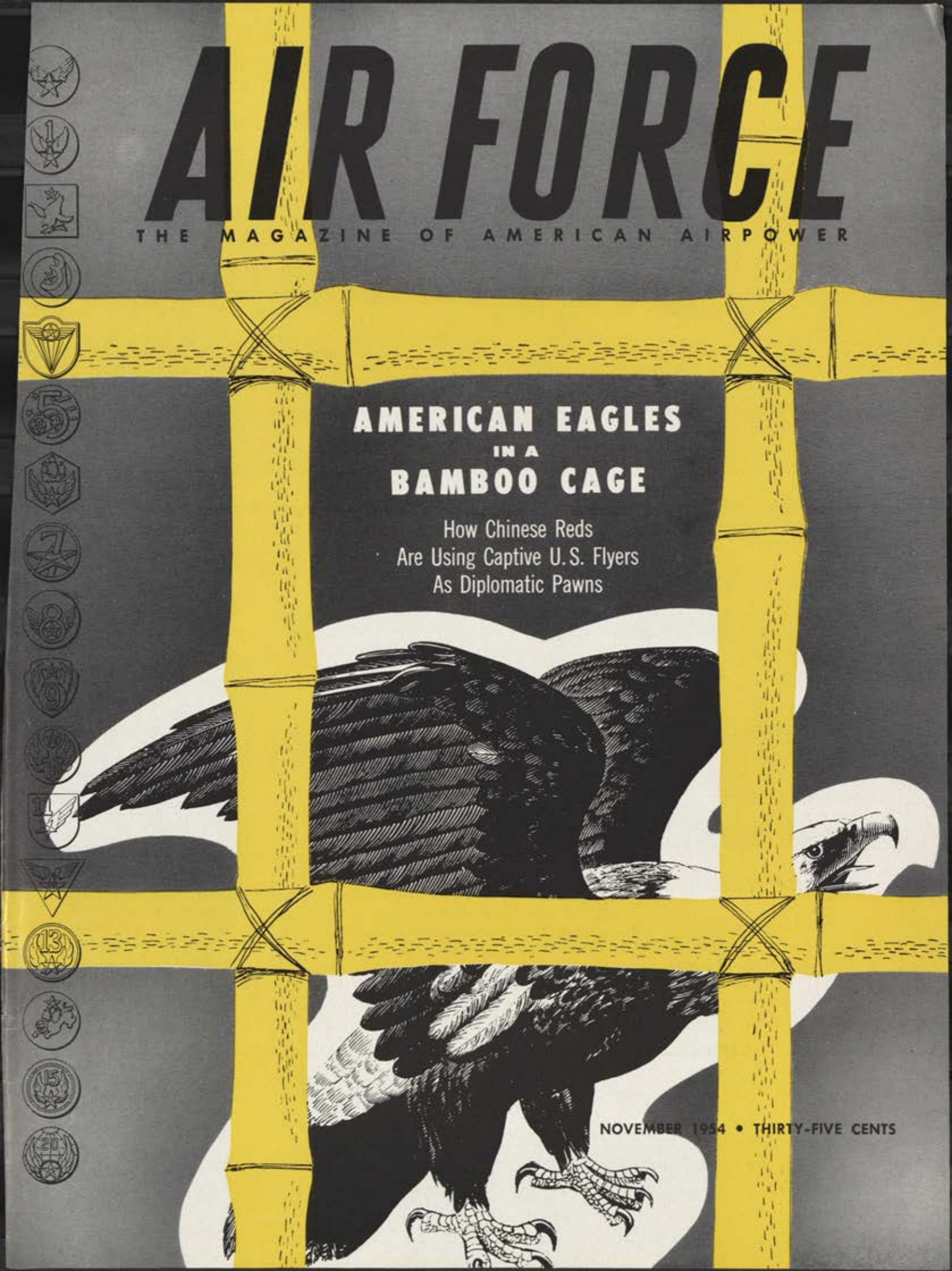
AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

AMERICAN EAGLES IN A BAMBOO CAGE

How Chinese Reds
Are Using Captive U.S. Flyers
As Diplomatic Pawns



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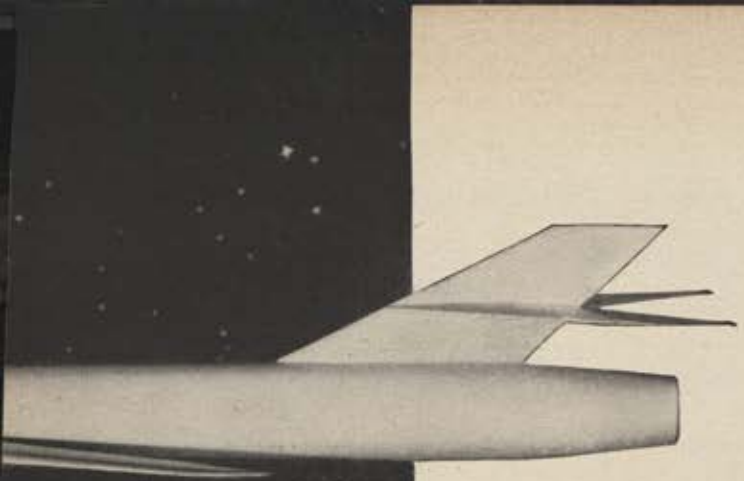

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AIR MAIL

Comments on Anniversary Issue

Gentlemen: I would like to take this opportunity to compliment you and your staff on a fine magazine which, I firmly believe, ranks tops with the Air Force in this locality. I have found in dealing with officers and airmen alike that AIR FORCE Magazine supplies much of the information and entertainment lacking in publications in Europe. Keeping the magazine along its present standards of fine quality and reportage will, I am sure, attract even more of our personnel in this theater in time to come.

It is with the thought of constructive suggestions that I would like to point out several slight, but to our command, more important errors from your September 1954 issue:

Page 75—Caption for Maj. Gen. Robert M. Lee's picture states that Twelfth Air Force Headquarters is located at Wiesbaden, Germany. It is actually located at Ramstein Air Base, Germany.

Page 94—Under air bases in France, Laon Air Base, Laon, France, has been omitted. A light bomb wing is located there.

On the same page, under air bases in Germany, three air bases have been left out. They are: Ramstein Air Base, adjacent to Landstuhl Air Base, Hq., Twelfth Air Force; Sembach Air Base, six miles north of Kaiserslautern, tactical reconnaissance wing; and Trier Air Base, Trier, Germany, Hq., Fourth Allied Tactical Air Force.

Thank you for a magazine the Air Force wants and needs.

Maj. Bernard D. Locker
APO, New York, N. Y.

• *Our thanks to Major Locker for his help in filling-in the Twelfth Air Force section of our Guide to Overseas Bases. Our original source of information was a "releasable" list of overseas installations provided by Hq., USAF. We knew this list wasn't complete but we stayed within its limits. Now we welcome help that will make this guide better in future issues.—The Editors.*

Gentlemen: Your 1954 Anniversary Issue is a splendid piece of work and it has given us all a thrill of pride to belong to the Air Force team.

We want to thank you for the pictorial chart of the present US Air Force Staff and Command, also for the coverage in your "Guide to Air Force Bases."

May we point out an inaccuracy in your Guide to Overseas Air Bases, under French Morocco? Headquarters, 17th Air Force (as correctly illustrated in the chart of Air Forces on page 75) is part of USAFE and not SAC. The confusion naturally stems from the former presence of the 5th Air Division, SAC, at Rabat. Headquarters of 5th Air Division, SAC, is located on Sidi Slimane Air Base, French Morocco.

Since the location of headquarters in French Morocco has only recently been stabilized, it is understandable that errors of this type are made. It is brought to your attention only to assist you in maintaining accurate and up-to-date information and in no way detracts from your most excellent coverage.

Col. M. van Rossum Daum
c/o PM, New York, N. Y.

Gentlemen: Your Anniversary Issue was, as usual, an outstanding publication and merits warmest congratulations. I was especially happy with the Command Chart and the Guide to Air Force Bases. Both of these now adorn the walls of my office as a quick and ready reference medium.

However, all of us in the Aviation Engineer Force were a little bit disappointed by the omission of our command from the Command Chart. We are on the numbered Air Force level and are accorded the same treatment within ConAC as the numbered Air Forces. We have two bases within the AEF: Beale AFB in northern California, in addition to the base here at Wolters.

I am confident that the omission of our command was unintentional on your part and hope that we will find the AEF represented in the next compilation of a USAF command chart by AIR FORCE Magazine.

Capt. Philip J. Mahar
Wolters AFB, Tex.

• *Captain Mahar is completely correct when he says the AEF is on the same command level with the numbered Air Forces and could have been included in our Command and Staff Chart. In this year's chart we drew an arbitrary line between the numbered Air Forces plus such groups as the AFs under ATRC and the thirty or so other organizations, like AEF, that could equally well be included.—The Editors.*

Gentlemen: Just finished the September issue of AIR FORCE Magazine.

How I wish I had the power to place this issue in the homes of every family in America! Any American who reads this issue will feel safer, prouder, more at ease, feel their tax money was well spent, and *like it.*

To one man's way of thinking, this would *outdo* all public information, all public relations that the Armed Forces are so very much concerned about and which, in many cases, miss their mark.

If only more than just a few could read what information there is in this September issue. It would be truly wonderful reading for every citizen. More power to your fine magazine.

Walter C. Roose
Atlanta, Ga.

Gentlemen: The fine tradition of AIR FORCE Magazine has certainly gained additional luster by your September '54 Anniversary Issue. Of particular interest to me was "They Escaped From Red Korea." The experience of Captain Fitch and former Lieutenant Kinison not only illustrates the "guts and git" that make the United States a great nation, but are also very vivid demonstrations of how much individuals mean to our nation and to our Air Force. In an age of so much specialization, so many complex machines, it is refreshing to read such a human testimonial to personal courage.

Maj. Donald M. Clark
Alexandria, Va.

Gentlemen: I have just had opportunity to look through the September Anniversary Issue of AIR FORCE Magazine, and I am impressed with the great amount of excellent reference material you have packed into it.

Your information on Guam, however, is out of date. Andersen, a FEAF base, is on the north end of the island. The

(Continued on page 7)

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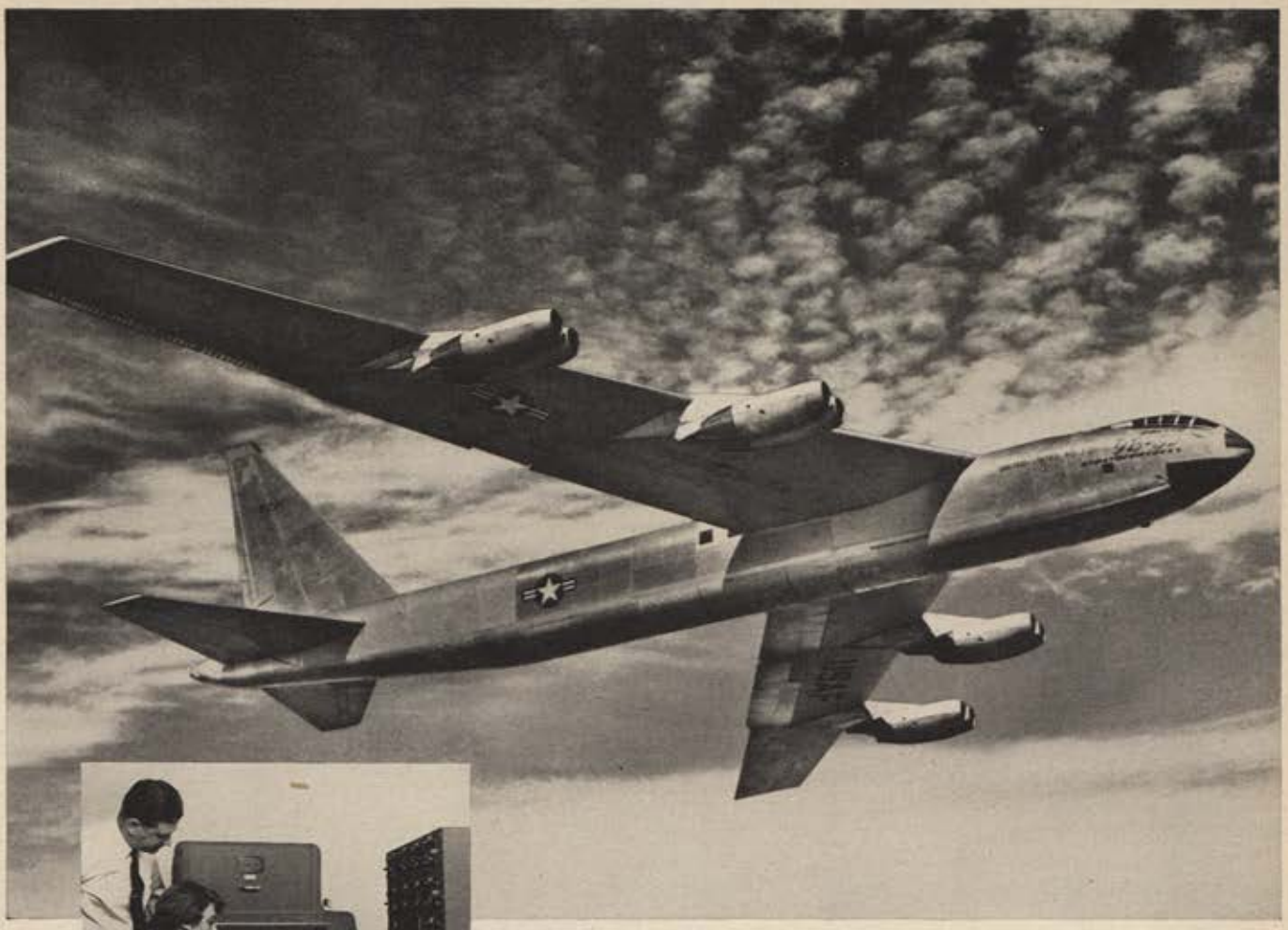

Dictating the inside story from eight miles up

While this giant B-52 jet bomber flies precise patterns high above Seattle, sensitive instruments are constantly taking temperatures, and measuring shifting pressures, stresses and strains.

Some of these measurements are automatically and instantaneously transmitted by means of special radio circuits to Boeing's huge new Flight Test Center for analysis. Other readings are graphed by high-speed instruments carried in the airplane so that immediately after flight they can be digested by complex data reduction machines, like the one shown above, and put into form which can be understood at a glance.

These techniques permit Boeing engineers to read the inside story of the flight as it occurs and immediately afterward, and to complete in one day tests that would require six using older methods. As many as 1,500,000 data points are registered during a single three-hour flight. By using this advanced type of equipment, Boeing processes data 30 times faster than would be possible without it.

The new Boeing Flight Test Center is the largest privately owned installation of its kind in the country. Seven stories high and fronted by a door 780 feet wide, it can accommodate five B-52s at a time. This indoor space permits Boeing to eliminate costly delays during tests involving weather-sensitive instruments. The building also houses laboratories, electronic data reduction machines, a test chamber that can simulate altitudes up to 100,000 feet, and a structural test unit in which an entire B-52 is, part by part, being twisted and bent to destruction to measure the limits of its endurance.

Boeing's new Flight Test Center exemplifies the efficient facilities and methods that this company utilizes to accelerate the design, testing and production of Boeing airplanes which have, for 38 years, earned international reputations as rugged, dependable, advanced-performance aircraft.

BOEING

Strategic Air Command's 3d Air Division was activated at Guam in June. Andersen's primary mission now is to support SAC bombardment wings on rotational training in the Far East. The 509th Medium Bomb Wing, equipped with B-50s, is currently here on TDY from Walker Air Force Base, New Mexico. In October, the 92d Bomb Wing will fly its B-36s here from Fairchild Air Force Base, Washington, to relieve the 509th Bomb Wing. This will be the first time that SAC's B-36s have been deployed to the Far East in wing strength.

Brig. Gen. Joseph D. Caldara
Hq., 3d Air Division
APO, San Francisco, Calif.

• *Thanks for giving us the word on Andersen's mission and location. All we had was the field's longitude and latitude, and we erred in converting this to location on the island.—The Editors.*

Gentlemen: Evidently your proofreader isn't doing his job too well for as I complete this issue of AIR FORCE (September 1954) I recall that when you started to list the Air Force Bases in the different states and the overseas area I found:

a. Page 94, subject Nouasseur AB, in French Morocco. Nouasseur was not correctly spelled. I'm surprised.

b. Page 96, subject Labrador, Goose AB, your spelling of the word "extremely" slowed me.

All kidding aside, I really enjoyed the magazine very much and particularly enjoyed the feature, "If I Was Running the Air Force"—especially the part about, "I'd have them explore the possibility of licensing all privately-owned motor vehicles belonging to military personnel under the registry of the District of Columbia."

S/Sgt. F. L. W. Reed
APO, San Francisco, Calif.

• *You're so right. It is spelled Nouasseur. And "extremely" really threw us, too! Guess it just wasn't our day.—The Editors.*

Gentlemen: The Anniversary Issue of AIR FORCE is indeed a credit to its organization. This issue, dedicated to the men and women of our USAF, is a tribute truly deserved. Without reservation there is no publication that gives us "the word" and keeps the "troops" informed as does AIR FORCE Magazine.

The article "If I Was Running the Air Force," by M/Sgt. Frank Clifford, which appeared in this issue, really had some good points and should be given some attention by the wheels. This boy has some darn good ideas about how the USAF should be run, as have other articles which have been presented. Along this line I would suggest a board consisting of Air Force officers, enlisted men, and AF veterans to make a study of management for a USAF we could really be proud of and happy to serve in. Every true American has an inborn desire to

(Continued on page 58)

This is a Lear engineer designing a new autopilot

JOHN HARPER, B.S.E. (University of Michigan), is one of *ten* Lear engineers qualified and actively flying as jet pilots. But please note that these ten engineers are engaged *primarily* in the design, development, and perfection of automatic flight control systems, using their jet piloting skills only as an *engineering* tool.

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LEAR

Shooting the Breeze

IT is an office joke of quite long standing that, for a variety of reasons, we never manage to approach a closing deadline in anything approaching a "normal" manner. And we probably never will since, in this sense, normal actually means "ideal." We never reach the ideal, so the abnormal is accepted as normal.

Things have progressed a little. We used to write captions, read proof and sometimes put together whole articles on the train going to our printer in Dayton. We now have our type set in New York. Ergo, we now do all of these things on the train going to New York.

This month proved no exception to our general rule. In the first place, our assistant managing editor, Dick Skinner, is on vacation. With appropriate apologies to associate editor Lee Klein, who filled in most capably, Skinner's absence from the office for any appreciable time is quite similar in effect to the loss of one's right arm. And he quite wisely chooses his vacation time in such a way as to demonstrate quite forcibly to his boss, the managing editor, just how much about the business of printing a magazine the "Old Man" has conveniently forgotten.

All of this is in the way of a prefabricated alibi. If you find an occasional typo, please remember that the "old pro" of the office has discovered that time has placed additional emphasis on the "old," while detracting from the "pro," portion of his description.—END

AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

Vol. 37, No. 11 • NOVEMBER 1954

FEATURES

DEPARTMENTS

THE COVER

The American Eagle, which this month's cover portrays as languishing in a bamboo cage, represents the fifteen US airmen whom the Red Chinese, by their own admission, are holding in captivity somewhere in China. How they got there, what we are doing to get them out, plus some illuminating comments on what this all means to Americans, is told by staff writer Edmund F. Hogan, beginning on page 23.

MEMBERSHIP IN AFA

AIR FORCE Magazine is mailed monthly to all members of the Air Force Association. There are several ways you can become a member. If you were in the Air Force or its predecessor services, you're eligible. The $5 yearly dues include the magazine. Or if now on active duty, you can be a Service Member. Those interested in airpower can become Associate Members for $5 per year. The cost for CAP and AF-ROTC cadets is $3 per year. Details of membership in AFA on page 88.

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TIGER!

The silent world beyond sound is the scene of battle for the Navy Tiger. Grumman's new fighter slips through the "sonic barrier" as if air at the speed of sound were smooth instead of strange. Supersonic, she can make the fastest bombers prey for her missiles, or she can make an inland city the target of Navy attack carriers. Designed also for speed of production, the Tiger was built and flown in 15 months. Tigers for carrier operations will soon be in production.

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Designers and builders also of Cougar jet fighters, S2F sub-killers, Albatross amphibians, metal boats, and Aerobilt truck bodies

wing tips

By Wilfred Owen

Boeing's new jet tanker-transport has seventy-five instruments on its cockpit panel compared to 126 for a comparable propeller-driven aircraft. The jet reduces the number of switches from 204 to forty-five and the number of warning lights from 114 to twenty-four.

° ° °

US airlines last year spent $24 million for meals served in flight.

° ° °

A Marine Corps helicopter has picked up a building equivalent in area to a thirty-eight-man barracks and flown it half a mile.

° ° °

Airline newspaper advertising last year totaled $12 million, nearly as much as the combined advertising of railroad, steamship, and bus lines.

° ° °

The Pennsylvania Railroad, in cooperation with airline and financial interests, organized Transcontinental Air Transport, Inc. (TAT), in 1928 to provide forty-eight-hour transcontinental service. Aircraft were used during the day and trains at night.

° ° °

After making a safe landing at the London Airport, a British

European Airways plane got lost in the fog. An automobile was dispatched to bring it in.

° ° °

The leading passenger carrier in the US transportation system, measured in passenger revenues, is American Airlines. Second place goes to the Pennsylvania Railroad. Other carriers in the top ten in the order of their rank: United Airlines, Eastern Airlines, TWA, New York Central Railroad, New Haven Railroad, Santa Fe, Capital Airlines and Northwest Airlines.

° ° °

Airline service from New York to Los Angeles saves the traveler fifty hours and five minutes compared to travel by rail.

° ° °

During the past eight years the University of Illinois Airline has flown a distance equivalent to fifty-three trips around the world. The University airport is larger in area than Chicago's Midway.

° ° °

Twenty-five years ago a US Army plane stayed aloft over Los Angeles for more than six days using in-flight refueling. Among the crew were Ira Eaker, Elwood Quesada, and Tooey Spaatz.

° ° °

The US Air Force has 179 installations in its continental United States. Only six states have no such installations.

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AIRPOWER IN THE NEWS

■ **General Matthew B. Ridgway,** Chief of Staff of the Army, said that "entire units of substantial size" could be knocked out with atomic weapons, and concluded once again, the Army's need for manpower has increased rather than decreased. He gave his views to reporters at the summer White House in Denver, Colo., while he was there to discuss with President Eisenhower plans for a 23-division army—three more than the US had during the Korean War.

■ Along the same lines, **Gen. Sir Richard Gale,** commander-in-chief of the North Atlantic Alliance maneuver "Battle Royal," said that while atomic missiles will be a major weapon of armies of the future, they will not replace the troops. General Gale said that the ten simulated "atomic" attacks made during the exercise had shown that well dispersed forces on a wide front could not be stopped by atomic explosions. According to General Gale, commander-in-chief of British forces in Germany, the use of atomic weapons re-emphasized the need for well equipped and trained ground forces. Neither general explained what might happen to a ground army hit by a **hydrogen bomb.**

Air Force TV at Loring AFB, Me. Lajes Field, Azores and other isolated bases will get similar installations soon.

■ Two supersonic airplanes—a bomber and a fighter—were ordered into production by the Air Force in October, bringing to $1.2 billion the total orders placed for aircraft and related items since July 1. The go-aheads were given on the **Convair B-58 "Hustler"** and the **Lockheed F-104.** The B-58 reportedly will be the AF's **first supersonic bomber.** (Navy Secretary Charles S. Thomas has said that Russia already has faster-than-sound atomic bombers.) The F-104, described as an "air superiority" fighter, was designed to maintain control of the skies over a given area. It has been flying since February and is said to be capable of speeds well over the speed of sound.

■ In a booklet called "Shotgun Wedding," the Air Defense Command tells the story of how the **noise problem** is being met at one ADC base. Relations between the community (Madison, Wis.) and the Air Force were strained to the point of breaking until the base commander decided to handle all complaints about jet noise personally and started a campaign to educate the public. The campaign has paid off and the base is enjoying better community relations. On the industry side, **Republic Aviation Corporation,** in a campaign for more community support in licking the noise problem, has issued a pamphlet entitled "Friendly Noise or Enemy . . ." The pamphlet, which is being distributed to government officials, schools and business and civic organizations, and Republic's employees, explains what the company is doing to insure the safety of surrounding communities and abate the noise. According to the pamphlet, it is difficult to cut down on noise without reducing engine power. So, there will always be noise if the Air Force is to increase its capability to defend the United States against enemy attack.

Ready for delivery—North American F-100 Super Sabres. The AF recently ordered $100 million more of the fighters.

■ Civil Defense officials, stymied in plans for **large scale evacuations** of cities due to the short amount of time between warning and attack that would be provided by our existing radar nets (see page 34), should find some consolation in the long overdue announcement of plans for a new far-north radar warning line. The United States and Canada have agreed on the need for a radar net as far north as practicable on the continent, and plans for its construction will be started at once. The new line will be 1,800 miles north of Chicago, within the Arctic Circle.

