air Force career doomed to failure because you lack a college degree? Are you getting a degree just "for the record"? Bootstrap or blackjack—which?

From the Pentagon to Pakistan, from Thule to Tokyo, from floating ice islands in the Arctic wastelands to the air attache in Bahia, Brazil, Air Force officers themselves are aware of an official concern over their educational status.

Air Force directives, regulations, letters, unofficial reports, newspapers and magazines—all emphasize education. Facts and figures to show the advantages of a college degree to an Air Force officer are woven into one paragraph after another.

As a result of the conditioning he has been subjected to, he reaches the conclusion that if he is ever to be promoted, to get a good assignment —in short, to amount to anything in the Air Force—he must have a college degree entered on his record. Where or how he gets it is unimportant. But get it he must. Of that he is convinced.

His basic motivation for education, then, is not a desire to improve himself; it is a motivation based on fear that his record won't "look good."

I object, not to education as such, but to the over-emphasis on the importance of a college degree in the liberal arts or the quasi-scientific courses, such as "bachelor of military science." I feel that the trend in our US Air Force toward over-emphasis on the college degree *per se* is open to question and may even be dangerous.

Air Force commanders at all echelons today are increasingly concerned about the education of their officers. Rightly so, too. The education of our Air Force officers conceivably could spell the difference between victory and defeat in a future all-out war. However, is the Air Force not mistaken in its apparent assumption that education and a college degree are synonymous?

The Wright Brothers, Henry Ford, Arthur Brisbane, Thomas Edison, Abraham Lincoln, Charlotte Brontë, and Ludwig von Beethoven, among many others, never had the "benefit" or "security" of a college degree. Of course, they all missed something, but they also missed the limitations of organized knowledge.

Indeed, there are some who believe that a college degree may be detrimental to education. Dorothy Canfield Fisher, an eminent writer, highly respected in the field of education, says: "Wherever else among the American people there may have been signs of a desire to go on with education in mature life, it has not been among the majority of college graduates. Education for other people, yes. As for them, 'they had it already.' Self-satisfaction over a small amount of education is allowed to slam the door in the face of intellectual advance. . . . There is an effect of producing a grotesque over-evaluation of the tiny amount of culture and learning already acquired, and a self-protecting Prussian disdain for anything else."

A cold impersonal analysis of those words can but tend to the conclusion that too many of us cloak ourselves with "self-protecting Prussian disdain."

Arthur Coleman, president of Alliance College, recently spoke of an "over-supply of the educated," but which I prefer to label an over-supply of the so-called educated. We would do well to analyze Coleman's words on education:

". . . As a nation we are changing, becoming more like Europe, where from time immemorial there has been what is known as an 'over-supply of the educated.' Of course there can never really be such a thing as an

(Continued on following page)

over-supply of *truly educated* people, but there can be, and there is rapidly coming to be an over-abundance of the *so-called educated:* of young people who have gone to college for social and especially for financial reasons. These, we are warned, are doomed in our generation to disappointment. In the future, we are told, the B.A. degree is not going to be a magic key to riches. In the future, there are going to be masses of people holding the B.A. degree who will *have to work with their hands.* As a nation we are going to have to get used to the idea that college is no longer a device for boosting us up the ladder of wealth" (*i.e.*, promotion).

Brig. Gen. Dale O. Smith, who frequently writes on Air Force subjects, said in an AIR FORCE Magazine article (April '54) that we are "low man on the totem pole" with respect to education in relation to the Army and Navy. He reports that 45.6 percent of our army officers and 55 percent of naval officers are college graduates. Further, he tells that "only 43.6 percent of active Air Force officers have college degrees."

General Smith then adds, "Thus the Air Force mission is being promoted by a corps of officers which is definitely at a disadvantage in dealing with the other services and with professional civilians." Are we?

Later on in his article, the general asks, "How can we get out of this educational hole?" Again, are we in as deep an educational hole as General Smith's article puts us?

No! Statistics prove otherwise.

The most recent survey conducted by the Census Bureau, US Department of Commerce, reveals that only 27 percent of civilian executives had had one to three years of college. Only 23 percent had completed four years or more of college. More than 4,221,300 managers, officials, and proprietors, excluding farmers—all males—were checked in the survey. The median was a high school education. Thus, we readily see that our 43.6 percent of college graduates compares favorably with the civilian executive percentage of 27.

For a specific example of the role played by civilian executives in industry, let us look at Eastern Air Lines, whose efficiency can be attested to by their yearly financial statements.

A review of EAL files reveals that approximately 35 percent of their executives are college graduates. This figure is higher than the Census figure, but lower than that of the Air Force.

Has the Air Force become so concerned with *percentages* of officers possessing college degrees that it has blinded itself to the actual value of these degrees? The fact that more than 43 percent of our officer corps are college graduates does not mean that this same percentage is educated.

There is a distinct difference between exposure to education and being educated.

The ability to communicate clearly with others is probably the most important of all military skills. Wars have been lost because of vague battle orders. Conversely, they've been won by clear-cut, concise instructions.

Communications—oral and written—are the lifeblood of any military organization. That tenet held true in the days of Genghis Khan. It held true also when the last battle order was written by a sweating young lieutenant at the edge of a rice paddy in the heat of battle under the very eyes of the enemy in Korea. It holds true today and will hold true in future wars.

But how many Air Force officers can write clearly? Some of our regulations and letters are classics of confusion. Some of them are still being written in language laughingly labeled "bafflegab" and "gobbledygook."

Today, too large a percentage of our officers cannot speak properly, cannot express themselves. Their halting and inarticulate speech and discordant diction stamp the mark of inferiority upon most of these military men.