■ The second **Air Force television** station was slated to go on the air on October 17 at **Lajes Field** in the Azores. The first Air Force TV station started telecasts last December at **Loring** (formerly Limestone) **AFB,** Maine. Selected as a proving ground for overseas TV because of its isolated position, the Lajes station will be the **first of a series** to be set up by MATS. Tentative plans call for stations in Greenland, Iceland, Puerto Rico and Johnson Island. The stations, built with equipment purchased from welfare funds, do not compete with commercial TV outlets, but provide entertainment for airmen and other AF personnel on duty at isolated locations.

■ According to an article in the October issue of **Mechanical Engineering,** official publication of **The American Society of Mechanical Engineers,** the United States is more than **four times as vulnerable** to modern sea-launched airpower than is the Soviet Union. The author, J. W. Rizika of the Massachusetts Institute of Technology, says that 49.2 percent of the urban population of the United States lies within a sixty-mile range from the nearest "unblockable coastal areas"—which could not be completely closed to seagoing craft. By contrast, the comparable figure for Russia is only 11.8 percent. Europe, with 52.8 percent of her urban population lying in these coastal areas, is even **more vulnerable** than the United States. The figures were designed to gauge the probable effectiveness of a specific type of missile—a submarine-launched, single-stage, ballistic rocket, such as the A-4 (V-2). The present aerodynamic range of this missile is calculated to be about 400 miles at speeds as great as a mile a second. Lying within this 400-mile range, Rizika writes, is 99.5 percent of Europe's urban population, 70.6 percent of this country's and only 20.3 percent of the Soviet Union's. The article, based on geographic and demographic studies, is intended "to provide the aircraft researcher and manufacturer with some background material" concerning possible present and future military planning. The

(Continued on page 17)

package job

This story is wrapped up in seven packing cases. They contain the seven sections of the USAF B-61 Martin Matador pilotless bomber.

It is the story of one of the most tradition-shattering pieces of hardware in this world . . . a zero-launch pilotless bomber that can be deployed to any spot on earth—without having ever been previously assembled—and with total interchangeability of parts.

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...Its instrumentation section alone is one of the most functional single packages ever developed.

...It is built by new Martin-developed processes that are causing basic changes in industry concepts and production methods.

...And it is being delivered at the lowest known cost-per-pound of any military aircraft in production today.

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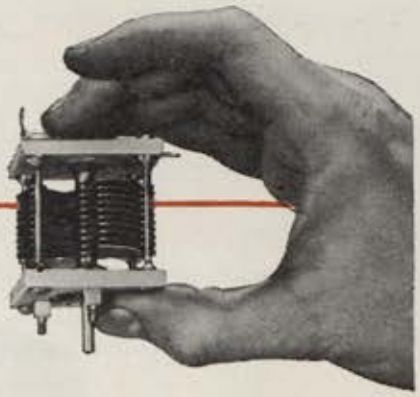

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author concludes that the Russians are well aware of their advantage in the ballistic rockets field, and urges that emphasis in the United States should be placed on **longer range guided** missiles piloted bombers, and, especially, on a ballistic rocket-type weapon directed toward defensive measures.

■ On September 24, **Carter L. Burgess** was sworn in as new **Assistant Secretary of Defense for Manpower and Personnel** to fill the post vacated by **John A. Hannah.** Burgess was recently a consultant to President Eisenhower on Cabinet and executive staff organization.

■ **Gen. Orvil A. Anderson** (ret.), former head of the Air University, has joined the **Winder Aircraft Corporation,** Winder, Georgia, where he will head a planned Guided Missile Division.

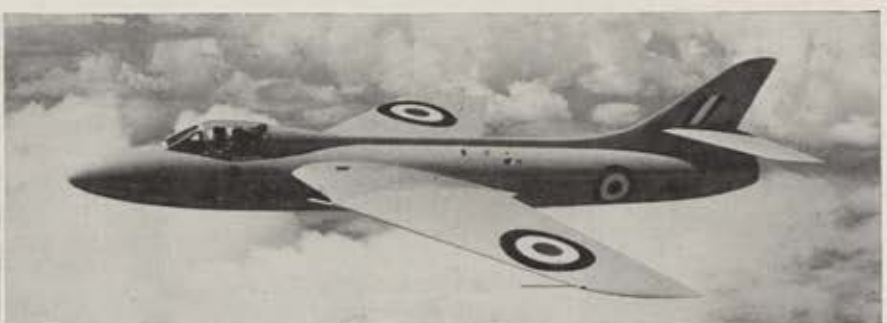
■ Much emphasis has recently been placed on the need to spark more **interest in aviation** among young people. A conference on aviation education workshops to help teachers bring the broad aspects of aviation to the nation's youngsters was recently held at **Bolling AFB, Washington, D. C.** The **Civil Air Patrol**—with the encouragement of the USAF—cooperated with representatives of colleges and universities, airlines, aviation organizations, aircraft manufacturers, state departments of aeronautics and education, the U.S. Office of Education, the CAA and high schools during the conference. "If we are to maintain air supremacy," according to **Maj. Gen. Lucas V. Beau,** national commander of CAP, "we must find and train teachers at all levels of education who know more about aviation than their air-minded students. The only hope we can see to lick this problem is in the aviation education workshop, which we hope will be established on the basis of at least one in each state." Sixteen of these workshops have been set up as the result of previous conferences and officials expect about twenty-five more to result from this year's meeting.

■ USAFE, from its Hq. at Wiesbaden, Germany, placed a **$103 million** order with the **Hawker Siddeley** group of British plane manufacturers for procurement of the **Gloster Javelin** and **Hawker Hunter** (see cut). The planes are slated for use by NATO forces in Europe. The Javelin is powered with twin **Armstrong Siddeley Sapphire** engines and has a climb rate, according to officials, that permits combat readiness at fifty thousand feet in a "very few minutes." It is considered by the British to be in the RAF's first line of defense against high level, highspeed, atomic attack.

■ **Capt. Lillian M. Kinkela,** Air Force flight nurse who made **250 combat zone air evacuations** in WWII and another 175 in Korea, was married last month to **Walter Keil,** California public relations executive and WWII Navy intelligence officer in the South Pacific.

■ On November 8, the first **Public Personnel Award** will be presented to **Jack H. Pockrass** (see cut), Chief of Placement and Employee Relations, Office of Civilian Personnel, Department of the Air Force. The award, to be given annually to those making special contributions to the **physically handicapped** in public agencies, will be presented by the **President's Committee on Employment of the Physically Handicapped** at the **Civil Service Assembly Conference** in Miami, Fla. Mr. Pockrass, himself a disabled veteran, was chosen on the basis of his outstanding efforts in developing a nationwide program to provide work opportunity for physically handicapped persons in the Air Force. According to figures released last month, physically handicapped workers now represent ten percent of Air Force personnel strength. A years average of **27,000 physically handicapped workers** are employed by the Air Force within the continental limits of the United States. According to **Secretary of the Air Force Harold E. Talbott,** "these handicapped employees have consistently demonstrated capabilities on a par with their more fortunate fellow workers. Their determined efforts have been a stimulating factor contributing to the accomplishment of the Air Force mission."

▲ **On a three-day tour of British aviation installations, Ass't Secretary of the AF Roger Lewis talks to pilot.**



Right above: The Hawker P.1067 Hunter. The AF has placed a big order for these planes to be used by NATO.

Right: The Gloster Javelin, also on order for NATO use. It is powered by two Armstrong Siddeley Sapphires.

■ **Maj. Gen. Wycliffe E. Steele,** commander of **Sampson AFB, N. Y.,** has decided to give the wives of the 4,500 airmen and officers there an opportunity to have a voice in the operation of the base. A newly organized **Women's Advisory Council** has been set up to allow the women to exchange ideas and suggestions about living conditions directly with the base commander. The Air Force has urged formation of such groups, according to General Steele. He said be believed the base would operate better if the wives knew what was going on and what was expected of them and their husbands.

■ After five years of preparation, civil aviation in the US has officially switched from statute or "land" miles to nautical miles and knots in reporting distances and speeds. Pilots, tower operators and weathermen will now use **sea language** as AF pilots have done since 1947. (The airmen of the Navy and Coast Guard have used the nautical system all along.) Since

(Continued on following page)

the nautical mile is 800 feet longer than the land mile of 5,280 feet, an airliner traveling at 300 mph will record a speed of 270 knots, and the sound barrier will be penetrated at a sea level speed of 670 knots.

■ An **Air Force Academy Athletic Association** has been authorized by Secretary of the Air Force Harold A. Talbott. Its purpose will be to **sponsor intercollegiate athletic programs** similar to those engaged in by the US Military and Naval Academies, and to aid in promotion of intramural sports, physical education, Cadet welfare, and recreational and cultural programs. Although non-military, the Athletic Association will be an activity of the Academy under **Lt. Gen. Hubert R. Harmon, Superintendent.**

■ In a speech before the American Gas Association convention in Atlantic City last month, **John J. McCloy,** former US High Commissioner in Germany said that "geography no longer makes our nation immune from direct attack." McCloy, who is chairman of the Chase National Bank of New York, wondered if our people understood the implications of this change in our position and said that "the consequences of attack in these days, confounds the imagination." He warned that the advent of guided missiles carrying nuclear warheads was "only a matter of time."

■ A man who worked on the original designs of the new Russian jet bombers, now living in England where he has been granted asylum, says that the Reds could send forty to sixty of their jet bombers on an **H-bomb attack on the US right now.** Former Soviet Air Force Col. Grigor Tokaev estimates that the Russians could put into the air that number of the new jet bombers they unveiled at Moscow's May Day parade this year. In 1948, Tokaev collaborated on plans of the Russian four-engined jet bomber. He later escaped to the West with his family.

For his efforts in providing work opportunity for physically handicapped persons, Jack H. Pockrass, (left) won the first Public Personnel Award.

■ The Air Force is worried by the **lack of interest** among potential students in its new Air Academy. On October 15, **less than 600 applications** had been received for admission in the 1959 class which starts next July in temporary quarters at Lowry AFB, Colo. The Air Force had hoped to receive more applicants for the 300 openings in the first class, and officials now believe that the word on the Academy has not been sufficiently spread among prospective applicants. Appointments will be made on the basis of competitive examinations taken by the applicants.

■ The first man to shoot down a Japanese plane in World War II was killed on October 12 while testing an F-100 Super Sabre. **George S. Welch,** 36, was critically injured when he bailed out of his plane as it exploded in the air near Edwards AFB, Calif. He died on the way to the base hospital. Welch, one of the two pilots who managed to get airborne at **Pearl Harbor** after the sneak attack, had been flying for **North American Aviation, Inc.,** as a test pilot for seven years. He is survived by his wife, Janette, and their two sons.

■ HONORS AND AWARDS . . . **Carswell AFB, Tex.,** has received a **USAF flight safety plaque** in recognition of its accident prevention record for the first six months of this year. The letter of commendation accompanying the award stated that "during the award period, the 19th Air Division, comprised of the 7th and 11th Bombardment Wings and tenant units stationed at Carswell, flew 24,000 hours without an accident." . . . The **West Virginia Turnpike Commission** recently announced that a **new bridge** crossing the Kanawha River at Charleston will be dedicated in honor of **Maj. Charles E. "Chuck" Yeager,** the AF's famous test pilot. Major Yeager was born near Hamlin, W. Va., twenty miles southwest of Charleston . . . **Maj. Gen. Archie J. Old, Jr.,** SAC Director of Operations, recently received the **French Legion of Honor Award** for his accomplishments as commander of the Fifth Air Division in French Morocco from August 1951 to January 1953. The award was presented by the **French Air Attache Maj. Gen. J. L. Murtin** at the French Embassy in Washington . . . **Brig. Gen. M. K. Deichelman,** Commandant of Hq. AFROTC, Montgomery, Ala., has been elected an honorary member of the **Executive Committee of the National Society for the Study of Communication.** The citation said that General Deichelmann had make a significant contribution to the betterment of human communication by supervising the development of a sound progressive course of instruction in the communicative skills . . . **SAC** established a **new flying safety record** in September with an all-time record low rate of five aircraft accidents per 100,000 flying hours. During the month, twenty-three major SAC bases operated accident-free . . . **Lt. Col. Floyd J. Sweet,** USAF, has been elected president of the **Soaring Society of America, Inc.** . . . The **American Veterans Committee** chose **M/Sgt. Charles R. Jordan,** USAF, as one of the 1954 winners of the **Humanitarianism** awards. The Sergeant brought **Kenzi "Jimmy" Miyazawa** from Japan two years ago and is sending him through **Fenn College in Cleveland.** The Sergeant also contributes $100 of his salary each month to an international trust fund he started to enable other foreign students to attend school in America in Future years.

■ STAFF CHANGES . . . **Maj. Gen. James McCormack, Jr.,** former vice commander of ARDC has been assigned as Director of Research and Development under **Lt. Gen. Donald L. Putt,** Deputy Chief of Staff, Development . . . On October 20, **Brig. Gen. Richard T. Coiner** replaced **Maj. Gen. Howard G. Bunker** as Assistant Deputy Chief of Staff, Operations for Atomic Energy. General Bunker will go to Hq., 1002d Insp. General Group, Hq. Command at Norton AFB, San Bernardino, Calif., on November 15 . . . **Maj. Gen. David W. Hutchison** replaces **Maj. Gen. Homer L. Sanders** as Deputy Chief of Staff, Operations for TAC . . . New head of the San Bernardino Air Materiel Area is **Maj. Gen. E. W. Anderson,** replacing **Maj. Gen. E. C. Langmead** who retired . . . On October 1, **Brig. Gen. Claude E. Duncan,** Deputy Commander of the Fourth Air Force retired. General Duncan was assigned as the Air Force member of the United Nations truce team in Korea in 1952 . . . **Col. K. E. Thiebaud,** Air Adjutant General was due to retire from service on October 31. **Col. Edward E. Toro** left his post as comptroller of the Air Force Finance Center, Denver, Colo., to take over as the new AAG . . . **Brig. Gen. James C. Jensen** left his post as Chief of Operations, Plans Division, under the Deputy Chief of Staff for Operations early in October. He goes to Ottawa, Canada, to become chief of the Central Coordinating Staff-Canada . . . Special assistant to the commander, Fifth Air Force, **Brig. Gen. William J. Clinch** recently moved up to deputy commander . . . **Brig. Gen. Leighton I. Davis** is the new commander of the Holloman Air Development Center . . . **Brig. Gen. H. R. Spicer** has left his post as deputy commander of Crew Training Air Force, Randolph AFB, Tex., he becomes new Inspector General of Air Training Command, Scott AFB, Ill. . . . On October 8, **Brig. Gen. Bertram C. Harrison** was released from assignment as Commander, Hq. 42d Bomb Wing and reassigned as Commander of the 45th Air Division at Loring AFB, Me., with no change in duty station . . . **Brig. Gen. John G. Fowler** has been named Deputy for Intelligence for FEAF, replacing **Brig. Gen. Don. Z. Zimmerman** who returned to the US to become dean of the faculty of the new AF Academy.—END

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And anywhere . . . he's ready, willing and able . . . what's more he's particularly well armed to repel any force that threatens the security of free nations. ➢➢ Trained to the highest possible degree and supplied with equipment to complement this skill, the U.S. Air Force pilot is qualified to carry on the enviable tradition of America's airmen. To the vital end of building aircraft in line with such need, for more than a generation REPUBLIC has dedicated its full resources. ➢➢ The ***F-84-F THUNDERSTREAK*** *is youngest in the dynasty of Thunder-craft . . . But it's already a veteran of many thousands of operational hours. Flexible as a rapier in the hands of Cellini and tough as a Toledo blade, the* ***THUNDERSTREAK's*** *performance is equally dependable at hill-top level or 45,000 feet. This puts in the control of our airmen and our allies in the N.A.T.O. a quicksilver sentinel of civilization.*

CEILING UNLIMITED *for the young ambitious man . . . new vistas of education, travel and security . . . all these are available to career airmen in the U.S.A.F. Every day you're in brings you greater satisfaction in the knowledge that yours is a vital and rewarding service to your country . . . to yourself.*

REPUBLIC AVIATION

FARMINGDALE, LONG ISLAND, N. Y.

Designers and Builders of the Incomparable **THUNDER-CRAFT**

Smooth "High Road" to

SMOOTHEST and most efficient offshore crew transportation today is the modern helicopter, an aircraft proved in this tough assignment and backed by many millions of hours of operation throughout the world.

Around the clock, dependable Sikorsky helicopters now provide new speed, safety, seasick-free comfort and high availability in the transportation of operating personnel between the mainland and offshore stations.

The pictures on these pages tell the story. They illustrate the smooth "high road" to offshore drilling barges in the Gulf off Texas and Louisiana.

1. OIL CREWMEN and their baggage are weighed in before boarding an S-55 for a 30-minute flight from the mainland to a barge 45 miles out in the Gulf.

2. S-55 HELICOPTER, loaded with offshore crewmen, takes off from the heliport on a Grand Isle office parking lot.

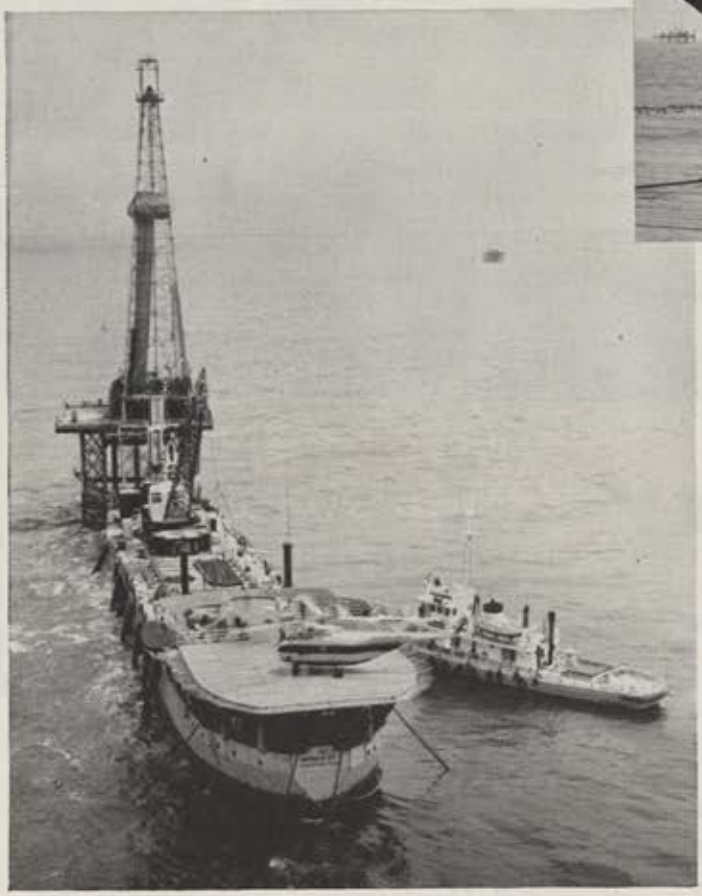
3. THIRTY MINUTES later the Sikorsky comes in for a gentle landing on the flight deck 45 miles from Grand Isle, Louisiana. By boat, the trip takes tiresome hours.

Offshore Drilling Barges

Petroleum Helicopters, Inc. of New Orleans, demonstrates how offshore transportation can be speeded . . . how problems can be eliminated or greatly simplified . . . how costs can be reduced. Already as many as 110 men per day fly to work offshore for a major oil company. Intangible values include higher morale, greater safety and availability of an emergency vehicle without peer.

For information on how your company can increase the efficiency of its operations offshore, or anywhere, with transport helicopters, write on your company letterhead or call today to General Manager, Sikorsky Aircraft, Bridgeport, Connecticut.

5. **PASSENGERS** alight after safe, easy flight. The helicopter makes any number of required trips each day, handling a steady flow of passengers in each direction between several rigs and the mainland.

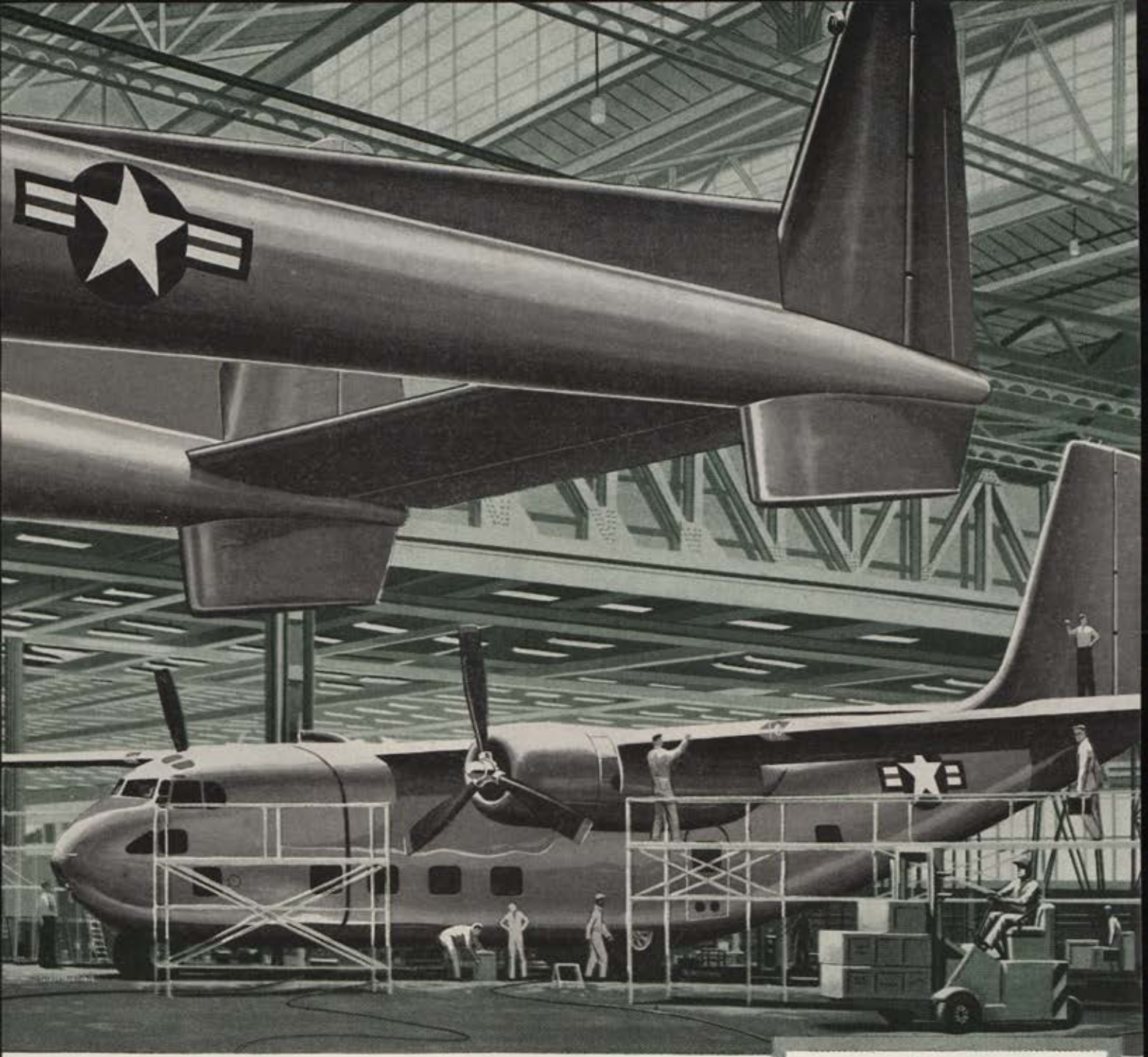


4. **CONVERTED LST** with flight deck aft easily accommodates the big Sikorsky helicopter. More and more ships and rigs are being equipped with such heliports. The helicopters eliminate the need—and cost—of standby safety boats at drilling rigs.

Sikorsky Aircraft

BRIDGEPORT, CONNECTICUT

One of the Divisions of United Aircraft Corporation



SOUND ASSEMBLY

Side by side, they roll off the Fairchild production lines – the famed C-119 *Flying Boxcar* and its new assembly line mate, the C-123 *Avitruc*.

Only Fairchild know-how could have accomplished the swift, sure integration of C-123 production into the C-119 assembly pattern . . . without missing a beat!

The two aircraft make a perfectly matched team of assault transports, created for the single purpose of concentrating maximum numbers of men, machines and equipment in a given area, in the shortest time possible.

It seems altogether fitting that these ultimate developments in assault transports should roll wing to wing from the assembly lines of Fairchild – pioneer in the field of military air transportation.

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Stratos Division, Bay Shore, N. Y.

Speed Control Division, St. Augustine, Fla.

THE FORGOTTEN FIFTEEN

American Eagles in a Bamboo Cage

At least fifteen American airmen are being held hostage by the Chinese Reds—innocent political pawns in a gigantic game of diplomatic chess

By Edmund F. Hogan

ON January 23, 1953, four F-86 Sabrejets of the 51st Fighter-Interceptor Wing took off from an air strip in Korea and headed north, looking for MIG-15s.