Some of our officers have difficulty in reading. It is true that Air Command and Staff School and Air Training Command have excellent courses in reading, writing, and public speaking. But they do not reach all officers.

The time and dollars saved by an officer corps that could read, write and speak the English language fluently can never be accurately figured. But a glance around our offices would give us some idea of the fantastic amount that would be saved if our officers were fluent in reading, writing and speaking the English language.

Let's look around us for a moment.

Here, an officer is biting his pencil to shreds as he labors to write a simple sentence. Another officer is reading and re-reading the same paragraph, mouthing the words, as he tries to understand the thought contained therein. A third is talking on the telephone, punctuating every other word with "Uh," or "No, that's not exactly what I mean."

Yet many of these men possess college degrees. Criticism by itself, of course, is worthless. What is really

(Continued on page 90)

AFA's Partners in Airpower

THE aviation industry's need to know more about its biggest customer was responsible for the birth of AFA's Industrial Associate program. Through it, firms with a stake in military aviation can participate in AFA activities and receive exclusive Industrial Service Reports, which keep them up-to-date on the organization and personnel of the United States Air Force. AFA's Industrial Associates also receive subscriptions to Air Force Magazine. *Affiliated firms have found that this information service fills an important gap in the supplier-customer relationship. Below are listed the companies now on AFA's growing list of Industrial Associates.*

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needed is constructive recommendation.

Air Force officials stress that, if the service is to raise its educational stature, "It must provide a system by which the officers will be educated."

With this I am in full agreement. But let us be practical in our approach to education. First things come first. I should like to make the following recommendations:

- That the Air Force conduct a survey among those officers engaged in Bootstrap to determine what percentage is studying because of conviction that, due to Air Force emphasis, a college degree is necessary for promotion and choice assignment. I'd suggest that *unsigned* questionnaires be used in this survey; and
- That every officer be tested on his ability to read, write and speak; that a passing grade be set up and the result of every officer's test be entered on his Form 66; that courses be given at every Air Force base in reading, writing and speaking; and that it be mandatory for officers failing to get a passing grade to attend these courses until such a passing grade is obtained.

No doubt, knowing that a college degree is on his record does give an Air Force officer a sense of security. All of us crave security—in one form or another. But there are two kinds of security. Just as one leads to success, the other one surely leads to failure.

Those who seek formal security in a college degree will fail, while those who seek the security that comes from continued intellectual advancement throughout their lives—those are the ones who will realize the satisfaction that comes from self-improvement.

The true Air Force officer, driven by a desire to serve his country, seeks the dynamic sort of security. His willingness to lead, to "stick his neck out," the spirit of adventure with which he tackles all assignments, his determination to achieve success in the field of his choice, make him a marked man.

He will become the backbone of our future Air Force. Upon him we depend for survival.—END

ABOUT THE AUTHOR

Now Chief, Public Information Division, OIS, Hq., MATS, Colonel Kandel has been in Air Force public information since his graduation from OCS in 1942. Born in New York City 41 years ago, he's served the AF in both Europe and the Far East. In 1950, he was graduated from the Air Command and Staff School. His views in this article are his own and not necessarily those of the Air Force.—The Editors.

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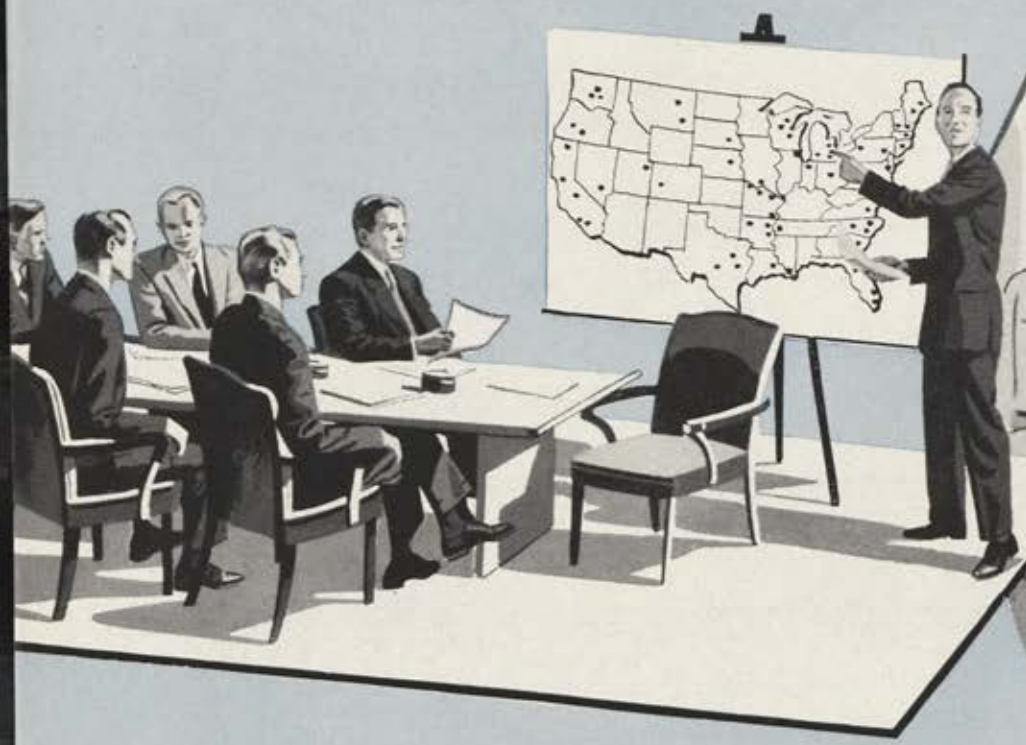

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