The flight was led by Lt. Col. Edwin L. Heller, commander of the Wing's 16th Fighter Squadron. His flight included three squadron members who were veterans of combat with the MIGs. One was a jet ace—Captain Dolphin Overton, III. Another was Major Harold Herrick. The fourth pilot in the flight was Captain Lester Erikson.

Overton is a civilian now in Andrews, S. C. Erikson is an Air National Guard pilot in the 171st ANG Squadron in Detroit. Herrick is dead, killed in the crash of a jet trainer in Lake Michigan last December.

Colonel Heller is behind the Bamboo Curtain, one of fifteen American fliers known to be held prisoner by the Chinese Communists.

The Chinese Reds maintain that the fifteen were shot down over Chinese territory and, therefore, cannot be classified as prisoners of war. Since the war in Korea was deliberately confined to the land mass of—and the skies over—that peninsula in the Far East, the Communist statement is as patent a lie as these professional liars ever told.

(Continued on following page)

Heller's flight, the record shows, ran into eight MIGs south of the Yalu and the fight in which he was shot down took place on the Korean side of that river.

That the Chinese twist the facts to suit their purpose is borne out in their version of how Lt. Lyle W. Cameron of Lincoln, Neb., became one of the fifteen prisoners.

Cameron, a jet pilot in the 49th Group, was shot down more than two years ago—on October 26, 1952. One of eight F-84 pilots assigned to search a railroad line from Kanggye to Huichon in North Korea, Cameron found a locomotive and started his bomb run. Following the run, fellow pilots on the mission observed smoke pouring from Cameron's right wing. They saw him make a successful ejection, and he talked with them through his emergency radio after he landed. At that time, Cameron was twenty-five miles south of the Manchurian border. Today he is a prisoner in China, and it is ridiculous to assume that he went there voluntarily. The Red China version of how Cameron came to be where he is would have us believe that he was shot down during a bombing and strafing mission on a town in Manchuria.

Among the fifteen hostages, the Chinese Reds must consider Captain Harold E. Fischer of Swea City, Iowa, a particular prize. When he went down on April 7, 1953, Fischer had knocked down ten MIGs to become a double jet ace.

Red China asks the world to believe that Fischer was shot down over Manchuria. The truth is that Fischer was leading a flight of four Sabrejets of the 39th Squadron in the 51st Wing when they ran into a large number of MIGs near the Sui Ho Reservoir south of the Yalu. Fischer's formation was broken up in the battle that followed, and as fuel began to run low, Fischer ordered his wingmen to return to the base. It is fairly well established that the double jet ace continued the fight until he flamed out and then bailed out successfully in the area of the engagement on the Korean side of the river.

On September 4, 1952, Lt. Roland W. Parks of Omaha, Neb., went down in a fight in MIG Alley, which is definitely in Korea. Parks was a member of the 16th Fighter Squadron, also in a flight of four 86s which engaged fifteen MIGs in battle. He was last seen making a violent turn to avoid an exploding MIG. But he was seen in MIG Alley—not over Manchuria as Red China insists.

These are the only fighter pilots the Chinese Communists admit holding. The other eleven fliers are members of the crew of a B-29 commanded by Col. John K. Arnold of Silver Springs, Md., shot down on January 13, 1953.

There were fourteen aboard the B-29, which was on a weather reconnaissance mission. Red China claims that MIGs downed the B-29 when it "intruded" over northeast China. The fact is that our ground radar had the bomber pinpointed some fifteen miles south of the Yalu at the time the MIGs attacked. Three crew members lost their lives when Arnold ordered everyone to bail out. Including himself, the eleven who survived to languish in a Chinese prison are:

Major William H. Baumer of Lewisburg, Penna.;
Captain Elmer F. Llewellyn of Missoula, Mont.;
Captain Eugene J. Vaadi of Clayton, N. Y.;
Lt. John W. Buck of Armathwaite, Tenn.;
Lt. Wallace L. Brown of Banks, Ala.;
T/Sgt. Howard W. Brown of St. Paul, Minn.;
A/1C Steve E. Kiba of Akron, Ohio;

Lt. Col. Edwin L. Heller

Col. John K. Arnold

A/2C John W. Thompson

T/Sgt. Howard W. Brown

About This Story...

The person most responsible for this story is David F. McCallister, who lives in Philadelphia, runs one of the largest catering busineses on the East Coast, operates a snapper soup factory in Folsom, Penna., manufactures and sells his famed "soup cutter," a navigational aid for jet pilots, commands an Air National Guard jet fighter squadron in Wilmington, Del., writes a couple of novels each year, and still finds time to spend with his six children.

McCallister is a close friend of the Hellers. In September, after Mrs. Heller had received two letters from her husband, McCallister wrote to Air Force Magazine and suggested that we do a story on Heller's captivity.

This was Mac's second representation to us along this line. Several months before the Geneva Conference, he advised us that he was firmly convinced that Heller was being held in China and had reason to believe a number of other fliers were in the same fix.

We investigated and learned that a great many people who should know believed Mac was right. But they had no proof. And without proof, our hands were tied.

The Chinese admission that they were holding our people wasn't even enough. But confirmation that Mrs. Heller had received direct word from her husband was all we needed to go ahead with the article.

Ed Hogan, who went to China after VE-Day and returned to the Far East for the Korean scrap, was assigned to the project. From Colonel Springfield, in the AF's Casualty Branch, he moved through numerous offices in the Pentagon and he was closeted for long hours with State Department's China Division.

We wanted the story for the current issue and research posed a problem. We needed too much information too quickly. But the great American press bailed us out.

A/2C Harry M. Benjamin, Jr., of Worthington, Minn.;
A/2C Daniel C. Schmidt of Scotia, Calif.;
A/2C John W. Thompson, III, of Orange, Va.

These then are the fifteen US fliers who are prisoners of the Chinese Reds—American eagles in a bamboo cage. For the most part the American public has forgotten—if it ever knew—that they exist. But they have not been forgotten by their parents, their wives and their children. Nor have they been written off by the United States Air Force.

To Judy Heller, waiting in Wynewood, Penna., with six-year-old Eddie and five-year-old Linda, for the return of the fighter pilot who destroyed nineteen German aircraft in World War II and three MIGs in Korea, how do you explain that the greatest nation on earth cannot secure the release of six-foot Ed Heller from a Red prison hospital?

So far as anyone knows Heller is the only one of the fifteen who is injured. He took a direct 30-mm cannon hit in the cockpit. In a letter to an Air Force friend, dated July 15th of this year, Heller described subsequent events as follows:

"There was a terrific explosion and a searing pain in my right arm. I was stunned for a moment and when I recovered, I found my right arm broken, part of the throttle quadrant destroyed, windshield shot out, gunsight destroyed, entire instrument panel destroyed, right console shot up, including the radio.

"I was now in a vertical dive at 100 percent. I grabbed the stick to recover and the whole thing came away in my hand! The stick had been severed below the elbow. I cussed and threw the thing on the floor and just sat there watching the ground come up . . . I reached over to eject myself and after frantically pulling the mechanism several times, realized the mechanism was unserviceable. I then believed I was trapped . . . Around 15,000 feet the plane came out of the dive . . . The pull out was, however, exceedingly sharp and I blacked out. When I recovered I was back in a vertical dive.

"I threw my head back for the first time and noticed a large hole in the canopy just above and beyond my head. I didn't hesitate but threw open my safety belt and lifted myself toward the hole. My helmet and mask immediately were torn from my head and, as I got closer to the hole, I was sucked out like a cork from a champagne bottle. The next thing I knew I struck the tail and felt my leg snap, then I was falling clear."

Heller's leg was broken between the ankle and knee. He says that although he has had four operations the break has refused to mend. But, he adds, Chinese doctors have assured him that "it will eventually heal."

As of this moment only Heller, Fischer, Cameron and Parks have been permitted to write, although the Chinese Reds agreed as long ago as last June that all fifteen could exchange mail with their families and friends in the States.

In this respect Mr. and Mrs. Harold Fischer, Sr., parents of the double jet ace, are more fortunate than the family of Captain Vaadi in Upstate New York.

The Fischers have received several letters from their son. But Vaadi, a member of Arnold's B-29 crew, has not even been permitted to write. And this is the second time in less than ten years that he has been a prisoner. In World War II, the captain was shot down in a B-17 near Berlin and spent three months in a German prison camp.

Vaadi was a recalled Reservist. Like thousands of other

(Continued on following page)

Lt. Roland W. Parks

A/1C Steve E. Kiba

Lt. Lyle W. Cameron

Capt. Harold E. Fischer

Acting on the hunch that hometown papers had carried local stories on each of the fifteen when the Chinese admitted holding them, we called the city editors of fifteen newspapers. Within forty-eight hours we had received scores of clippings, photos and more background information than we could possibly use. The cooperation was amazing and heartening.

We are indebted to Neale Copple of the *Lincoln* (Nebr.) *Journal*; Glen Scribner of the *Worthington* (Minn.) *Daily Globe*; I. E. Richards of the *St. Paul* (Minn.) *Pioneer Press*; Dean Jones of the Missoula, Mont., *Missoulian*; Ben James of the *Akron* (Ohio) *Beacon Journal*; John Quigley of the *Lewisburg* (Penna.) *Standard*; Glenn Jones of the *Troy* (Ala.) *Messenger*; Bill Chambers of the Eureka, Calif., *Humboldt Standard;* Nancy Moser of the *Orange* (Va.) *Review*; Paul Williams of the *Omaha* (Nebr.) *World-Herald*; Jerry Carter of the *Montgomery* (Ala.) *Journal*; Harry York of the *Cumberland* (Tenn.) *Times*; Gordon W. Bryant of the *Watertown* (N. Y.) *Times*; Willard Yarbrough of the *Knoxville* (Tenn.) *News-Sentinel;* and Gordon Gammack of the *Des Moines* (Iowa) *Register and Tribune*.

These men not only made available to us all the material they possesed but several sent duplicate photostats of clippings, in case the originals went astray. Without their help the story could not have been written.

And AIR FORCE believes this an important story, one that has to be told to point up the dilemma which faces us in our efforts to get these fliers back home.

AIR FORCE does not delude itself that this article or any other, will effect the release of our men. But we believe that a useful purpose will be served by bringing to light the facts as they exist.

For this reason we express our thanks to Dave McCallister and the many others who made the article possible.
—THE EDITORS

World War II veterans, he believed he had fought his war. With his wife, Elizabeth, he was operating a tourist cabin business when he was jerked into service for the Korean fracas in May, 1951.

In Montgomery, Ala., Mrs. Arnold and 22-year-old Bobby Brown, wife of the lieutenant aboard the B-29, spend much time together, scanning the newspapers for word of their husbands and checking the mail box for letters that never arrive.

Fischer's letters hint at the ordeal he is undergoing. He speaks of long "study" periods for "self learning" and of watching films from China, Russia and Poland. The Chinese Reds have taken photographs of him, which he has sent home. His mother was overjoyed to receive them even if, as she knowingly observed, the young pilot had lost thirty or forty pounds.

The one man in the Air Force who appreciates more than any other what the families are suffering is Lt. Col. R. W. Springfield, chief of the casualty branch in Air Force's Directorate of Military Personnel.

To Colonel Springfield, each man is more than a file folder in his office. He keeps in close touch with the fliers' families and he shakes his head sadly at the fact that his files do not contain copies of letters sent home by the eleven in Arnold's B-29 crew.

Colonel Springfield knows, as do all others familiar with the story, that the Chinese agreed to permit the fifteen to write home during a series of conferences in Geneva with representatives of our State Department. Eight of these talks aimed at securing release of the fliers have been held.

It was at a meeting on June tenth, with US Ambassador Hugh A. Johnson, that Wang Ping-nan of Red China's foreign office agreed to allow all the captive fliers to carry on correspondence. And yet there has been no word from Arnold and his crew.

Letters, and the propaganda photographs released by the Reds, show that Fischer, Cameron and Parks are together. But no one seems to know where Arnold and his ten B-29 crewmen are and, if the Reds continue to ignore the guarantee they gave in Geneva, it will be a very long time before the United States learns what has happened to them.

Meanwhile, families pray and petition Congress, the Administration and the United Nations; the State Department keeps a channel for negotiation open in Geneva; the Air Force is criticized unjustly for failing to get the fifteen back. And still our fliers are held. Why?

A part of the answer probably lies in the fact that the Chinese Reds have known for years that the United States no longer can adhere to the tradition of "Don't tread on me" and "millions for defense but not one cent for tribute." The Chinese Reds knew this as long ago as 1945.

In October of that year the Commuists began their move to take over all of China. North China flamed as Mao Tze-tung led his Communist Eighth Route Army down from Yenan. I was in China at that time.

In mid-October of 1945, I can recall that the Navy's auxiliary repair ship, *USS Seize*, was fired on by Communist small arms and machine guns as it sailed up the Yangtze River between Shanghai and Nanking. On October 19, 1945, a Marine gasoline train, moving along the important rail line linking Peiping and Tientsin, was fired on and one coach was riddled by machine gun bullets.

The shape of things to come began to show itself early in November of 1945 when the Reds openly accused the United States of "meddling" in China's internal affairs. They screamed such nonsense as a charge that the US had 3,000 aircraft in the China Theater and would turn these over to Chiang Kai-shek's Nationalist Government to be used against the Reds in the Civil War. The US commander of the China Theater then was Lt. Gen. Albert L. Wedemeyer, now retired. The Reds demanded that he apologize for what they said was US "intervention."

The Reds became bolder daily. They became so bold, in fact, that on November 10, 1945, they seized their first American military people and held them in captivity. These first prisoners, coincidentally, also were fliers—six Marines.

The six comprised the crew of an airplane on a routine flight. The airplane encountered bad weather, exhausted its fuel supply, and made a forced landing about ninety miles south of Peiping. The Marines were seized by the Communists and held for thirty-eight days.

After their release on December 19, 1954, Lt. Robert A. Holbrook, the pilot, recalled sarcastically that, although the six were herded into a stockade, they were told that they were not prisoners.

"Of course," he added, "we ate, slept, drank and exer-

cised only on orders of our armed guards, so we were not prisoners."

The battle for the American mind, which reached the height of insistent brain-washing of prisoners taken in Korea, was in evidence even then. The Marine fliers were subjected to a daily indoctrination session. Every day they were asked to sign a "friendship statement." The Reds even tried to get them to wear Communist uniforms because, they said, "it would be good for our people to see."

The background is important because the Chinese Reds blunted the American Eagle's talons once and they have excellent reason to believe the pattern will continue to be successful. They know our country will think long and hard before running the risk of plunging the world into an atomic holocaust, even to free its airmen.

A part of the answer to why the fifteen are still being held assuredly lies in the Oriental's knowledge of the value of hostages. The Western world rejects the hostage concept; the Orient knows the importance of bartering human life at the bargaining table.

More than anything else, Red China wants to be recognized as the *de jure* government of China and to be admitted to the United Nations. The United States is standing in the way of these aims. How better then for Red China to get what she wants than by dangling before the United States the prospect of exchanging American prisoners in return for our recognition of the Peiping government and our vote to include Red China in the United Nations?

If we were to do these things, there is little doubt that the Chinese Reds would release our fifteen fliers and twelve other American civilians who also are being held. In fact, such action by this country might encourage the Chinese Reds to turn up other Americans.

More than 500 American military people are still listed as missing in action in Korea. The UN's Military Armistice Commission continues to work over there in an attempt to clear up this mystery. Unfortunately, we have proof only of the fifteen and this the Communists produced themselves.

The shooting war in Korea ended in 1953. Between April 19 and May 3 of that year, the Reds returned 149 Americans in Operation "Little Switch." Between August 5 and September 6, 1953, the Communists returned 3,597 American prisoners of war.

On April 26 of this year the major powers opened a conference in Geneva to discuss settlement of the Korean War and the war in Indo-China. The conference lasted until July 20. The Chinese Reds admitted publicly during the conference that they were holding the fifteen for "violation of Chinese territory." Their reason is transparent. They hoped to force the United States to recognize the Peiping government and to support its bid for admission to the UN in exchange for giving up our men. This they failed to accomplish. And we failed to free our airmen.

An interesting sidelight of the Geneva talks was developed by Gordon Gammack, noted correspondent of the *Des Moines Register and Tribune*. Gammack had covered the truce talks at Panmunjom in Korea last year. One of the Communist correspondents present was Wilfrid Burchett.

In May, Gammack learned that Burchett was covering the Geneva conference. On a hunch he placed a call to Burchett and made contact with the Communist writer. Gammack asked about Fischer and Burchett replied that he had no recent information concerning the Iowa double jet ace. The last he had heard of Fischer, Burchett told Gammack, the flier was in China and alive. The Communist propagandist could not resist the opportunity to feed Gammack the official Red line—that the United States would have to admit the "violation of Chinese territory" along with some official expression of regret before Fischer would be freed.

In all, Gammack had three telephone conversations with Burchett. Throughout, Burchett harped on the theme that the US had not demanded Fischer's release and had not requested direct negotiations with the Chinese on the subject. "We hear," Burchett told Gammack, "that the British have been asked to act as intermediaries about some of the Americans. Why don't the Americans negotiate directly? I am informed that the Chinese delegates are willing to discuss the matter."

Burchett was acting as a mouthpiece for the Communists but, in this instance, he was partly telling the truth. The United States did try to avoid direct negotiation with the Chinese Reds, lest the Peiping government trumpet to the world that this was tacit admission of our recognition of Red China. It was not until after the Gammack-Burchett conversations that the State Department began to deal

(Continued on following page)

directly with the Reds and this decision was taken only after our diplomats were certain they were not walking into a trap.

The Chinese were willing to talk, but apparently not about the release of our fliers. They preferred to use the conference room as a sounding board for an accusation that the United States is holding 5,000 Chinese students in this country against their will. This charge is silly. The 5,000 were asked if they preferred to remain here or go home. Only sixty-four elected to go back to China.

But this is the way Red China "negotiates." It is small wonder that all diplomatic efforts to return our airmen

Lt. Parks' parents, Mr. and Mrs. William G. Parks and his younger brother Dick look over pictures sent from a prison in Red China.

Mrs. Fischer thought her son looked "pitifully thin." Here she talks to reporter Gammack.

have thus far failed. The question now arises: Where do we go from here?

The State Department believes that diplomatic negotiations can succeed and that the fifteen will be released. When? State will not hazard a guess, except to say, "eventually."

Officials in the China Division note that Red China has, from time to time, released American prisoners. They admit this is only a trickle, to be sure, but they see in it an indication that diplomatic representations can succeed. Yet they will admit, too, that the fliers' great value as trading material will make Red China keep them until the last possible moment.

There is little doubt but that our government could buy them back immediately by recognizing Red China and supporting its admission to the UN. Is this price too high? The United States position has been that it is too expensive.

Do we continue to wait until Red China acts like civilized people should and gives up our men voluntarily? After all, Parks and Cameron have been held for more than two years and the others have a second anniversary coming up. Or do we think in terms of applying force as an alternative to diplomacy?

This line of thought has inherent dangers. It might trigger World War III, although many competent students of Communist strategy insist that a third world war will not begin until the Soviets feel they have the military might to be successful in such an undertaking.

There is a danger, too, that the use of force against Red China would bring retaliation against the fifteen in the form of firing squads. If we were to apply force to effect the release of our American eagles from their Bamboo Cage, only to seal their death warrants, what useful purpose would have been served?

In a sense the fifteen fliers are victims of our national dilemma. We have only ourselves to blame for their imprisonment.

In 1945, we destroyed, in almost panicky haste, the greatest fighting force ever assembled by any nation in history. While we were making ourselves deliberately weak, the enemy expanded his military forces, particularly his airpower. The fifteen fliers might never had to go to Korea, had our military posture in 1950 been even close to adequate. The Communists struck in Korea because they knew we were weak and they were certain they could take all of the peninsula before we could build up sufficient strength to take the offensive. A handful of gallant soldiers and airmen who held the Pusan Perimeter against overwhelming odds saved the day in Korea.

The question perhaps is not whether adequate military strength now, including airpower, can get the fifteen out of prison but whether adequate strength over the last nine years would not have kept them out.

"Stretchout" is a word we have come to associate with any attempt to build the kind of military posture the nation requires to survive in this hydrogen age. Our fifteen fliers are the victims of a stretchout in American public opinion.

Now this same American public opinion must decide whether the case of the fifteen fliers will be repeated in the future. For assuredly it will, if we continue to make stretchout synonymous with preparedness.

Meanwhile, the diplomatic efforts to release our men will continue. This is hardly encouraging to fifteen families who have waited such a long time for their men to come back home.

It is axiomatic in diplomatic circles that you negotiate from strength, not from weakness.

Perhaps the diplomatic efforts to free our caged eagles would stand a better chance of succeeding if we would give our State Department the military strength it needs to lend authority to the conversations.

Until then it is unlikely Red China will set the caged American eagle free.—END

NO ROOM FOR ERROR

A true air doctrine, accepted and exploited, is the key to a sound military policy. We have the doctrine. Now we must exploit it in a common strategy.

By Lt. Gen. LAURENCE S. KUTER

HOW CAN WE BE SURE WE'LL BE RIGHT THE FIRST TIME?

IN JET-atomic warfare there will be no room for gross errors of judgment. There will be no time, should hostilities start, to correct mistakes in the types of forces that we have provided, the manner in which they have been organized and trained, or the way we fight. And the terrible penalty for failure could be quick and complete defeat.

How, then, can we be sure that we will be right the first time?

Many factors are involved in any satisfactory answer. But one thing is sure. The question cannot be answered satisfactorily unless we have the proper doctrine, and unless the doctrine is accepted.

The formulation of a true air doctrine has had rough going from the beginning. Over the years most airmen—and others who have grasped the potential of the aircraft—have been convinced that airpower would become the dominant force in war. On the other hand, there have always been those who say the airplane hasn't changed anything. Airpower, these insist, has only extended into the air the ways of combat that land armies have always used through the ages.

In many cases these views have been held by the men who were making the decisions.

For example, the doctrine under which the air forces began to fight World War II was based on War Department Field Manual 31-35. It was called *Aviation in Support of Ground Forces*, and had two basic, built-in errors. It failed to recognize that air forces must be commanded and employed as entities, and that the first task of air forces in war is to win the air battle. As a result, our air forces were grossly misapplied in Tunisia until they went on the offensive under centralized direction.

Only after the new principles had been proven in costly battle could General Arnold shove the new doctrine through the War Department. Within three months after the victories in Tunisia—in July 1943—there appeared a new Army field manual, 100-20, entitled *Command and Employment of Airpower*. And for the first time the doctrine for the employment of air forces began to speak the authentic language of airmen.

FM 100-20 proclaimed that the inherent flexibility of air forces is their greatest asset; that air superiority is the first requirement for the success of any major land battle; that the control of air forces must be centralized; and that command must be exercised through the air commander.

In 1946, with a great store of information on successful air operations available from all theaters of World War II, FM 31-35 was rewritten and reissued. But not under the old title of *Aviation in Support of Ground Forces*. The new title, *Air-Ground Operations*, recognized the co-equality of air forces. The new publication restated and expanded the principles set out originally in FM 100-20. It began by stating that:

"The basic doctrine of air-ground operations is to integrate the effort of air and ground forces, each operating under its own command, to achieve maximum effectiveness, as directed by the theater commander, in defeating the enemy."

Now the Air Force is publishing its own series of manuals. And, for the first time since military aviation began, we have unadulterated air doctrine in comprehensive integrated form.

The expression "control of the air" began creeping into

(Continued on following page)

military language in the early 1930s. As air capabilities advanced, the expression gradually came to mean the ability to strike at the enemy's bases of operation and supply and to maintain superiority in reconnaissance and combat. But there was a lag in the expression of this progress in doctrine—not so much a chronological lag as a philosophical lag. Most doctrinal expressions recognized that control of the air could be achieved by air forces. But they erred in the definition of control of the air by adhering to the relatively limited language of surface doctrine. In effect, this kind of doctrine said that air forces had control of the air once it was possible for friendly surface forces to conduct operations without fear of effective air attack.

True, there were times during World War II when we controlled the air this completely. In fact, some troops fighting in Europe toward the end of the war never knew

Our big failure to date is to exploit fully our airpower capability by actions short of war. SAC's B-52 (above) and B-36 (right) will have performed their greatest service to the nation if we never have to use them in combat.

anything but absolute control of the air. But it is highly unlikely that this will ever happen again, in an age of jet aircraft and atomic and thermonuclear weapons.

Today, we define control of the air predominantly in terms of air operations and air capabilities. Our doctrine frankly evaluates the impact of atomic warfare. It concludes that surface forces may never again be able to mass and maneuver with virtual immunity from devastating air attack. It holds that control of the air is achieved when air forces can conduct effective air operations while denying this opportunity to the enemy. Then air forces can, if required, exploit their powers in other types of air operations to further the over-all mission. Surface forces likewise can exploit control of the air according to their own capabilities. Doctrine has brought control of the air into the proper perspective.

Air Force doctrine now stems from Air Force Manual 1-2, *Basic Doctrine*. It's a little book, about the size of your hand and only seventeen pages long, but it's a powerhouse of forthright, fundamental philosophy for the command and employment of air forces. To fully comprehend the utilization of airpower as an instrument of national policy during peace and war, AFM 1-2 is an essential reference.

Many of us are prone to think more often of airpower in its wartime roles. We give less creative endeavor to airpower as an instrument of peace. Yet the greatest victory that airpower could win, and its finest service to humanity, would be as an instrument of national policy used to avoid war, preserve our ideals, and establish secure and just peace.

One of the main reasons we think of airpower solely in terms of war is that doctrine has failed, until now, to exploit fully the capabilities of our air forces to influence the behavior of other nations by actions short of war in support of national policy. Certainly, there is no lack of examples of airpower's effectiveness in this capacity.

The fact that we were able to stay in Berlin after the Soviets blocked it off by surface action in 1948 was a strategic victory of the first magnitude. The Air Force's Operation Vittles was the tactical victory that made the strategic triumph possible.

Or consider the B-36. It is growing obsolescent. It has never been used in war. But—knowing how big it must loom to the Communists—can one say logically that it has not paid for itself many times over by actions short of war?

Or consider our overseas bases. They are located now in many strategic areas. Our air forces use them regularly in training operations and in special missions. These activities speak an unmistakable warning stronger than any words.

- Do we collect a dividend of deterrence from these air efforts?
- Does this employment of airpower make it possible for our diplomatic negotiations to be carried on from a position of greater strength?
- Do these efforts enhance our security?
- Where would we be without them?

We are even now engaged in a war of national ideals and philosophies. From the beginning of this struggle nothing has occurred to indicate that we will be able to withdraw from this cold war under honorable and acceptable conditions. We are in a fight to the finish. We have closed with the enemy, and we must win. We must win or surrender our ideals.

These are ominous facts. But they are not hopeless by any means. For we have great power within our grasp. And if we use this power correctly, before the last chances are gone and a war of violence is inevitable, who can say that the war of persuasion cannot be won in honor and justice? That would be the supreme victory that all of us want. What kind of guidance can we find in doctrine here?

Our doctrine as set out in AFM 1-2 makes it plain that we must have forces-in-being adequate to win a general war, but flexible enough for use as necessary in selected operations.

Here we must tag the word "adequate" with a more specific meaning in its relationship to the other forces which are provided for national security.

(Continued on page 33)

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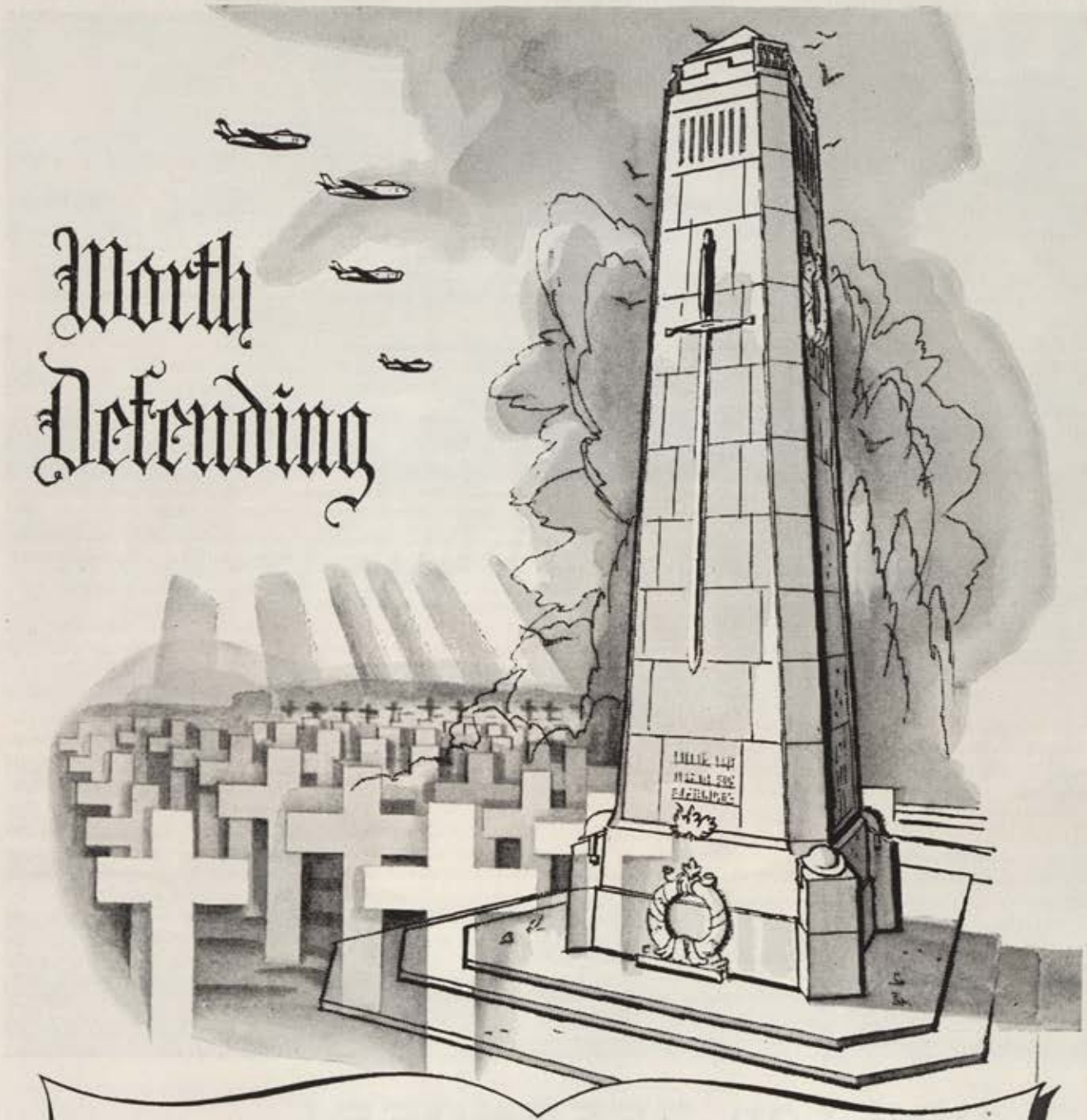

"To you from failing hands we throw the torch,
Be yours to hold it high;
If ye break faith with us who die
We shall not sleep though poppies grow
In Flanders fields."

And yet, when the parade is over and the last bugle note fades, it is so easy to "break faith" by being lulled into a sense of "*nothing will happen here*" . . . to let victory and freedom go by default.

"Hold high the torch" — but will we do it? We will if we respect the sacrifices of our soldiers, sailors and airmen through the great struggles in the past. Think it over in your mind . . . what they died for is worth defending *now!*

CA54-21UST

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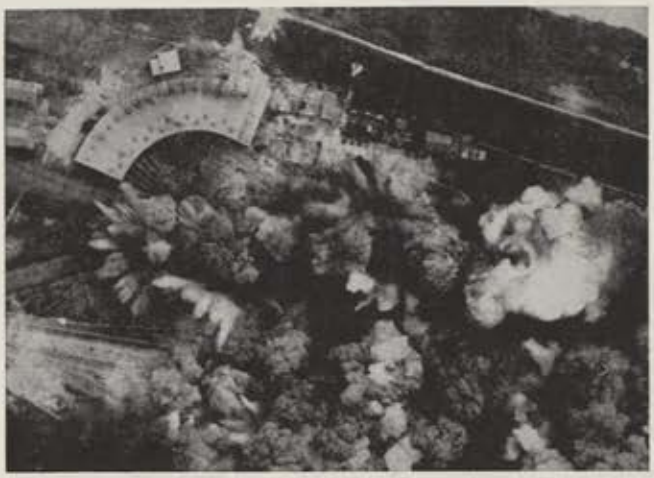
One thing is certain—our resources must be geared to military objectives that we can expect to attain.

There are serious differences on this point. The surface strategists doubt that victory can be won unless troops occupying bits of real estate exert the control of their physical presence over a defeated nation. These advocates speak convincingly of the ultimate determinant of victory as the trained fighting man with his feet on the ground. But this point of view, however honestly maintained, ignores the geography of the current situation.

By now it is trite to say that Communist Russia is a vast land mass. But it is still important to remember that about one-third of the population of the earth is under Communist control today and Communist influence dominates in about a quarter of the total land area. Would it be "adequate" to siphon away our military strength into



static battle lines, stretching endless miles over the earth, from which we could chip away interminably at the edges of the problem without reasonable hope of conclusive results? At least not conclusive results from our point of view.

Admittedly, our air doctrine contemplates peripheral operations by air forces. The difference is that they are not necessarily limited to specific geographical areas, as are surface forces. So, doesn't it make sense to design all military strategy to insure the most powerful use of air forces against the heart of the enemy, with the greatest immediacy, and with adequate forces thereupon provided in proper priority?

"Adequate," in the case of air forces-in-being, means having the wherewithal to go against the core of the enemy's threat immediately, if that becomes necessary. It is not susceptible to arithmetical hypnosis.

Our little book of doctrine holds that ". . . military operations must be considered in terms of specific effects to be accomplished."

That is true doctrine. For there are specific effects which we want to achieve and which we can identify clearly.

First, in this cold war or twilight peace, we seek a decisive restraining effect upon our enemy. We hope to exert this effect through pre-D-Day decisive action. We can exert it by the fullest exploitation of the inherent capabilities of our Army, our Navy, and our Air Force, in unity and mutual understanding, and in a common strategy for national security.

Second, if we are forced to war, we must neutralize the enemy's threat to us by immediate deep penetration to

The Berlin Airlift (above) was a strategic victory of the first magnitude for American airpower in a cold war.

Peripheral air operations like Korea (left) need not be limited to specific geographical area, as is surface action.

the core of his strength and control.

Our best chance of doing the first is to be ready and able to achieve the second, and, in our military preparations, to leave no room for doubt that we are ready and able.

The basic doctrine of the Air Force, as written in AFM 1-2, holds that an evaluation of the impact of air forces in military operations leads to the recognition that air forces are most likely to be the dominant forces in war. If that doctrine is accepted, the strategy through which the dominant force can be applied in military operations —during peace and in event of war—follows logically.

It is possible today for one of our bombers alone to release more power than has been released by virtually all military forces of all nations in all wars throughout all previous history. With such capabilities, literally so awful, on our part and on the part of the Communists, the question of timing takes on tremendous significance. To be able to strike at "places and with means of our own choosing," as Secretary of State Dulles put it, is not nearly so important as the ability to strike "at times, places, and with means of our own choosing."

If air forces are to attain their potential as an instrument of national policy, our military policies must make certain that we are prepared to deliver these weapons decisively.

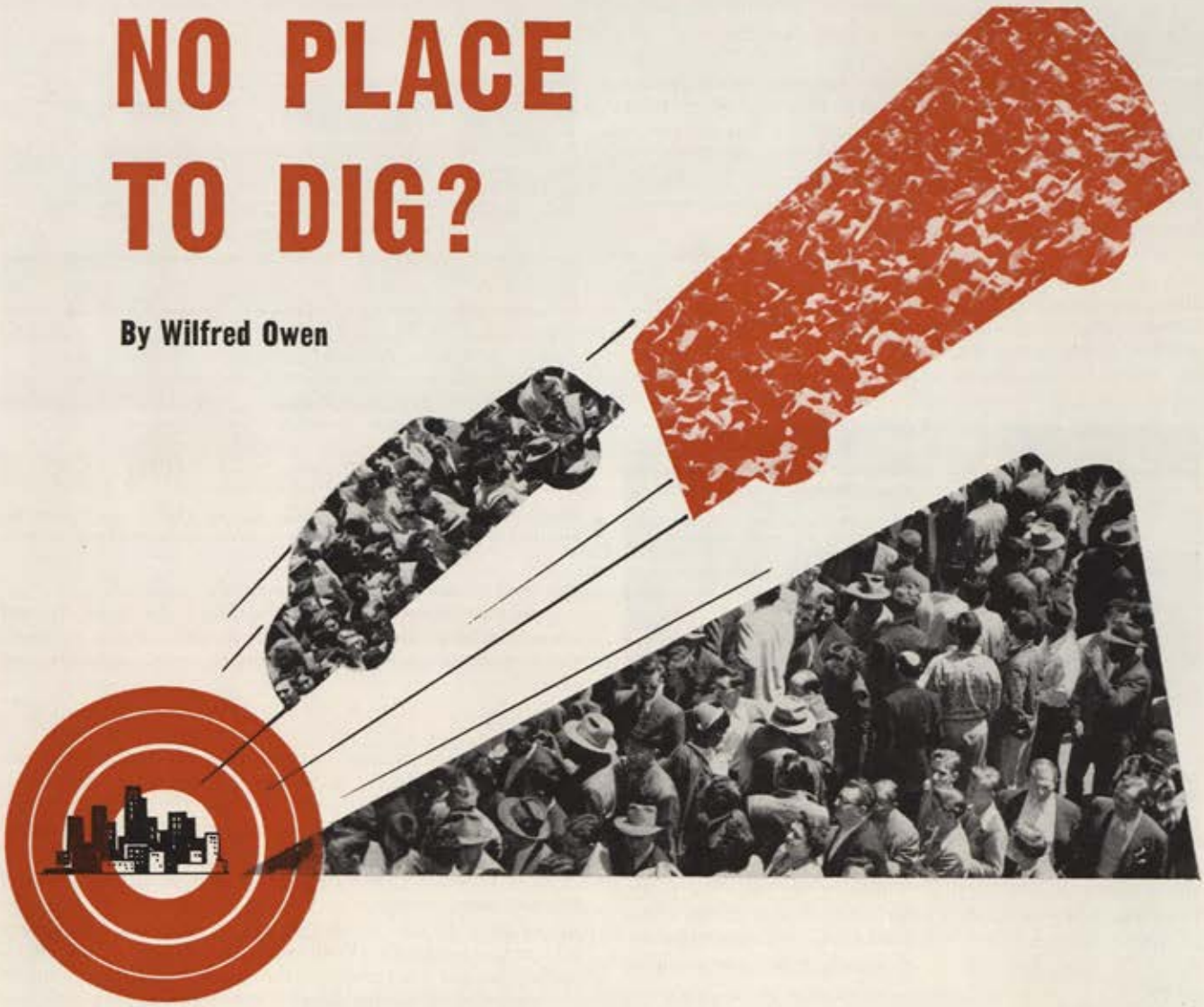
It is plain that we cannot have a capability for massive retaliation by compartmenting our effort, by scattering our resources among forces for different strategies, or by dissipating our greatest strength against deployed segments of the enemy's forces. We can have the required capability under true air doctrine which is mutually accepted. Then the military forces would have a common strategic objective. Through this unity of effort, we could take decisive and conclusive action short of war before a D-Day ever came.—END.

Lt. Gen. Laurence Sherman Kuter, 49, is Commander of the Air University in Montgomery, Ala. A native of Rockford, Ill., he was graduated from West Point in 1927. During World War II, General Kuter commanded the 1st Bomb Wing, 8th AF and was Deputy Commander of AAF, Pacific. He was Commander of MATS, later DCS/Personnel before coming to AU.

The Civil Defense Dilemma

NO PLACE TO DIG?

By Wilfred Owen



AIKICHI KUBOYAMA is dead. He died on the night of September 23, thus becoming the first known person in the world whose death will be associated with an H-bomb explosion. It was last March, when he was fishing from the *Lucky Dragon,* that the radioactive ash from Bikini Atoll dusted him with danger. That was six months ago and seventy miles, they say, from the bomb. Apparently, more adequate medical attention might have yet saved his life. Furthermore, since Malenkov does not announce accidental deaths following Red H-bomb tests, perhaps Kuboyama was not first. Nevertheless, the *Lucky Dragon* and Kuboyama will go down in history together with the birth of the H-bomb.

The current issue of the magazine *Nucleonics* has an interesting report about thirty-nine cattle and fifteen sheep. It says that when they were slaughtered it was found that the ones that came from Florida had thyroids that were thirty-two times more radioactive than normal. They had been eating foliage that had been contaminated by radioactive ashes from nuclear explosions, presumably from air currents related to our Pacific tests or tests conducted by the Russians. The eminent British scientist, Dr. Edgar Adrian, has been quoted in explanation of what all this means to people in the United States and all over the world. "Repeated atomic explosions," he states, "will lead to a degree of radio-activity which no one can tolerate or escape."

Meanwhile, the grocery stores of America are preparing to offer for sale a handy little package containing a three-day minimum supply of food in case the bomb should fall, and the Federal Civil Defense Administration is advising families to decide on some prearranged meeting place where they can get back together again just in case, preferably some public building in a remote location.

Officially, the city is regarded as today's primary H-bomb target. If you live in any one of seventy principal target cities, or 123 other cities that could conceivably be targets, you are a poor risk.

It seems strange that a thousand years ago the city was the safest place a person could head for when the fighting started. Stone walls and wooden palisades kept out the marauders, and, for suburbanites of the Middle Ages, moving inside the town gates was the surest formula for peace and security.

With the progress of civilization the pattern of survival has been reversed. Now, they tell us, the urban dweller is the least likely to succeed, and the city is the last place anyone would leave the country for.

America's cities today represent a major part of our economic strength. Our cities contain 100 million people. They are the centers of industry, trans-

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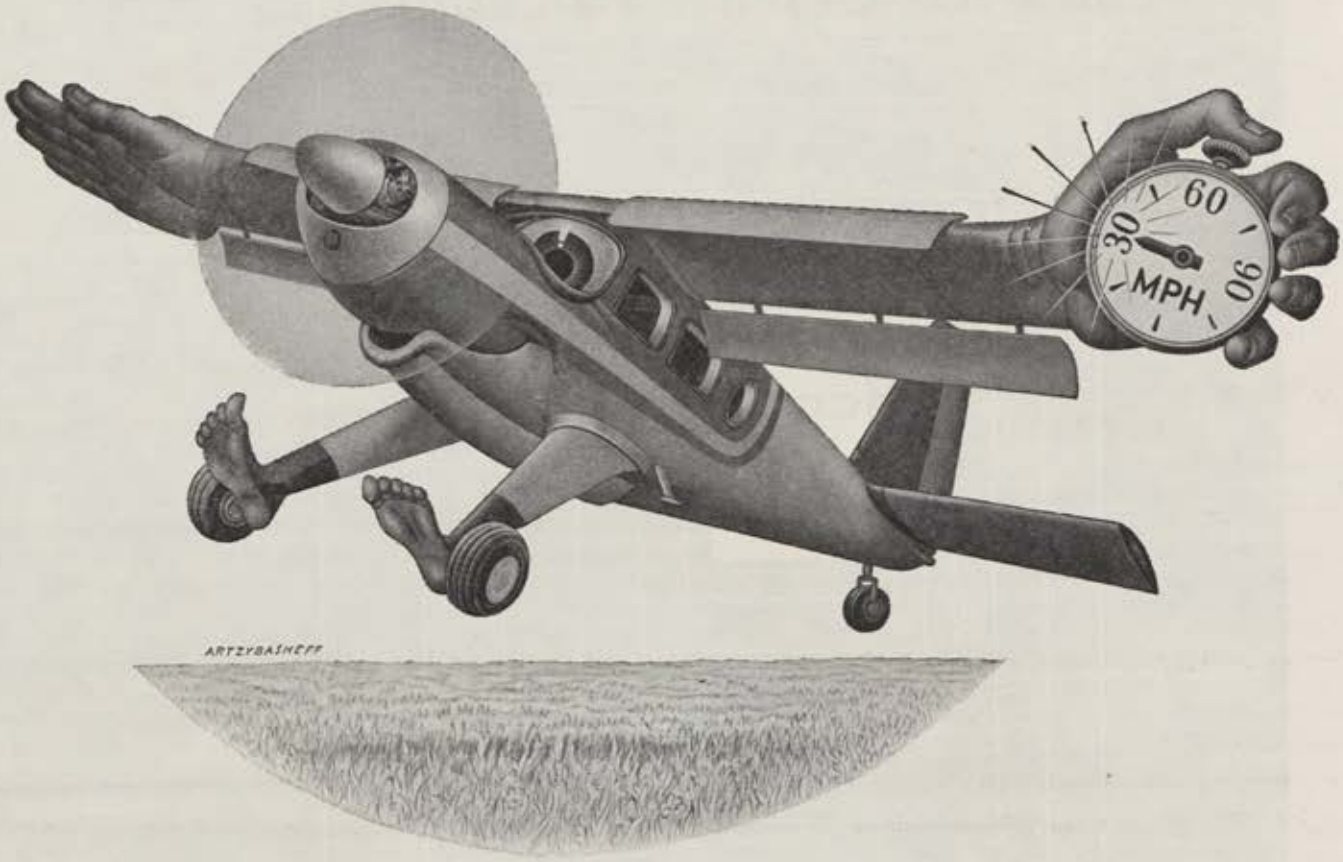

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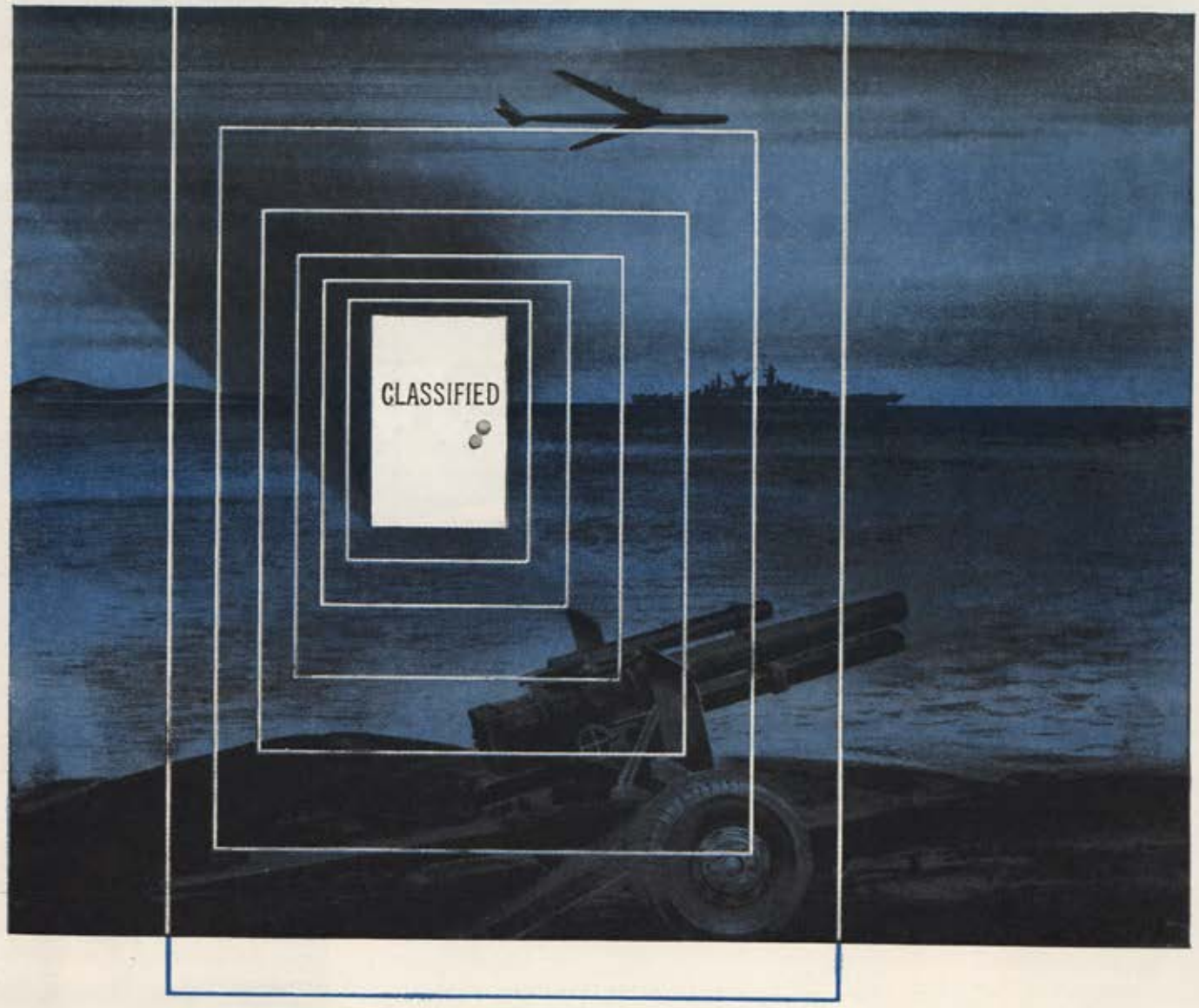

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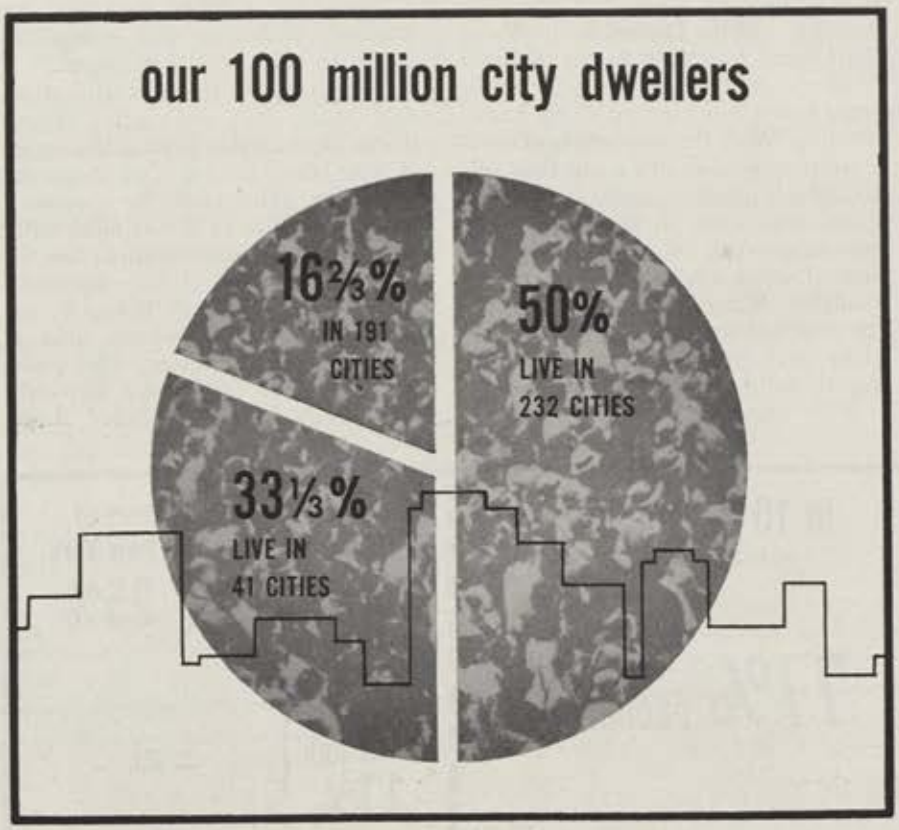


portation, communications, and finance. They are the focal point of research and government. They are also, by the same token, the weakest links in our defense because they expose an overwhelming proportion of our people and our wealth to devastation from enemy attack.

In the words of the Federal Civil Defense Administration, "If this country were attacked, a primary objective of the attacker would be to destroy our production capacity and our will to resist. The most probable method of attaining this objective would be to attack our centers of industry, population, and government."

There are many measures of how right the FCDA's understatement may really be. Half of our 100 million city dwellers live in 232 cities, and one-third of them live in forty-one cities. The nation's seventy critical target areas contain sixty-eight million people. The central cities of our thirty-two largest metropolitan areas cover only fifty-five square miles out of the nation's three million square miles of area, yet this postage-stamp property contains thirty-two million people.

In the twenty-five richest target cities will be found seventy-eight percent of all petroleum product sales and eighty-nine percent of all the financial transactions that are so vital to the conduct of business and the operations of government and industry. There are ten areas in the United States, each twenty-five miles in radius, that account for seventy-seven percent of our coke production, eighty-two percent of iron production, and seventy-three percent of steel ingot capacity. Over half the nation's foreign commerce is carried on in six port cities, and one-quarter of it is concentrated in New York.

One bomb dropped on the Pittsburgh area could wipe out seventeen percent of our steel-making capacity, and another on the Chicago-Gary area could take care of sixteen percent more. A bomb on Youngstown, Ohio, would knock out eight percent, and Cleveland, Detroit, Baltimore, Buffalo, and Weirton, W. Va., would each account for at least five percent more.

So much for the fact that cities make good targets. What, then, are we doing to minimize this vulnerability and to avoid catastrophe in urban areas in the event of an atomic attack? It was pointed out in the report of Project East River several years ago that when the stockpiles of atomic bombs in the possession of the great powers reach the point where the advantage of numbers is erased, "relative target vulnerability will become a decisive factor in the outcome of war. In short, to keep pace with weapons development, it is essential to make urban targets less remunerative."

At the present time the familiar signs along the main roads, announcing that they would be closed in the event of enemy attack, have been taken down or altered to make it clear that the old policy of taking to shelter within the city is considered obsolete. Today our atomic and hydrogen bomb tests show that the only way to survive the bombing of a city is to be somewhere else. Thus today it is held that we must leave our cities before the attack in order to save ourselves. The cities themselves we cannot save.

How, then, do we save our skins if we should suddenly be confronted by an atomic attack? In the words of Civil Defense Administrator Val Peterson, "In the face of the increased destructive capacity of hydrogen bombs, planned evacuation of our cities, when warning time permits, has now become an urgent necessity."

It is clear, however, that we cannot rely on evacuation of cities when we do not have the means to give the population sufficient warning. The fifteen minutes or so of warning that is the maximum that many cities could expect today would obviously be inadequate to permit any number of people to leave, and to travel beyond the ten to twenty or whatever number of miles would be necessary to find safety. In fact, plans for the large-scale evacuation of cities cannot be

(Continued on following page)

put into effect until warnings of several hours are provided. Late in September the US and Canada took a step toward making this possible when the two countries announced plans to build a new radar warning line "as far north as practicable." The proposed line, above the Arctic Circle, would be some 1,800 miles north of Chicago and would give that city about three hours of warning if the Russians attacked with 600-mph jet bombers.

Who is calling the signals for the defense in the face of these conditions? According to the *Bulletin of the Atomic Scientists*, FCDA, "playing the role of a near orphan agency," has been in the position of not even having the information it needs. "Neither the Atomic Energy Commission nor the Defense Department could be accused of over-informing the FCDA in the area of weapons data. The Pentagon was and still remains particularly blind to the need for arming our citizens with information vital to their survival." (The *Bulletin* reports that FCDA, having despaired of prying loose data on weapons effects from the military is now sponsoring an unclassified research project to develop its own information!)

The problem of evacuation, of course, may not be one of getting out in hours or minutes. Attack might come without any warning at all (from submarines or smuggled bombs) or it might come after days or weeks of warning. For example, the United States might issue a solemn warning to Russia and in doing so would have to make ready its own civil defense.

At present, on the assumption that Soviet bombers would pass over the polar regions, a radar network is being constructed to detect enemy aircraft approaching from the north. The Trans-Canada Pinetree Radar Chain is designed to provide a one-hour warning, and the Distant Early Warning Chain, according to the *Bulletin of the Atomic Scientists*, will a few years hence provide four to six hours' warning. With the realization of such a warning period still some time off, everything possible should be done to stage evacuation drills, so that the evacuations can be smoothly accomplished when the warning system is available. Many cities are already in the process of developing evacuation plans and procedures, which—it is hoped—will be periodically rehearsed.

What are the possibilities that our big cities can actually empty themselves within the warning period that we hope we are going to get? To date there have been four demonstrations of walk-out evacuation, and civil defense authorities have concluded that with some planning the scheme will work. But walking out of downtown Spokane, Shreveport, Mobile, and Bremerton is different from evacuating New York or Chicago.

In the test at Spokane—a city of 170,000 persons—about 15,000 persons heeded the sirens and walked to the periphery of a seventy-block business center in nine minutes. What this proves is hard to say, or as the official press release put it, "the significance of 'Operation Walkout' is not easily appraised . . ." Further evacuation drills that should be more illuminating are scheduled soon for Atlanta, Los Angeles, and San Francisco.

If evacuation of urban population is to be the key to civil defense, what are the possibilities that it will work? One question is how far from ground zero one has to go, and this in turn depends, of course, on how big a bomb one assumes. According to the FCDA, "it is assumed that the enemy can make nuclear weapons of varying yield, ranking from a few thousand to millions of tons of TNT equivalent. It is, therefore, assumed that any city attacked, with very few exceptions, would be substantially destroyed."

To get beyond the zone of destruction would, then, mean going at least ten to fifteen miles beyond the center of the blast. Doubts that America's big target cities could be evacuated beyond a radius of fifteen miles without panic and pandemonium are the natural outgrowth of the experience most of us have had trying to get home from the downtown area at 5 o'clock in the evening. The statisticians tell us that, with fifty-eight million vehicles in the United States, the whole population could go driving at once. But the mass evacuation plan is the first suggestion that this might be a good idea.

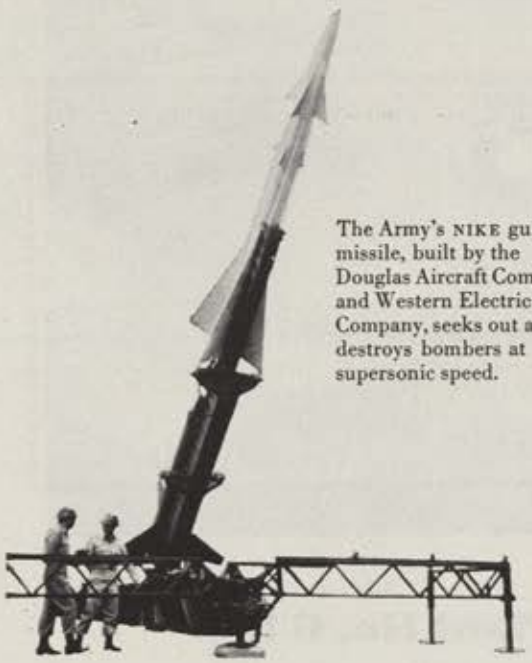
In the words of the Civil Defense Administrator himself, "our horse-and-buggy roads could never begin to take care of the traffic that will pour out of the big cities if we are lucky enough to get ample warning of enemy bombers." The Administrator has pointed out that not one city in America has adequate roads for evacuation routes, and several months ago he was stating his determination to recommend to the President a coast-to-coast, super-highway building program that would concentrate on roads around sixty to seventy big cities. The recent $50 billion highway proposal made by the President to the state governors, and now under study, was predicated, among other things, on civil defense.

Another questionable feature about an evacuation program is the possibility of false alarms, intended or otherwise. It is possible that the enemy might create a period of tension which would lead to strategic evacuation of American cities, and the problem then would be one of deciding if and when to return to the

(Continued on page 41)

ROCKET POWER

for Land-Sea-Air Defense



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UNDER ONE ROOF
By James J. Haggerty, Jr.
(No. 1 in a series)

"Government Plant No. 6 in Marietta, Georgia, is a new wonder of the industrial world"

Says James J. Haggerty, Jr., Aviation Editor, Collier's Magazine

If a list were made of the seven industrial wonders of the world, there is little doubt that one would be U. S. Government Aircraft Plant No. 6 (GAP-6) in Marietta, Georgia.

GAP-6 is the world's largest integrated aircraft plant *under one roof*. Operated for the U. S. Air Force by Lockheed since 1951, it builds six-engine B-47 jet bombers and modifies hundreds of other B-47's to keep them up to date. It produces Lockheed C-130 turbo-prop combat cargo planes, yet it still has room to make other, bigger aircraft in its massive B-1 building—all *under one roof!*

You get the same feeling of incredible size when you step inside GAP-6 in Georgia as you do when you first see Grand Coulee Dam, or the Empire State Building, or the Pentagon. It's the "under one roof" that makes this bigness important. There is no loss of time, no costly delay in assembly, manufacturing or tooling, for all facilities are as close as the nearest telephone. One example of its size: 70 miles of fluorescent tubing are required above its 76 acres (yes, *acres)* of floor space.

When used to capacity, GAP-6 can have four production lines—each for a different big plane.

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

Lockheed
Aircraft Corporation
(a Lockheed advertisement)

Georgia
Division, Marietta

city. Or the malfunctioning of the radar screen could likewise send urban dwellers scampering to outlying safety. In either case, the effects on urban nerves and on the operations of the urban economy would be substantial.

When the idea of evacuation was presented to a Lansing, Mich., audience last spring there was considerable hostile reaction. One newspaper editorial expressed the thought that evacuation is not only impossible but that it is "unwise even to set up the public thought that such flight should be attempted." The Atlanta *Constitution* saw no possibility of the necessary civilian discipline in the face of impending disaster, and the *Free Press* in Detroit felt, "What Mr. Peterson said [at Lansing], in so many words, was that there is no such thing as real CD; that a major city would be doomed by a successful attack . . ."

The possibilities of evacuating our big cities are now being seriously studied. The Civil Defense Administration is encouraging cities to complete as speedily as possible the necessary studies of our principal target areas, and traffic engineering research is being undertaken for the Administration at Northwestern University. Meanwhile the proponents of mass exodus from big city centers are encouraged by the fact that the population of the Loop in Chicago shrinks in a few hours from a daytime total of 900,000 to 85,000 at night. The problem of evacuating a much larger area than the city center remains, however, and the problem of providing food and shelter for evacuees is another. Furthermore, the assumption that enemy planes would drop the bomb at the city's center may be less than realistic.

A more important question about evacuation, however, may be the temporary nature of the solution. For while we wait completion of the radar screens that will give us greater warning time, the day of guided missiles moves nearer, when radar detection will no longer be a decisive factor. And even before that time the delivery of atomic bombs by submarine or by smuggling is not impossible, nor is it certain that the radar net will prove effective under all possible conditions.

For these and other reasons there are many who insist that the ultimate over-all solution must also include dispersal of our urban areas by means of a planned removal of industry and population to the outskirts, or to smaller cities, or to new cities that would be more widely separated.

Project East River made such a recommendation several years ago in a report that stated that if the United States would avoid national suicide it must match its development of atomic weapons with its ability to make the use of such weapons against it as unremunerative as possible—by making urban targets less inviting. Dispersion of population and industry, according to this report, is essential to reducing the city's "potentially fatal vulnerability." According to this view dispersion is the heart of the nation's civil defense.

These people also feel that a planned dispersal could accomplish remarkable results in a reasonable period of time. Every year in urban areas the United States is building enough new plants—houses, schools, streets, and utilities—equal to the needs of four million people. Enough new city structures will be built in the next five to ten years to re-house a substantial proportion of all the commercial, industrial, and cultural institutions now located in urban and suburban areas. Why not start now, therefore, to put this new construction in dispersed locations?

But the weakness of relying on reducing the density of urban development seems to lie in the fact that it would take a lot more time than we can now afford to achieve any really large-scale effective dispersal. According to the eminent sociologist, Hornell Hart of Duke University, "the dispersion program is vitiated and nullified" by the fact that it is too slow. Dispersion, according to Professor Hart, is like "matching a sleeping tortoise against a racing automobile."

It is true that, already without any plan, our cities are spreading out more and more. The sprawl of the suburbs is everywhere apparent and growing. But in the years of major H-bomb threat that lie immediately ahead, the dispersal trend shows no signs of achieving for the populous central cities the degree of decentralization needed to avert national disaster. Our central cities, despite the moving to the suburbs, continue to increase in population. New industries continue to locate in central cities. Civil defense authorities today have no power to promote dispersal. The recent report on the steel industry by Admiral Ben Morreell was an attempt to make specific moves in this direction for one industry.

But again the criticism is raised that even dispersal is an obsolete policy, since the power and transportation and fuel that run our factories would be cut off in any attack on the central cities, and our dispersed plants would then be useless. How could we survive, asks Dr. Hart, "if the raiders succeeded in their purpose of paralyzing transportation and communication, creating anarchy, and starving even the unbombed cities?"

The Boston Herald has pointed out another grave question about dispersal. "Are we," asks the *Herald*, "to give up all the reasons that made cities desirable economically and socially, and plan our urban civilization with disaster in mind? To do so means exposing ourselves to economic disaster to avoid military disaster, and we soon come to the point of dispersal being the destroyer instead of the bomb."

The question is a good one and the search for an answer that makes sense brings us back to the Florida cattle that grazed on radioactive foliage, and to the Japanese fisherman who died of radiation sickness. Is safety to be found in dispersing or decentralizing or evacuating our cities when the effects of the bomb in the country are no less sure but only slower? Radioactive vegetables in South Jersey or dust falling in the dispersal area may prove to be as fatal as a blast over Manhattan. There is no percentage in fleeing to the country if there is nothing safe to eat, or drink, or breathe. No wonder that scientists are talking of "such obsolete remedies as mass evacuation and dispersal."

But perhaps protection against radioactive fall-out could be guarded against by a combination of evacuation and shelters in the outlying areas. This would be true, however, only if pollution of the air were not the deciding factor with respect to survival beyond the area of direct blast.

It might be, of course, that although the H-bomb were to be discarded as impractical, the A-bomb would continue to provide a feasible weapon, and in that case the arguments for evacuation and dispersal would retain their validity.

Today we have an air defense system a-building, plus the all-important Strategic Air Command that gives us capabilities for retaliation that we hope will mean the nightmare can never come to pass. But that is a holding action while the nations of the world, acting in their own selfish interests, can arrive at mutually acceptable plans for the control of military forces and the application of atomic energy to the peacetime necessities of all the people of the world. That is the great challenge, the real goal, the only heading. There is no other place to go.—END

Campus Honor Society Affiliates with AFA

THE Arnold Air Society began in 1947 when three Professors of Air Science, including Capt. James L. Nollkamper, and a group of AFROTC Cadets at the University of Cincinnati got together and discussed the desire for and advantages of a campus organization through which the Cadets could band together fraternally.

In October of that year a committee was formed to draw up a constitution for such an organization. Consideration was given to establishing objectives, membership qualifications, rituals, activities, and a suitable name. It was apparent at the outset that the organization should be national in scope.

Selecting the name of the organization was first on the agenda. Many suggestions were considered. Finally, with the personal approval of the late General H. H. Arnold, the name "Arnold Society of Air Cadets" was chosen. General Arnold asked that the Society begin on a local basis and expand spontaneously.

In the spring of 1948 the Air Defense Command expressed an official interest in the Society and took steps to help expand it nationally. ADC sent copies of the constitution to Air Science Departments at colleges and universities offering AFROTC. PAS&Ts explained the organization to Cadets. Interest ran high.

By the opening of the fall school term, the constitution had been amended sufficiently to make the Society national in scope. During 1949, twenty new Squadrons on as many campuses were initiated into the Society. Publication of a newsletter was started to provide an exchange of ideas between Squadrons.

The concept of an AFROTC fraternity was fine, but not all Cadet units rushed into the Society. Some units had ideas of their own and set out to organize similar organizations, but with different names. Two were formed—"Prop and Wing" and the "Billy Mitchell Society."

Normally, competition is a healthy thing. This may be true with business, but not with organizations whose objectives and composition are as similar as AFROTC fraternal groups. The Air Force was interested in these Cadet groups, but was faced with the same old problem—how to help them all without being partial to one. Something needed to be done. Couldn't the three groups be united into one strong and effective organization?

Maj. Victor Sampson, PAS&T at the University of Cincinnati, saw no reason why this couldn't be done. But how? He contacted the Air Force Association in Washington, D. C., for ideas. In early March, 1950, a series of meetings was held in Cincinanti by representatives of the Arnold Society, Major Sampson's office and the Air Force Association. Since the objectives of the Cadet groups and those of the Air Force Association were so closely related, AFA seemed a logical medium through which an attempt would be made to bring the three Cadet organizations together. More meetings were held. Letters and telegrams were exchanged. The result was amalgamation—the three organizations were molded into one, with a new name—the Arnold Air Society.

Gen. James Doolittle, a founder and the first president of the Air Force Association, was chosen as national honorary commander of the new Society, filling the vacancy brought about by the death of General Arnold. Mrs. Arnold was named honorary sponsor.

The Society was growing. National meetings were needed to bring representatives of the Society together to establish operating policies and procedures, and select national leaders.

In March, 1950, the Society's first national conclave, held in Cincinnati, reported that seventy Squadrons had been chartered. The delegates voted to establish a national headquarters at the University of Cincinnati and selected national officers from that university.

Fifty-two AAS Squadrons were represented at the next conclave in St. Louis. At this meeting, the delegates established a national publications headquarters at Texas Technological College, Lubbock, Texas, with an official publication to be known as the *Arnold Air Letter;* changed the constitution to provide for six area headquarters, corresponding to the United States Air Force Areas; and instituted a $300 Arnold Memorial Scholarship, to be rotated numerically among the AAS Areas and given to the outstanding first-year member of the eligible Squadrons.

In St. Louis, the Society approved a proposal by the Air Force Association to offer AFROTC Cadets a voluntary membership in AFA at $3.00 a year, including a subscription to AIR FORCE Magazine, and agreed to the appointment of a joint AAS-AFA Committee to discuss AFROTC matters of mutual interest.

In April, 1951, the national officers of the Society attended a special ROTC conference, sponsored by the Air Force Association, at USAF Headquarters in Washington. Here, AAS leaders discussed the ROTC program with such distinguished military leaders as Generals Nathan F. Twining, Carl Spaatz, and Earl S. Hoag.

Over 1,500 Cadets attended the third national conclave in Miami, Florida, in 1951. Delegates from eighty-five Squadrons heard Harold C. Stuart, president of the Air Force Association, deliver the main address at the annual banquet.

By February of 1952, 116 Squadrons had been chartered by the Society. In March of that year, a reorganization meeting was held in Cincinnati. Organizational changes approved at this meeting required:

- That all area headquarters be staffed with officers equal in number to national headquarters.
- That the books of the national comptroller be audited by a certified public accountant and a report be presented at each conclave.
- That the squadrons purchase their supplies directly from the retailer rather than from national headquarters.

At the begining of the 1953 scholastic year the Air Force ROTC program was transferred to a new command, the Air University.

Five hundred Cadets, representing 147 campuses, attended the fourth national conclave in Los Angeles. Further expansion of the Society required more organizational changes. The original six AAS areas were re-divided into eleven, lettered from A to K, each maintaining a headquarters at a chosen college.

In December of 1952, national officers of the Society again flew to Washington for another Air Force conference, sponsored by the Air Force Association. This was a two-day meeting—one with the Air Force on ROTC matters, and the other with AFA on organization. The double-barreled meeting prompted suggestions for constructive changes in the ROTC program.

(Continued on page 46)

Double Barreled

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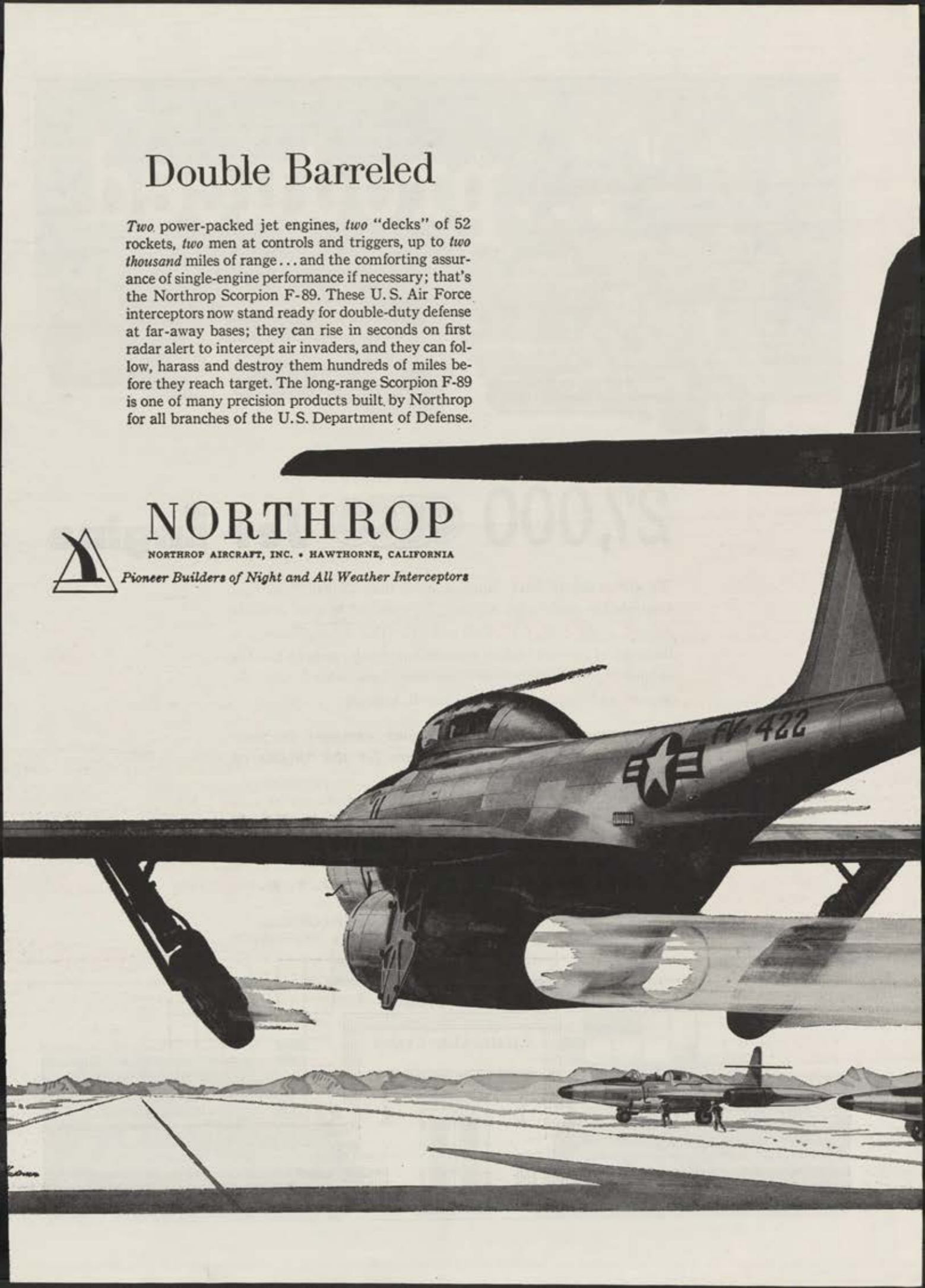

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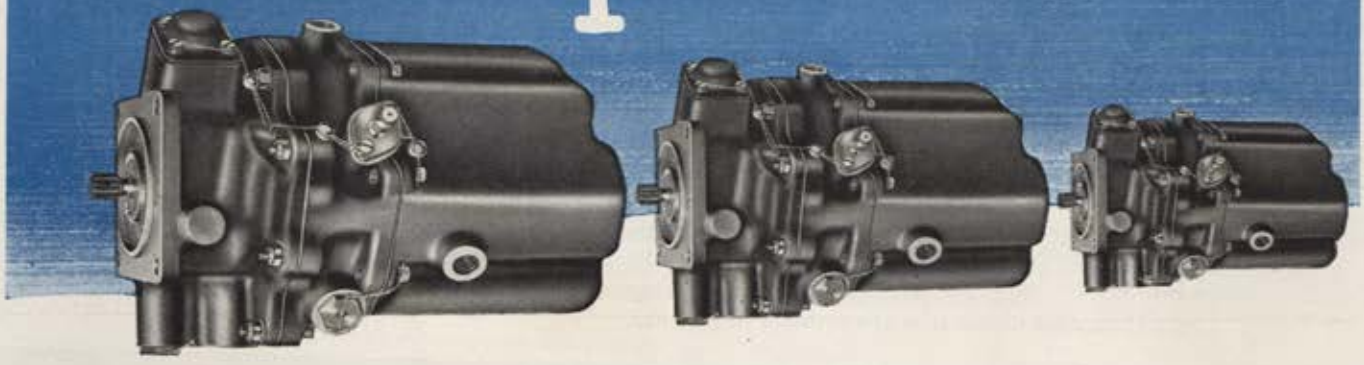

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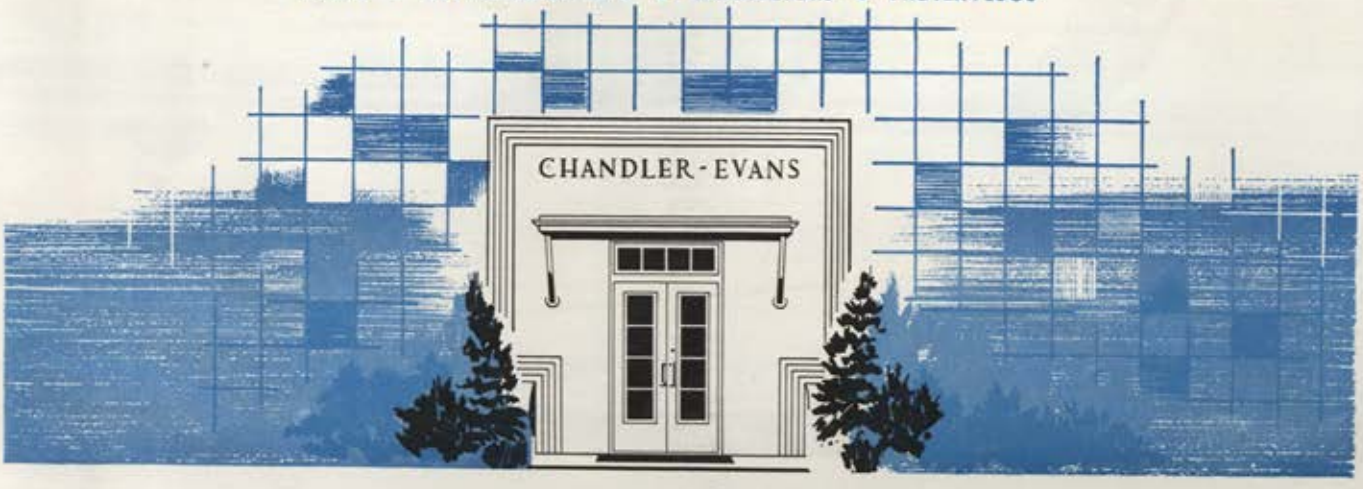


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General George C. Kenney, president of the Air Force Association, Maj. Gen. William E. Hall, Assistant Chief of Staff for Reserve Forces, and Brig. Gen. Matthew M. Deichelman, Commandant of AFROTC, addressed the fifth national conclave at Omaha, Nebraska, held in April, 1954. The 700 Cadets from 170 colleges and universities approved major changes in the Society's organization. These changes included:

- Affiliation with the Air Force Association on a joint membership basis, for a two-year trial period beginning September, 1954, with a joint membership dues of $5.00 a year, $2.50 of which will cover membership in the national Society, and $2.50 covering Cadet membership in the Air Force Association and a year's subscription to AIR FORCE Magazine. The national commander of the Society will be an ex-officio member of the Association's board of directors.
- Locating the national administrative offices of the Society in Washington, D. C., with the national headquarters (national officers) to be rotated annually to the campus at which the immediate past national conclave was held.
- Establishing an executive board of directors composed of all area commanders and the national commander, who will be chairman of the board. The Hap Arnold Squadron at Cincinnati (charter squadron of the AAS) will be a permanent, non-voting member of the board.
- Establishing a junior affiliate of the Society to be known as Sabres' Flight, whose membership will be open to basic AFROTC Cadets with outstanding scholastic and leadership qualifications.

Both the Society and the Air Force Association will derive benefits under the joint AAS-AFA membership program. The Association is providing free office space in its Washington headquarters for the AAS executive secretary, free local telephone service, use of office equipment, storage space, joint purchase privileges, and staff consultation, plus a Cadet membership and a subscription to AIR FORCE Magazine for each member of the Society.

The Society offers the Associaiton an excellent source of new membership, especially on a long-range basis. As joint members of the two organizations, AAS members will become acquainted with the Association while in college and will, therefore, be excellent prospects for regular membership in AFA following graduation. As the years pass, there will be a large group of AAS alumni within the Air Force Association.

With over 100,000 Cadets enrolled in the AFROTC program, much good can be done by banding them together fraternally in the Arnold Air Society, working for the objectives for which the Society was formed, namely:

- To further the purpose, mission, tradition and concept of the United States Air Force as a means of national defense;
- To promote American citizenship;
- To create a closer and more efficient relationship among AFROTC Cadets.

The prime governing body of the Society is the national conclave. Between conclaves, its affairs are governed by the executive board of directors. The laws of the Society are the provisions of its constitution. It is organized into areas, wings and squadrons.

Much of the credit for the development and success of the Society must go to its national advisors, including Maj. Victor Sampson, Capt. Addison T. Reid, and Capt. Robert Rotstan. Their guiding hands have steered the Society on a steady course through the years. Maj. John Burnette of the University of Omaha is the current national advisor.

If you are an AFROTC Cadet who is learning about the Arnold Air Society for the first time as you read this, here is where you fit in. If you have been selected for the advanced AFROTC course and have a good scholastic average, you are eligible for active membership in the Society. Your initiation fee is $2.50. Your joint AAS-AFA annual membership dues are $5.00.

If you are enrolled in the basic AFROTC course and are in the upper half of the Cadets qualifying for advanced AFROTC, you are eligible for membership in the Sabres' Flight. Membership dues and privileges for the Sabres are now being established.

Whether you are in basic or advanced AFROTC, the AAS Squadron commander and your PAS&T have the details on membership in the Society.

There is also a place in the Society for the ladies, in the co-eds' auxiliary, the Angels' Flight. The Angels are important to the social activities of the Society. The idea was born on the University of Omaha campus.

Having endured its share of growing pains, the Arnold Air Society seems destined to take its place among the nation's top airpower organizations. With its network of areas, wings and squadrons established and its operating policies and procedures defined, it is now a matter of acquainting each new AFROTC class with the Society and directing AAS's efforts to airpower for national security.

The New Look in Arnold Air

The Arnold Air Society is younger, yet has more sub-organizations than most national groups on American university campuses. The Society now has 163 squadrons.

AAS delegates to the 1954 AAS conclave in Omaha voted unanimously to affiliate with AFA when it became obvious that the administration of national business had become too big a load for volunteer executive officers.

The resolution, as passed, read:

Whereas, it is recognized that the Arnold Air Society has grown to the point where the administrative structure is no longer adequate to meet its needs; be it resolved that:

- The office of a national executive secretary be established, and that the executive secretary will be hired as soon as is practicable after the fifth annual conclave by the executive board of directors;
- A stenographer-clerk for the office of the national executive secretary be hired as needed;
- The current offer of the Air Force Association will be accepted in establishing a permanent, central national office in Washington for the office of the national executive secretary, and that the AFA affiliation shall be on a two-year trial basis and after two years the continuance of such affiliation be subject to the majority vote of the general assembly at the seventh annual conclave;
- The annual national membership dues be five dollars per member, and include automatic cadet membership ($2.50) in the Air Force Association, for the first two-year trial period;
- Upon the establishment of an office of a national executive secretary, the Arnold Air Letter will be published by that office.—END

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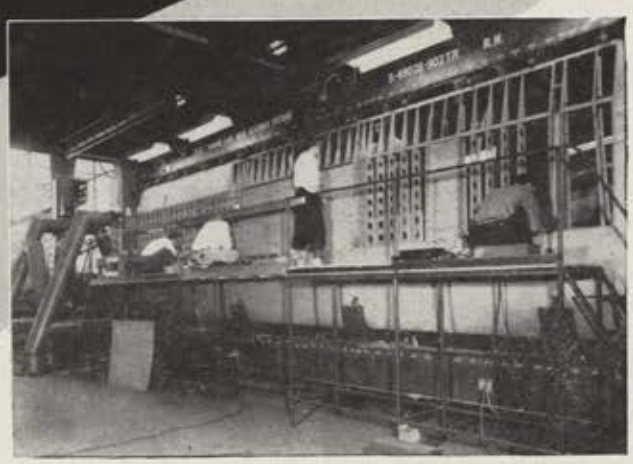
AA-58



Twin Coach Aircraft Division is the only subcontractor for Grumman S2F and Boeing B-52 flaps (*above*). We also make helicopter fuselages, main wing panels, complete center sections, wing spars, etc.

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Something Up Their SLEEVE

Sleeve target billows out under the belly of a B-26.

Air crews of TAC's 1st Tow Target Squadron feel a little like the duck at a duck hunt. But the unglamorous job is safer than it looks

By M/Sgt. DON L. WEBER

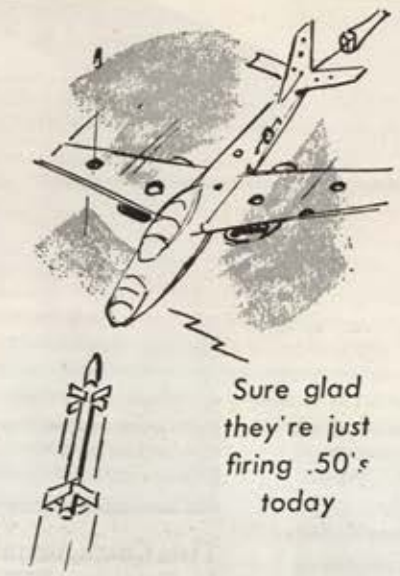
UGLY black puffs of smoke blossomed in the sky behind the B-29 and a slight tremor shook the plane as if a giant hand were tugging at its tail. Faint sounds of explosions could be heard above the drone of the engines. Then, except for the monotony of the engines, all was quiet and a calm voice came over the intercom, "That's all she wrote, let's go home."

The bomber turned towards Biggs AFB, Tex., and started a slow descent from the thin air of 35,000 feet, ending another mission of the Tactical Air Command's 1st Tow Target Squadron. The squadron is one of three Ninth Air Force units which spend their days—and some nights—providing targets for anti-aircraft artillery fire.

Based at Biggs, near El Paso, Tex., the 1st works with the Army's Antiaircraft and Guided Missile Center at nearby Fort Bliss. The planes, flying at altitudes of 5,000 to 35,000 feet, tow metal and cloth sleeve targets containing a screen of radar-reflective material.

You might expect the tow target business to be dangerous, but Maj. Frank M. Jenkins, Assistant Operations Officer and a veteran tow target pilot, says, "We have never had a fatality or even a serious accident that could be attributed to ground fire."

This remarkable record stems from several factors. First of all, the target cable is more than a mile long. The ranges themselves are zoned, with safe fields of fire beyond which the guns do not operate. And radar control of the guns eliminates most of the "human error." Too, an experienced tow pilot works closely with the Army in the fire control center where he keeps an eye on the radar screens to warn the pilots if they drift off course and into danger. The planes themselves are kept in top-notch condition to prevent flying accidents, and the hinges of the controls are "caged" to prevent fouling by a broken tow cable.



Sure glad they're just firing .50's today

"Proximity fuzes can give a tow pilot nightmares, though," says Capt. John C. Hurt, Flying Safety Officer of the 1st. He explains that "these shells react to the cable as well as to the target and sometimes, when a burst goes in ahead of the target, the shells seem to be 'walking' up the cable toward the plane as they explode." Only once, though, have fragments actually reached a plane, punching a few small holes in the tail.

"Short rounds" can also give the pilot some bad moments. Faulty shells normally explode prematurely in the air. Since gunners firing at targets 35,000 feet high have to aim ahead of the plane to hit the target behind it, these short rounds give the illusion of exploding ahead of the plane and once prompted this message from a new pilot to the fire control officer on the ground: "Say, buddy—we're *towing* this damn target—not *pushing it*!" Actually, the bursts are several thousand feet low when they explode.

On another type of mission, the B-29s are equipped with "chaff" dispensers. They fly over the AA ranges scattering clouds of radar reflective

(Continued on page 51)

In service with the U. S. Air Force

J 65 JETS

power USAF F-84F Thunderstreaks to a new Bendix Speed Record

Racing 1900 miles from Edwards Air Force Base, California, to Dayton, Ohio, ten military aircraft competed for America's cross country speed championship. And the Republic F-84F Thunderstreaks, powered by J65 JETS, which swept first, second, and third places, all broke the previous course record. The winner flashed across the line at an average speed of 616.208 miles per hour, bettering the previous high mark by over twelve m.p.h.

In capturing the Bendix Trophy in such spectacular fashion, the J65 JET provided again — under the sternest flight conditions — the record performance that is making it the outstanding military powerplant of its type today.

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carrier-based fighter for the U. S. Navy

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bomber for the U. S. Air Force

REPUBLIC RF-84F "Thunderflash"
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REPUBLIC F-84F "Thunderstreak"
fighter bomber for the U. S. Air Force

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TOW TARGET——CONTINUED

material to confuse the radar operators below. Once the screens are well seeded with "chaff" blips, low-flying aircraft try to sneak past the guns without being detected.

The squadron is equipped with Douglas B-26s and North American B-45s in addition to the B-29s, and besides their work with the Army they tow targets for nearby Air Force fighter and interceptor units. The B-45s of the squadron recently towed targets for the USAF air-to-air rocketry meet near Yuma, Ariz.

Simulated strafing and bombing runs are also part of the 1st's daily routine. B-26s, screaming down in 400-mile-per-hour dives, pulling out at tree-top level while napalm charges explode beneath them, give a realistic imitation of a tactical airplane on an air-ground mission. This "legalized buzzing" is considered a squadron plum and there is no lack of volunteers for these flights.

Operating the target cable reel on the aircraft is a combination of fishing and flying a kite, says S/Sgt. James F. Gray, who began flying as a waist gunner in a B-24 during World War II.

In the B-29, the gun turret has been removed from the tail to provide a clear, open area for target launching. The two-man reel team crawls from the rear, pressurized compartment to the tail of the plane shortly after take-off. At about 10,000 feet, they get the

(Continued on following page)

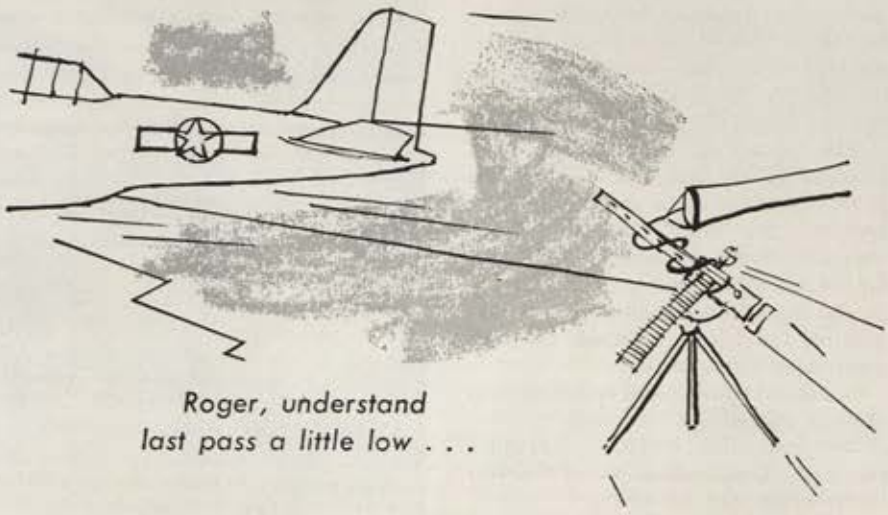
A/1C Richard B. Landreau shows how to launch a sleeve target from a B-29. The metal rod (lower right), called a "fish," releases targets not shot away.

A/1C Thomas E. Van Tassel operates reel to control target speed during launching. He crawls into pressurized compartment for high-level missions.

order to launch the target. The dangerous part comes after the target has been tossed from the plane into the 140-mph slipstream. As the cable unwinds, the reel must be carefully braked or the speed would tear up the reel—and the tail of the plane.

After the target is out and secured, the two men crawl back into the pressurized compartment and the pilot begins the climb to 35,000 feet.

A man can't work efficiently with oxygen gear and in the numbing cold of the higher altitudes, so the plane descends to 10,000 feet every time a target is released and a new one streamed. After the firing run, during which the plane trembles each time the target is hit, the plane returns to the launching area to release the old target and stream a new one for the next run.



Roger, understand last pass a little low . . .

On cloudy days a red sleeve replaces the white for better visibility.

The target is released by sending a "messenger" down the cable. This is a cone-shaped canvas drag that pulls a metal ring down the cable until it hits the "fish" (the release mechanism) and the tattered target drifts to the ground. Then the reeling mechanism starts the eight-minute task of reeling in the cable so that another target can be launched.

Lt. Col. Selah H. Howell, commander of the 1st, has high praise for his men. "If it is at all possible to fly—we fly," he said. "We fill more than eighty percent of the missions requested. And most of those cancelled are due to weather."

A spirited, if unoriginal sign over the door of the pilot's lounge tells how the men feel about their job. It says: "Through these portals pass the best damn targets in the world!"—END

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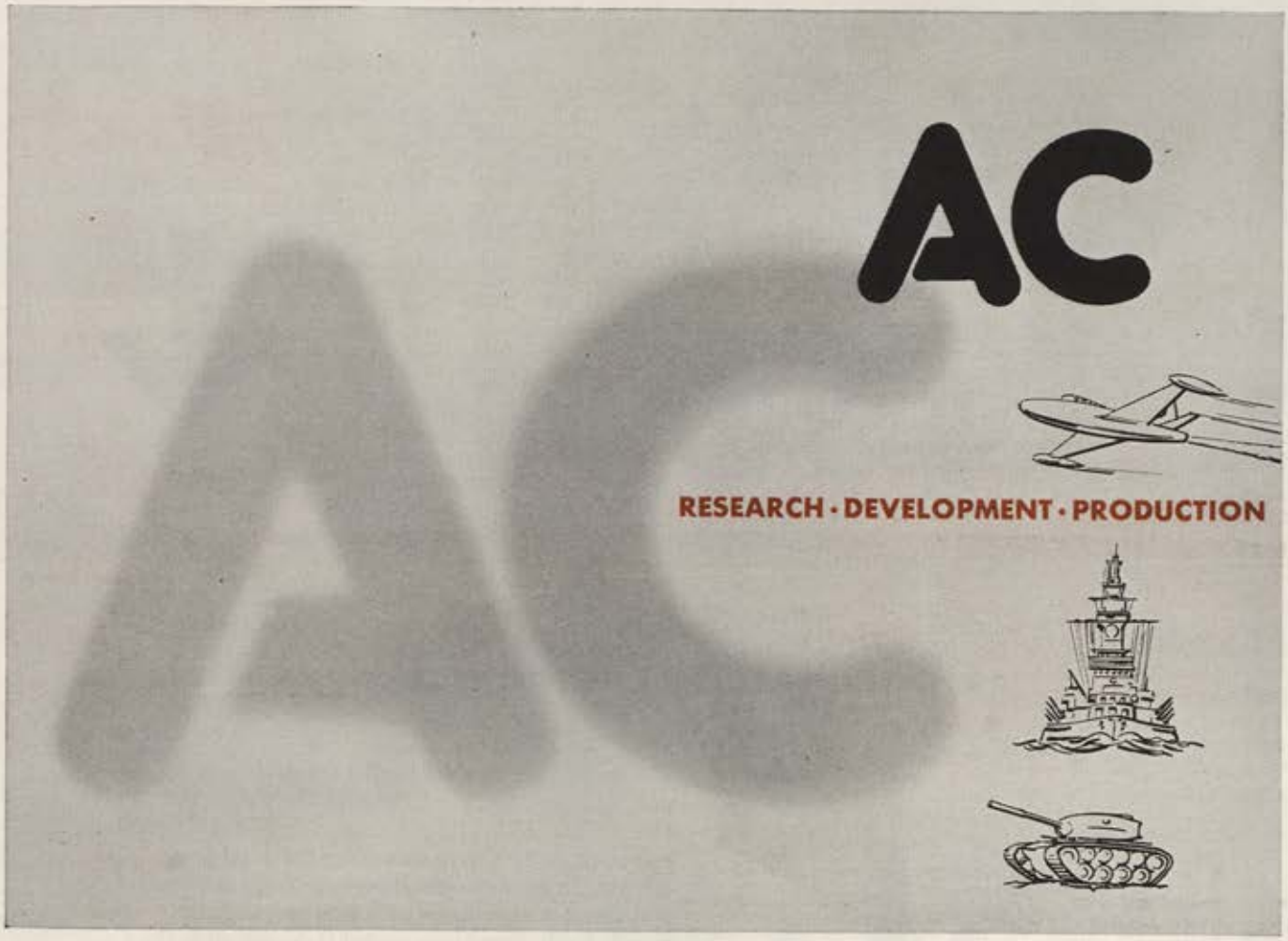

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JET BLASTS

SERVICE EDUCATION

What's wrong with West Point's record?

In the July issue of AIR FORCE a Jet Blast by Edward J. Carlin, Jr., of Philadelphia, Penna., presented his ideas for educating the Air Force officer, Mr. Carlin believes that "Military academies . . . can produce only one type of officer . . . [the] narrowly educated, single minded graduate." Such a statement must come from an extremely misguided individual, or from someone who has had a bitter association with academy graduates.

The President of the United States is one of the alleged "narrowly educated graduates" of which Mr. Carlin writes, as are our own Generals Arnold, Spaatz, Vandenberg and Twining. I wonder whom Mr. Carlin would present as a properly educated military man?

The Service Academy Board appointed by the Secretary of Defense on March 16, 1949, recommended that an Air Force Academy be established to parallel the existing academies. The Chairman of the Board was Dr. Robert L. Stearns, President, University of Colorado. Other members of the Board were the presidents of Williams College, University of Missouri, University of Illinois, and the Executive Vice President of Massachusetts Institute of Technology. The Service Academy Board was assisted in its research by a panel on Science and Engineering composed of Deans and Doctors from Harvard University, Massachusetts Institute of Technology, University of Michigan, Yale, and University of Detroit. The Chairman of the panel was Dr. Harry Hammond, Dean of Engineering from Pennsylvania State College. A panel on Social Sciences was composed of professors from five other leading universities. If this group of educators is not qualified to determine "the manner in which officer candidates should receive their basic education for a career in the Armed Services," there is nothing left but Mr. Carlin's "single minded graduates" in any of the nation's universities.

These excerpts from the Service Academy Board reports plainly show what a group of professors think of academy graduates.

"We have been greatly impressed with evidences of the success of the Academies in achieving their major objectives of graduating officers possessing qualities of

(Continued on page 57)

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 $10 for each one printed. Please keep letters under 500 words.—The Editors.

there goes the Regulus—

and it's

ALLISON POWERED!

In these days of watchful vigilance, the Navy's pilotless Regulus built by Chance Vought does "triple defense duty."

Powered by Allison's J33 Turbo-Jet engine, the Regulus can be launched from submarine, surface ship or shore base.

In addition, the Regulus, in its test and drone versions, is designed to be "recoverable"—can be launched, then guided to a safe landing following completion of its mission.

The Regulus delivers maximum defense at multiple savings: (1) It can be utilized for a variety of purposes without the expense and effort of designing and building a separate missile for each requirement. (2) Its Allison engine is designed, manufactured and tested with considerable savings in critical materials and man-hours—without sacrifice of maximum reliability during its operational life.

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leadership, integrity, clear thinking, and ability to express themselves. . . . As educational institutions having clearly defined purposes we would rate the academies very high. In producing loyal citizens having a high sense of duty and responsibility to the country we believe they are in many ways in a higher category than civilian universities. . . . In conclusion, your panel wishes to state its strong impression that in many ways the Service Academies as educational institutions are clearly superior to most civilian colleges. The reasons for the superiority lie primarily in the fact that the Services Academies know what they want to do . . . they have clearly defined their mission. . . . The result is obvious in the produce. . . . The Service Academies have left their stamp on these men and it is a good stamp."

If we cannot accept the recommendations of American professors, let us call upon an older institution of learning. Sir Alfred Zimmern, Professor of International Relations, Oxford, England, wrote of one of the Service Academies: "To me West Point has been a surprise and an inspiration. It was a surprise because I am forced to confess that I had not expected to find in a military institution such intellectual keenness, such open minded and critical interest in problems lying outside what used to be considered . . . to lie beyond the sphere of the professional soldier."

Evidence of Service Academy graduates' educational qualifications is given by the scores attained in the Graduate Record Examination (prepared by the Educational Testing Service, Princeton, N. J.) by seniors (first classmen) of the United States Military Academy of 1948, '49, and '50 compared with a group of 1,391 senior men from twenty-four Liberal Arts colleges.

	USMA Seniors	*Other Seniors*
General Mathematics	687	569
Physical Sciences	648	560
Biological Sciences	513	513
Social Studies	561	517
Literature	517	471
Fine Arts	467	444
General Educational Index	582	506

A list of notable positions held in civil life by graduates of the United States Military Academy compares favorably with a list from any of the nation's universities. It is not necessary for me or any one else to defend the Service Academies against the truth, but the distorted views presented by Mr. Carlin cannot go unchallenged.

There are many splendid colleges and universities in our United States. I would be proud to be, for example, a Harvard man, a Michigan man, or a California man, just as I am proud of being a Service Academy man. I am certain that the Air Force Academy will prove to be of great value to the Air Force and to the Nation just as the other Service Academies have.

Capt. David M. Dunham
Riverside, Calif.

take pride in his work and organization, and for a job well done he naturally expects to be justly compensated. As an AF veteran I share many of Sergeant Clifford's ideas, and would gladly serve on a committee for improvement of our great Air Force team.

It is my sincere hope that during my lifetime I shall never miss an issue of our fine magazine. I read each issue of AIR FORCE from cover to cover, and keep them on file for future reference.

On behalf of all tech reps, we want to thank you for the fine tribute to us in the July issue—"Tech Reps—Our Global Trouble-Shooters."

L. E. Wright, GE Repr.
Lockheed Aircraft Corp.
Marietta, Ga.

Protest Registered

Gentlemen: The article in the August issue, "Red Pilots Never Had It So Good," purporting to give a comparison between the United States Air Force and the Soviet Air Force as to pay scales is essentially subversive. It might with better grace have appeared in *The Daily Worker* or *The Reporter*.

As a charter member of the Air Force Association I want to register my condemnation of the editorial policy that sanctioned the article as well as the article itself.

Col. T. A. Clarke, USAF Retd.
Pawtucket, R. I.

He Wuz Only Kiddin'

Gentlemen: I got a big kick out of reading the letter sent in to AIR FORCE which suggested that you have your head examined for printing my story, "Lobster Tale."

Just to set Mr. Warren straight, the whole business is pure fiction. Certainly no one has the authority to order such a flight as it would be contrary to every existing Air Force regulation. Only the setting is true—the rest is due to an overworked imagination.

I am indebted to Mr. Warren for a left-handed compliment . . . a good story should sound like it might have happened and Mr. Warren "bought the farm," so to speak.

John A. Pope
Arlington, Va.

Another Beauty

Gentlemen: As an ardent reader of your fine magazine, I find I am compelled to answer your query regarding the article "Those Were Beautiful Planes" (September issue). In my opinion the author left out the most beautiful ship of them all—the F4-U Corsair. With its full-gulled wings and clean fuselage it is a real example of fine engineering (ask the Japs about this). I was a Marine in World War II and it was my pleasure to be in a squadron of Corsairs, VMF 313. The Pacific Campaign owes much to these wonderful planes and to the brave men who flew them.

Henry Berman, Jr.
Alexandria, Va.

Artillery Spotting

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Army Cessnas=Successful Missions!

Photo Reconnaissance

Shown here are just five of the tough military jobs assigned to hard-flying Army aviators in Cessna L-19s. Other jobs: control of military highway traffic, fast transportation for field commanders, evacuating wounded, pilot training, courier work, flare dropping, airborne radio relay, even insect spraying. During civil emergencies, L-19s are also used by Army National Guard units.

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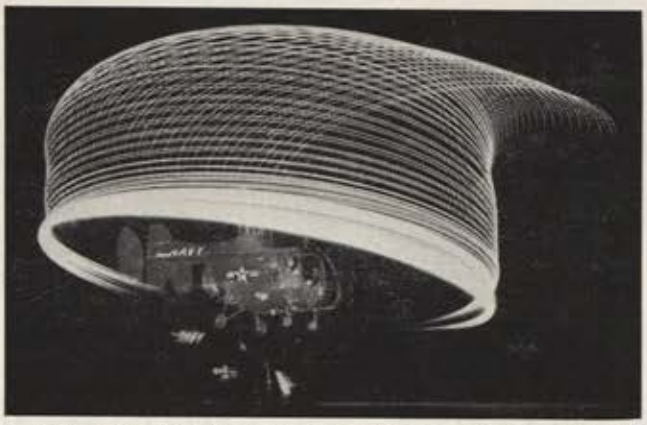
TECH TALK

A radical new jet aircraft was unveiled at the Society of British Aircraft Constructors show at Farnborough. Looking like a throwback rather than a new development, the craft consists of a pair of naked engines held together and supported by a framework of metal tubing. Aptly named the **"Flying Bedstead,"** the new aircraft is a wingless vertical-take-off jet built by **Rolls-Royce, Ltd.** Powered by two Rolls-Royce Nene engines set horizontally in opposition to each other within the framework, the **jet thrust is ducted downward** through ninety degrees to lift the contraption vertically. It was built within the lightest and simplest framework, with a platform for the pilot on top, to test the basic control problems of VTO flight.

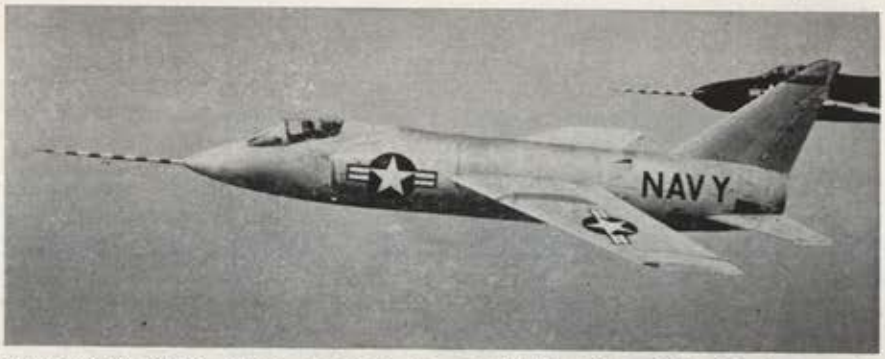
Vibration, if not detected, is a potential danger to anything that man builds. The collapse of the Tacoma Narrows bridge in Washington several years ago is a classic example. In airplanes, **vibration can shatter or loosen a component**—and the damage may go unnoticed until it is too late. To determine exactly how much vibration each part of a plane—and the assembled plane itself—can survive, **LM Electronics, Inc.**, Los Angeles, has developed an electronic power supply with a power output of 20,000 watts to supply power for vibration testing equipment. Through the power generated, vibrations can be created to test the various components in airplanes, missiles, rockets and heavy machinery.

A rocket pattern blanketing an area as big as a football field is recorded by three cameras mounted in the tail of this Northrop F-89D Scorpion intereceptor.

We recently viewed the first public showing of the new Martin B-57B (above) at Langley AFB, Va. The latest version of the light jet bomber—it looks and acts more like a large fighter—is slated to replace the B-26s now in use by Tactical Air Command. Martin's Director of Flight, Pat Tibbs, lifted the plane off the runway after a short run (Martin officials claim the plane will take off and land in less than 4,000 feet) went into a steep climb to 12,000 feet, and executed an Immelmann turn. Tibbs made several passes over the flight line, executing fighter-type acrobatics, before he landed and demonstrated the plane's short roll-out characteristics. While the speed and altitude of the new model (American version of the British Electric Canberra, built under license) were not disclosed, officials did say that top speed is more than 500 knots and its ceiling is in the 40,000-foot area.



A night test of rotor tip lights by the Kaman Aircraft Corporation resulted in this photo of the light pattern.



Grumman's F9F-9 Tiger, powered by a J65 Sapphire with afterburner, is the latest of the operational jets capable of supersonic speeds in level flight.

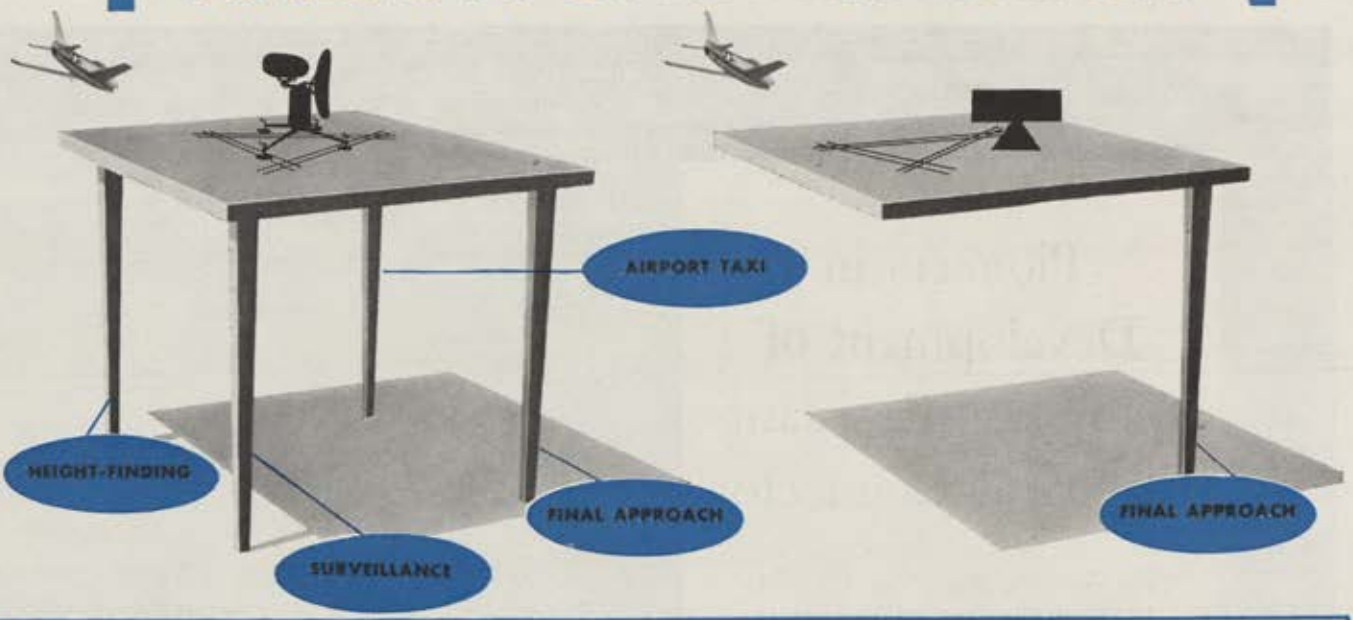
Helicopters can get **extra power to lift heavier loads** or permit flying from high altitude fields by using **liquid propellant rocket engines** in the rotor blade tips. The rocket engine system—consisting of three tiny one-pound engines plus a propellant tank—was developed by **Reaction Motors, Inc.** The auxiliary power has been installed in a **Sikorsky HRS-2** helicopter and is undergoing tests for the Navy and Marine Corps. Advantages of the system, according to officials at Reaction Motors, include: sea-level take-offs with appreciably greater loads; improved glide performance and control if the main engine fails; improved rate of climb and hovering ceiling at any fixed gross weight.

We were invited to go on a demonstration flight of **Allison's Turbo-Liner** at Washington National Airport recently.

(Continued on page 63)

Which do you prefer—at no additional cost?

4 RADAR FUNCTIONS...OR 1



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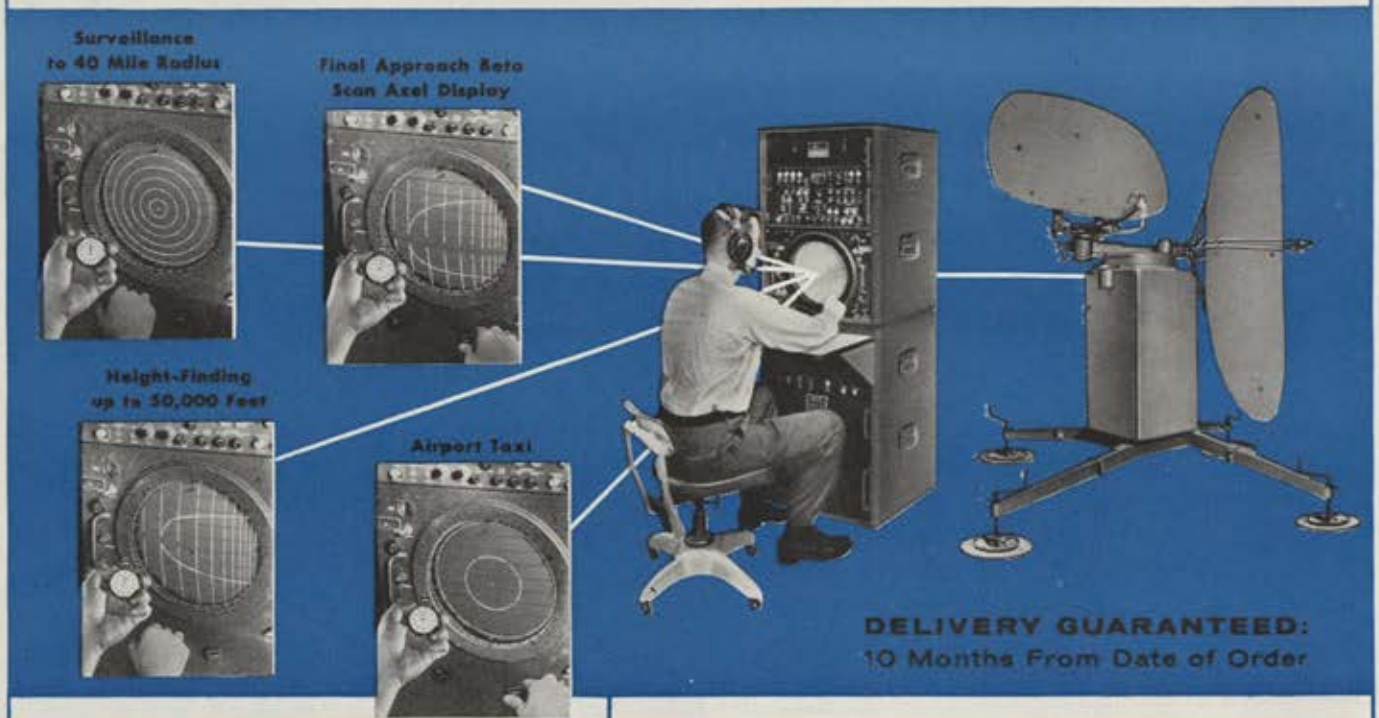

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This pioneering has never stopped. Bendix was first in the field with cadmium plated connectors, which were later made a requirement of military specifications. Our latest contribution is the best engineered closed entry socket contact available anywhere—one which cannot be mechanically overstressed.

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Bendix

The plane, a **Convair 240** that was converted by **General Motors** to test development of Allison engines and Aero-products propellers, has been fitted with two T-38 turboprop engines, delivering 2,925 horsepower each. To the group of aviation writers aboard—accustomed to the pounding drone of conventional transports—the turboprops produced an unfamiliar whining hum. The plane turned onto the runway without the customary long engine check, became airborne after a short 2,300-foot run, and went into a steep, 2,500 feet per minute climb. The Turbo-Liner cruises at 315 mph and has a top speed of 345 mph.

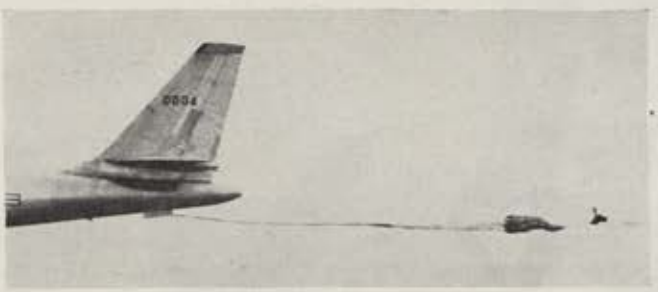
A recent effort in the field of "Human Engineering" is a study by the **U.S. Navy Electronics Laboratory,** San Diego. The results have been brought together in an illustrated manual—"Human Engineering Guide for Equipment Designers" by Wesley E. Woodson—published by the University of California Press. A team of engineers sifted the data available from psychology, physiology, engineering, mathematics and physics studies to compile recommended procedures for design engineers to follow. For example, in fitting earphones for maximum shielding from outside noise, a very uncomfortable headset might be designed unless the average ear shapes and maximum allowable ear pressures were known. **Human Engineering** takes into account the proper design of controls for human operation, presentation of information to the operator, simplification of complex and confusing equipment and layouts, and utilization of the operator's natural capabilities to promote efficiency of operation.

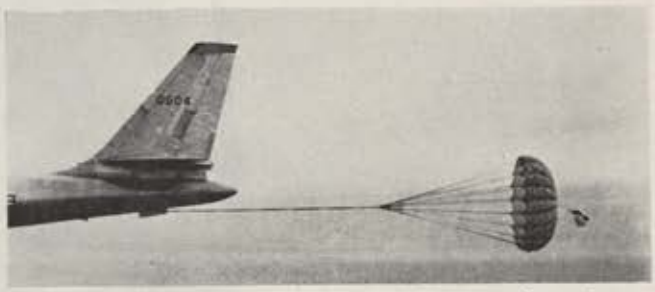
First free vertical take-off in history was made by this Convair XFY-1.

A unique method of slowing down the speedy **B-47 Stratojet** *before* landing was recently announced by the Air Research and Development Command. A new, **16-foot drag parachute,** developed at the Wright Air Development Center, is released from the plane as it comes in for a landing to permit a steeper descent and use of shorter runways. Weighing a third less than other deceleration devices, the parachute will permit the pilot to maintain engine power during landings and thus assure emergency pull-outs. The new device will also increase the braking action of the 32-foot braking parachutes that will still be used after touch-down.

Airplane engines have become more and more loaded down with devices to compress, cool, heat, humidify and circulate air throughout the aircraft. With the introduction of the jet engine, it became increasingly difficult to use mechanical drives to tap power because of the high rpms involved. Now, engineers at the **Ryan Aeronautical Company** are tapping **a new source of airborne power** in jet engines. Turbojet engines are a source of high pressure, high temperature and high speed air which can be used to power the various motors and hydraulic systems throughout the aircraft. Ryan is working on the development of **thin wall ducting systems** capable of delivering the high temperature, high pressure air to strategic points throughout the aircraft.

An indication that the much-discussed **atomic airplane engine** is coming closer to realization came with the disclosure that work will soon start on a $30 million laboratory at East Hartford, Conn., for the purpose of developing such an engine. The **Hartford Research Facility,** as the new laboratory will be known, is to be built by the Air Force in conjunction with **Pratt & Whitney Aircraft** of East Hartford. The company is among those who have been working for several years on an aircraft atomic power plant.





These two pictures show the new drag parachute that was recently developed for use on the B-47. The device, when used in approach for landing, will permit the pilot to make a steeper descent and use less runway for roll-out.

This tiny (6,000 lbs., 20-foot wingspan) Folland Midge jet fighter was shown at the recent SBAC show at Farnborough, England. Powered by an Armstrong-Siddeley Viper engine, it is capable of 600 mph. It is shown here at takeoff.

The **first turboprop flight simulator** to be built by the Electronics Division of the **Curtiss-Wright Corporation,** designed to train pilots for the **Lockheed C-130,** will lend a full sense of realism by recreating the noises made by engines, propellers and other moving parts, even including the squeal of the wheels touching the runways. The simulator for the new turboprop transport will contain all the cockpit equipment found in the airplane itself, plus a **trouble console** which will enable problems to be inserted to make certain that corrective procedures are properly handled by the crew. Curtiss-Wright recently received the contract to build the new simulator from the Air Force. The prototype of the C-130 was recently built at Lockheed's Burbank, Calif. plant and production will be at Marietta, Ga.—END

Bail-Out

AT 400 FEET

By Captain Clifton M. Eisele, ANGUS

THINKING back on it now, I'm glad the weather was lousy. If it hadn't been, we might never have had that bull session, and I might not be around to tell the story.

I fly an F-86A Sabrejet in the District of Columbia Air National Guard's 113th Fighter-Bomber Wing. Last summer the wing went to Otis Air Force Base on Cape Cod for the annual two weeks of field training and, as usual, the weather was so bad the first three days that we did almost no flying. The night of the third day three other captains—John Kester, Tom McDill, and Jim Bowen—and myself were killing time in a BOQ room with pilots' talk. The conversation got around to F-86A emergency procedures, and we kicked it around for a long time. I'm still grateful that the talk was fresh in my mind that next afternoon because I had to use those emergency procedures—and at 400 feet!

I was "Ragmop," the guy assigned to tow the target, for a flight of 86s on a routine aerial gunnery mission. Things started to go wrong almost immediately.

I took off with the target and lost it at 6,000 feet. So I dropped the tow cable on the field and, since I still had most of my fuel, called the flight leader, our wing commander, Col. Willard W. Millikan, to report that I would land and take off with another target without refueling.

The second target came off without incident, and I set course to rendezvous with the flight. But they had run into difficulties getting off the ground and were late meeting me. Consequently, I had less fuel than I should have had and we had to shorten the firing time. When my fuel counter reached 210 gallons I called the colonel and advised him that I would have to leave the range.

About twenty miles north of the field, Colonel Millikan notified the tower that I was short on fuel and must drop my target as soon as possible. But an F-51 had called in on emergency and the field was closed temporarily. So I had to stooge around until the tower could clear me to make the drop.

I was at 10,000 feet when the tower told me to set up my initial to drop the target. To conserve fuel, I requested a descending initial which the tower affirmed. I lowered wing flaps and started my let-down, retarding throttle slowly so that my airspeed would not build up over 175 knots. At 2,000 feet I started my flareout.

You've heard that old expression, "so quiet you could hear a pin drop." Well, that's about how quiet it became in the cockpit. I checked my RPM and tailpipe temperature and they were lowering rapidly. The aileron boost was out. There was no doubt about it. "Ragmop," meaning me, had a flameout.

At the time I flamed out, I was over the approach end of runway five—and with too much altitude to land on the runway or the field itself. I couldn't put the gear down to add more drag in the hope that I might make the runway because I had no hydraulic pressure. It would have meant pumping the nosewheel down and there wasn't enough time.

Later, people asked: "Why didn't you bail out then?" I could have, I suppose. But there were a number of F-86s and F-94s on the ramps of the 4710th Defense Wing and I was afraid the airplane might crash into the parked aircraft area. So I headed my quiet bird away from the ramps.

Having some altitude, I attempted an air start. It didn't work. All this time I was settling, and right after the air start fizzled my altimeter read 1,000 feet and I was directly over the center of the field. It was now too late to make the field proper, and I was not sure of the terrain east of the field. But from what I had seen of the pine trees and ravines in that area, I knew that any landing there would be conducive to busting my tail.

Obviously the airplane and I had to part company. Although up to this point, the overriding consideration had been to save this fine piece of machinery, I know that the Flying Safety people warn a pilot against pressing his luck in a squeeze and they recommend getting out while you still have time—and altitude. But I believe, too, that most pilots think first of saving their airplane, forgetting themselves until it's too late.

When I decided to eject, I remembered the talk of the night before and also the tech order for the F-86A-7 which says that the "canopy will eject

(Continued on page 67)

PORTABLE GCA ROOSTS UNCLE SAM'S NIGHTHAWKS

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only from the fully closed position." So, with the canopy fully closed, I pulled up the right handgrip, which is supposed to fire the canopy.

Nothing happened. That's when I really started to sweat. My airplane was not modified so that the seat would fire through the canopy, and the T.O. offers no suggestion of what to do when the canopy fails to jettison.

When the canopy failed to go, I figured I had to crash-land anyway, despite the trees and ravines. Since the most rapid exit from a crashed fighter can be made when the canopy is open, I actuated the electrical switch.

It opened all right. It traveled the full distance and, when it did, it jettisoned. Now I was in bad trouble. For when the canopy jettisoned, it armed the seat. And that confronted me with the possibility of being ejected when the airplane hit the ground.

If I were going to be ejected, I figured I would have a better chance of surviving if I got out while I had a little altitude. And a little was just what I had. When I made the decision, I was reading 450 feet.

I went through the steps we'd covered in the bull session: put my feet in the stirrups, put my head back, placed my arms on the armrests. When I was set to go, the altimeter read 400 feet. At that moment, I squeezed the trigger to eject the seat.

There was a sudden flash—as if someone had set off a flash bulb in my face, and I guess I blacked out momentarily. It must have been for just a split second, though, for next thing I knew I was trying to release my safety belt and kick loose from the seat.

For some reason I couldn't get out of the seat right away and, as I tumbled through the air, I could see the runway below. It looked awfully close. I leaned forward and pulled the ripcord. Fortunately, I was wearing a back-type 'chute and, as the pilot 'chute came out, it pulled me out of the seat. The main 'chute then opened with a loud bang and I hit the ground after one oscillation.

My luck definitely was holding. As I hit the runway my legs collapsed. The dinghy hooked to my parachute harness took most of the landing shock. I rolled over and my head struck the asphalt but my helmet saved me a nasty bump. A twenty-knot wind dragged me into the grass along the edge of the runway.

The whole thing took place right in front of everyone on our flight line. The boys were in motion as soon as they saw me get out, and I had hardly stopped rolling before Captains Vince Cicala and Henry Combs pulled up in a jeep and helped me get the 'chute under control.

A couple of minutes later the medics arrived, took off my parachute and Mae West, and carted me off to the base hospital. I felt fine except for my right arm, which must have hit the side of the cockpit when I went out, and my chest and back. They felt like someone had been beating me with a baseball bat. But the soreness didn't last long.

They tell me that there aren't many pilots still alive who have ejected from 400 feet. Personally, I don't believe I'd ever wait that long again.

I learned a few lessons. One is that you shouldn't hesitate to use the ejection seat. It really works. But go out above 400 feet. And don't sweat out losing consciousness at the moment of ejection. If you do black out, it won't be for long.

The dinghy, I found, can be used for something besides a rowboat, and the helmet will stay on if your oxygen mask is hooked tight. Believe me, a helmet takes a bang on the runway better than your head.

Even my sunglasses stayed on during the ejection, which surprised me agreeably because they cut the glare from the runway while I was in the seat. This does help to lessen the confusion.

Two other observations make sense, I think. One is that discussions on emergency procedures are not merely bull sessions. And, let's face it. You have to have that "angel" riding with you in the cockpit.—END

Survival in the Hydrogen Age

POWER AND POLICY

By Thomas K. Finletter

408 pp. New York:

Harcourt, Brace and Company. $5.

Reviewed by T. F. WALKOWICZ

DRAWING upon his experience as special assistant to the Secretary of State during World War II and Secretary of the Air Force in 1950-53, Mr. Thomas K. Finletter is the first statesman-author to penetrate wisely and responsibly the significance of the scientific revolution in warfare which has brought us into the hydrogen age.

Mr. Finletter's book comes out of an understanding of the two dominant elements of that scientific revolution—airpower and nuclear weapons. For airpower signifies man's final conquest of the atmosphere, which today gives us life, and which tomorrow may support the wings of a Red atomic bomber—or crack away to the supersonic penetration of a ballistic missile—or gently sprinkle the countryside with deadly isotopes. And nuclear weapons can now mean the end of all that man has patiently built over the centuries, either through the tender violence of fission, the searing evaporation of fusion, or the lingering agony of radiation.

Out of all this, Mr. Finletter draws into fleeting focus those basic things which should concern us all, even as mutation after mutation in the arts of destruction conspire to deny an understanding of the world which man's labor is bringing to pass.

Even as others caution us to avoid the illusion of seeking total military *security*, Mr. Finletter's "intolerable absolute" warns us that we are entering an era of total military *insecurity*, i.e., a time "of absolute Russian air-atomic power when they will have enough bombs and planes to destroy our cities, our industry and, if we are not properly prepared, our ability to hit back." Arguing strongly against preventive war, he admits that "we cannot stop the Russians from reaching the level of absolute air-atomic power. But we can stop them from using it." His formula consists of making ourselves "so overwhelmingly ready" for nuclear war that "our enemies will not start it or allow it to start."

Mr. Finletter calculates roughly that current defense budgets fall short by "at least" $6 billion annually of the airpower budgets needed to "be almost sure that the Russians will not be able to use their new air-atomic power either to attack the free world or to bully it into surrendering its freedom." Political slogans swept aside, Mr. Finletter's analysis shows clearly that defense "savings" are currently being made as a result of a greater calculated risk, *i.e.*, force levels lower than those which had been projected by the Truman administration.

He argues for greater *quantities* of aircraft, and his argument was echoed recently by Lt. Gen. Roger Ramey, Commander of the Fifth Air Force in the Far East, which is heavily outnumbered by the Chinese Red air force. A similar situation exists in Western Europe, with the Soviet Red air force numerically superior there, also. Mr. Finletter's record—and his book—speak eloquently of his understanding of the dominant importance of *quality* of airpower. But quality alone is not enough, nor is it secured through a progressively lower military budget for research and development, as we have had during the present administration. And with regard to the force-level decision, from which one arrives at quantities of aircraft and other arms to be procured, the present administration would do well to consider seriously Mr. Finletter's recommendations for a thorough overhauling of the administrative processes through which it is reached.

AIR FORCE Magazine readers will be particularly intrigued with Mr. Finletter's suggestion that all US Air Force offensive airpower—strategic and tactical—be combined in one STAC, or Strategic-Tactical Air Command. Technological developments, *i.e.*, small H-bombs and range-extension techniques, have endowed tactical airpower with great striking capabilities over a growing radius of action. (See AIR FORCE Magazine, July '54, "Revolution in Tactical Warfare.") Furthermore, mounting Soviet air-atomic capabilities are making the Red air force—tactical and strategic—rather than the Soviet economy the Priority No. 1 target in the event of war, and tactical airpower has an important role in counter-air force operations, particularly in the H-bomb era. For these sophisticated reasons, the STAC concept makes a lot of sense, quite apart from the simple argument that USAF fighter-tactical strength will never amount to anything unless Gen. LeMay is in charge of it, too. This is not to imply that the Tactical Air Command does not have superb leadership also. Rather, so long as the military leaders are muzzled about the inadequacy of present defense budgets at the same time that General LeMay is responsible for long-range bombardment *alone*, there simply won't be sufficient resources for Air Force missions other than strategic air.

It would be surprising if one found nothing to disagree with in a book which deals with a subject at once as complex and vital. This reviewer confesses his reservations about Mr. Finletter's argument that Navy air be excluded from "the main atomic mission, the nullification of Russian air-atomic power." While noting the *growing* vulnerability of carriers and the danger to carriers in waters near to enemy-held territory, one must surely also view with some concern the at least equally *great* vulnerability of our entire present NATO land-based air. Furthermore, range-extension techniques appear destined to increase greatly the striking radius of naval aircraft. And, while carriers do impose limitations on naval aircraft, one of the most important of these happens to be *small size, i.e.*, greater survival probability in the combat zone and lower cost. However, this entire issue is contentious and Air Force and Navy bookkeeping apparently defies even something as simple and useful as comparative cost estimates.

Similarly, Mr. Finletter's argument against "*mobile forces*" probably arises partly out of apprehension that "*balanced-forces*" enthusiasts are now using the word "mobile" to whittle away at our inadequate airpower budgets, and partly out of the belief (which this reviewer does not accept) that the use of nuclear weapons in local wars would too easily lead to all-out wars.

Like everything else in the book, the concluding chapters on disarmament and enforced peace are the most penetrating analyses of these subjects available. They should be required reading, particularly for those who think that Soviet intransigence is the only obstacle to effective disarmament.—END

(Bookshelf continued on page 71)

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The Great H-Bomb Controversy

THE HYDROGEN BOMB

The Men, The Menace, The Mechanism

By James R. Shepley and Clay Blair, Jr.

244 pp. New York:

David McKay Company. $3.

Reviewed by NAT S. FINNEY

When a book covers a controversial subject it is easy for a reviewer to lose sight of the real issues involved. We feel that the philosophical problems which this volume poses for all Americans interested in the survival of their nation were well assessed in this thoughtful review, first published in the New York Herald Tribune *with whose kind permission it appears here. Nat Finney is a Pulitzer-Prize winning correspondent who now works for the* Buffalo Evening News.*—The Editors.*

THIS book's theme is the arraignment of Dr. J. R. Oppenheimer as the arch objector to the manufacture of an H-bomb for moral reasons, while Dr. Edward Teller fills the role of advocate of the H-bomb for right and patriotic reasons.

What James R. Shepley, who is chief of *Time* magazine's Washington Bureau, and Clay Blair, Jr., have done in this book is pull together from various sources, some public and others in the twilight of informed anonymity, a story of what happened in Washington after Russia's first atomic explosion scuttled a line of policy that had placed that event "sometime after 1952." Shepley and Blair write from what might be called a point of view. They appear at times to have accepted the point of view expressed by William Liscum Borden, erstwhile staff director of the Joint Congressional Committee on Atomic Energy, and at other times the point of view advanced by *Fortune* magazine in two articles, one signed and the other anonymous.

Mr. Borden reached the conclusion in a letter to J. Edgar Hoover that is a part of the Gray Board record that Dr. Oppenheimer is, "more probably than not, a Soviet agent." This conclusion is based upon a set of assertions which make Dr. Oppenheimer out to have opposed any and all forward steps in atomic weaponeering and atomic energy development. The *Fortune* articles, like this book, impeach Dr. Oppenheimer indirectly by assuming a posture of baffled wonder as to what his motives might have been.

Mr. Shepley and Mr. Blair give the tale an extra fillip by dramatizing the contest of wills that occurred between Dr. Teller and Dr. Oppenheimer and adding rich tints of characterizations to their stories. The book is competently done and is, within certain limits, a first-rate reportorial job. It begins with the detection of the Russian "Joe One" and ends, except for a bit of exhortation about America's defensive plight, with a recapitulation of the proceedings by which Dr. Oppenheimer's "Q" clearance was retrieved.

There are troubling limitations to the tale as Shepley and Blair recount it. By picking up the story at the point of the first Russian explosion it is possible to overlook features that may be the key to the puzzle that is left with readers. For the story does not begin with "Joe One." It properly begins in the early autumn of 1945 when the need for an American atomic policy was imperative. This reviewer has believed that the possibility that the light elements could be exploded should have been vigorously explored at once. That this be done was a matter for the most serious Presidential consideration, for it was as clear then as now that questions of national life or death were involved.

The possibility of a thermonuclear weapon became emergent the instant a fission bomb was exploded. Dr. Hans Bethe told a Senate committee what the situation was in late 1945. The Joint Committee knew about it when it was first organized. The Joint Chiefs and successive Secretaries of Defense knew what the technical situation was. The so-called Vandenberg amendment to the McMahon act, which settled what role the military would play, gave the military departments power to compel the Atomic Energy Commission to heed their requirements. If no requirements were forwarded to the AEC, if the President, Senate, Joint Committee, Secretaries of Defense, Joint Chiefs, etc., stood mute, can Dr. Oppenheimer's shoulders be broad enough to carry the entire responsibility?

Mr. Shepley and Mr. Blair are quite correct in saying there was a pervasive reluctance to plunge hard ahead into the Atomic Age. It seemed sometimes that the AEC was fearful about making too much plutonium, that the State Department wanted to postpone a reckoning with a new epoch of strategic saturation and that the military departments wanted as little of the atom as possible until they knew what they could do with it in terms of "service interest." That was the temper of the times, and it was buttressed by grave official error about what the Russians could do.

The situation called for an act of faith, and in a fair sense this book is the weird tale of what can happen in Washington when no one is capable of an act of faith comparable to the late Franklin Roosevelt's order to make a fission bomb at all costs. How sorry the state of indecision was is implied by the fact that a book can now be written about what Dr. Teller and Dr. Oppenheimer did in a matter that was the clear responsibility of the highest level of the government. It behooves the citizen to read and meditate the tale, if decisions have to get made this way.

It does not seem to this reviewer that Mr. Shepley and Mr. Blair do justice to the meetings of the General Advisory Committee of the Atomic Energy Commission that resulted in a recommendation against an act of faith to make an H-bomb. For here the paradoxical flavor of atomic events is rich, indeed. The question submitted to the GAC was, in context, whether the United States should go all out to make an H-bomb as a rejoinder to Russia's first fission bomb. In short, the GAC was invited to make a decision of state of transcendent magnitude. There did not seem to be a responsible political official in Washington who understood that the GAC not only should not but could not make such a decision. The GAC was, of course, unwise in extreme degree to try to fill the policy vacuum in Washington. But what kind of statecraft permitted such folly?

The paradox gets richer when the technical aspects of the GAC recommendation are considered. The GAC made the wrong recommendation for the right reasons, and the recommendation was rightly overruled for the wrong reasons—or no reason except naive confidence that if huge amounts of money were spent and many scientists fashed their brains, something would turn up. And then, to crown the whole comedy of errors, something did turn up. What a way to run a railroad!

There will be some disagreement in detail about the story of the great H-bomb controversy as Mr. Shepley and Mr. Blair tell it. It is hard to see how any one could disagree that they have demonstrated the proposition that our Federal government was not and on the evidence is not up to making decisions where technical and political considerations must be weighed together. And that is a frightening proposition.—END

The READY ROOM

RESERVE AND AIR GUARD NEWS

Colorado has ended California's domination of Air National Guard gunnery competition.

The fourth nationwide event last month at Boise, Idaho, was won by Colorado's 140th Fighter-Bomber Wing team. Each previous event had gone to California.

Colorado racked up 803 points, finishing thirteen points in front of the 142d Fighter-Interceptor Wing of Washington State. The 144th of California, favored to repeat its victories of past years, wound up in third place.

The 133d Wing of Minnesota won the all-weather jet phase and the 126th Fighter-Bomber Wing of Illinois finished on top in the conventional phase.

High individual honors were won by Lt. Col. Roland R. Wright of Salt Lake City, who fired as part of the 144th team. Lt. Col. Walter Williams of Denver was second in the individual scoring and Maj. Kenneth E. Nordling of Boise, firing for the 142d, was third.

The week-long exercise marked the first time that Alaska had been represented. And it marked the final appearance of World War II prop-driven aircraft. Henceforth, the exercise will be restricted to jet aircraft. The future, too, probably will find the meet being held in separate sections. NGB officials feel that it has grown too large for the Boise facilities.

• • •

The Air National Guard has been given a quota of applicants for the new Air Force Academy. But this is the final month in which to apply. The Guard's quota is included in the twenty-three vacancies allotted by law to members of the Regular and Reserve components of the Air Force and Army. About 300 applicants will be selected through preliminary screening examinations to compete for the twenty-three spaces. Successful applicants will enter the academy next July.

Screening tests have been sent to each Regular Air Force base and ANG commanders have been told they can get necessary forms at the bases and arrange the preliminary medical and mental exams for their men. Applicants must be at least 17 and not more than 23 by July 1 of next year.

• • •

Notes on the back of a Form 175 . . . The old senior instructor title has disappeared from the Air Guard vocabulary. He's now the "senior adviser." Air instructors are just plain "advisers" and sergeant instructors have become "technical advisers." The duties, however, remain the same . . . Texas' 136th Fighter Wing selected pretty Yvonne Erwin of Dallas as "Guardian Angel" of the Texas ANG. It was a good choice. She went on to win the Miss Texas competition . . . Field training has hardly finished and already the 1955 schedule has been posted. First units will go into the field June 11 . . . Revised airmen proficiency test booklets have been distributed. They will be available for use in the January-February testing phase . . . NGB is surveying installations to determine how much requirement there is for construction of ammunition storage facilities. The survey will establish the Bureau's construction program . . . There has been a slight increase in the air technician authorization. The position of administrative specialist (NGC-7) has been approved for Headquarters and Headquarters and Service Companies of engineer aviation battalions. NGB wants proposed jet letdown procedures for ANG bases forwarded to the Bureau, not directly to the Aeronautical Chart Service. The Bureau will handle the contact with the chart people. ANG pilots who win their wings under the Guard quota must take advanced training. This holds for ANG quota radar observers. ANG people take the advanced training in commissioned status . . . The RCAF's 19 Fighter Wing (Auxiliary) has used an Air Guard base for its field training. The Canadians brought their Vampire jets to Gowen field in Boise for the training period, marking the first time a reserve wing from another country had trained at a Guard installation . . . Recent ANG accidents have brought a new demand from the Bureau for more concentration on flying safety programs. NGB is backstopping local efforts with special reports of accidents and incidents.

Continental Air Command is developing a large-scale Aircraft Observer-Navigator training program, which is aimed at producing 5,500 navigators by the middle of 1958.

Open to Reservists who have completed active duty tours as navigators or navigator-bombardiers, the navigator refresher course will begin early next year. The training course will comprise forty-eight four-hour inactive duty paid drill periods yearly and an annual fifteen-day tour of active duty.

During the inactive duty training, navigators will receive at least eighty hours of flying time and another twenty hours in aircraft during the fifteen-day active duty period. The aerial phase of the instruction will be conducted in modified navigator-training aircraft such as the TC-47.

• • •

A way has been found to correct the records of Reserve officers who have a break in service through no fault of their own. The records of some officers show a break when actually they were never offered—or never received—an original indefinite term appointment. Those in this fix may apply to the Air Force Board for the Correction of Military Records under provisions of AFR 31-3. Forms and explanatory material may be obtained by writing directly to the Air Adjutant General, Headquarters, USAF, Attention Personnel Records Division.

• • •

A new Reserve unit has been activated at Andrews AFB in Washington and a new center has opened in Baltimore.

The Andrews unit is the 756th Troop Carrier Squadron. A second squadron is scheduled to be added soon and a third will be established at Friendship International Airport, between Washington and Baltimore. When the additional squadrons are created, they will comprise a wing to be headquartered at Andrews.

Maj. Gen. Roger J. Browne, 1st Air Force commander, dedicated the Baltimore center at ceremonies highlighted by an address by Maryland's Gov. Theodore R. McKeldin. The Governor left this message: "Home defense requires not only the build-up of the Air Force itself, but also the maintenance of the strongest possible Air Force Reserve."

• • •

The Municipal University of Wichita has received its second scholarship for its Air ROTC detachment. The new scholarship, worth $600, has been established by Mrs. Oliver Ann Beech of Beech Aircraft. First winner is Cadet Yale R. Davis.

Last year, the Women's Aeronautical Association of Kansas established a $500 flying award. This scholarship is awarded annually to the outstanding cadet who elects to take flight training upon graduation. First winner was Cadet Don A. Grimm. This year's choice is Cadet Ronnie E. Williamson.

• • •

Short takes . . . The 8707th "Alamo" Pilot Training Wing racked up 3,000 flying hours, easily topping an 1,800-hour objective, during the recent field training period at Brooks AFB. During the encampment, thirty-six new instructor pilots were qualified and seventeen instrument cards issued . . . 514th Troop Carrier Wing, "Long Island's own," dropped more than 800 paratroopers of the 82d Airborne Division, while in field training. The air-drop marked the first time that a mass jump was made by these seasoned troops from aircraft flown and crewed by Reservists . . . Aircrews flew simulated tactical para-dummy drops in preparation for the live show at Fort Bragg . . . Richmond's Air Reserve Center took a conspicuous part in the annual Tobacco Festival in that city. The center entered a float, which bore the theme, "Get On The Team." . . . 2645 Air Reserve Center in Los Angeles has named actress Pat Crowley as "Miss New Look for the US Air Force Reserve" . . . ConAC has promoted 1,217 Air Force Reservists from first lieutenant to captain. The majority are active with Reserve units . . . Brig. Gen. M. K. Deichelmann, commandant of the AF-ROTC program, reports heightened interest among 12,000 cadets in flight training. There is a bill in Congress that would give them training in light aircraft, if is is passed at the next session . . . Hurricane Hazel forced postponement of last month's meeting of AFA's Air Reserve Council.—END

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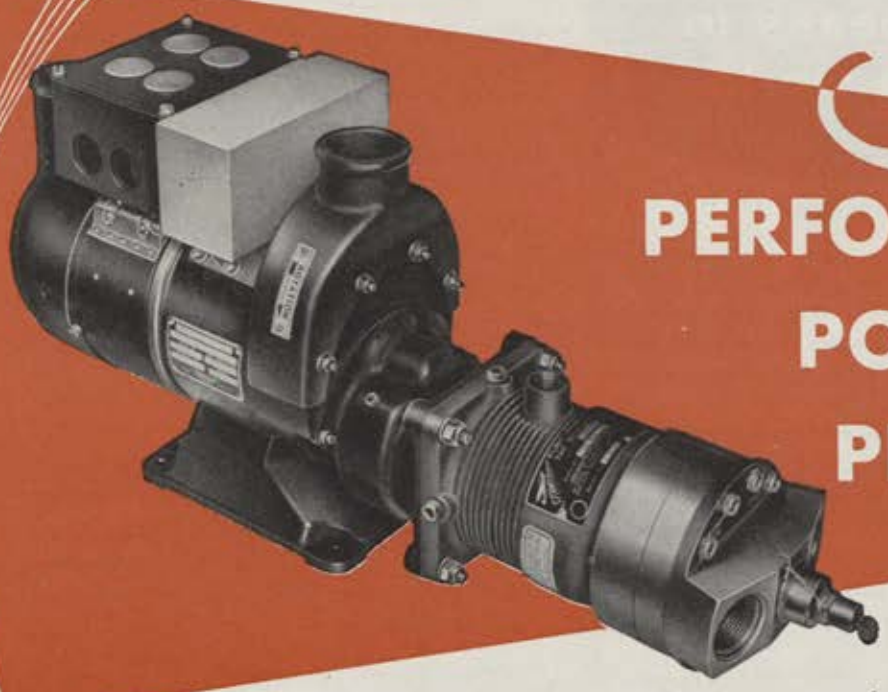

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AF RECRUITERS GET HELPING HAND FROM PENNSYLVANIA'S MIFFLIN COUNTY SQDN.

Robert W. Stoddard gets "Airpower Award" at Worcester. From left: Charles P. Cashen, Stoddard, Col. William C. Adams, Mayor A. B. Holmstrom (see text)

Aviation expositions, air fairs, and air carnivals, seem to have been the theme for AFA Squadrons during the past sixty days. The **Mifflin County, Penna. Squadron** sponsored an Air Show in September which attracted over 4,000 persons, in spite of the fact that many of the aircraft were grounded in the East because of Hurricane Edna blowing up the Atlantic coast.

Prestie Headings, past Commander of the Squadron, was program chairman. He reports that the event was successful in its aim of demonstrating both civil and military aviation to the public. A feature of the program was the ceremony of swearing in and sending off to basic training thirty-nine USAF enlistees. The new members of the Air Force were obtained by teams of AF recruiters traveling with officers of the Mifflin County Squadron. A special letter of gratitude was received by the Squadron from **Brig. Gen. Arno H. Luehman,** Commander of the 3500th USAF Recruiting Wing, in response to this program.

In **Fresno, Calif.,** the AFA Squadron sponsored the second annual Air Fair at the Fresno Air Terminal. Featured guest at the event was AFA's newly elected **President, John R. Alison,** who welcomed all of the participants and guests. **James H. McDivitt, National Director,** was also on hand.

Of prime interest to those attending the Fair was the demonstration and display of the F-100 North American Super-Sabre, shown to the public for only the second time.

Pilots of the **194th Fighter-Bomber Squadron, California Air National Guard,** provided some thrills for a crowd of more than 50,000. The Squadron was particularly grateful to these pilots, and to the members of the CAP Group in the San Joaquin Valley for their assistance in handling the crowd. General chairman of the program was **S. Samuel Boghosian,** assisted by **Squadron Commander Walter Willms** and **Francis Dolin, Wing Vice Commander.**

In Dayton, Ohio, members of the **Wright Memorial Squadron** staffed a booth during the National Aircraft Show, where they were able, through films, magazines and personal contacts, to get AFA's message to several thousand of the crowd who attended the affair. The AFA booth was erected for the Squadron by the Grumman Aircraft Corporation. **Frederic P. Goulston, Squadron Commander,** was in charge of the display.

The Worcester (Mass.) Squadron No. 1 presented its "Airpower Award" to **Rob-**

(Continued on following page)

SQUADRON OF THE MONTH

Mifflin County Squadron
Mifflin County, Penna.

CITED FOR

its exceptional service to the nation and the community, through sponsorship of a program which assisted in recruiting personnel for the United States Air Force. AFA salutes this achievement.

ert W. Stoddard, Chairman of the Worcester Airport Commission and Executive Vice President of Wyman Gordon Co. The ceremonies took place at a "Wing-Ding" held by the Squadron in the Stockholm Restaurant at the new Worcester Municipal Airport. Present at the ceremony were **Squadron Commander Charles P. Cashen, Col. William C. Adams,** Deputy Chief of Staff for Plans and Operations at the AF Cambridge Research Center, and **Worcester Mayor Andrew B. Holmstrom.**

John V. Adams presents gifts from Manhattan Sqdn. to Gill Robb Wilson.

Robert N. Maupin, Wyoming Wing Commander, is making headway toward organizing that state for AFA. At a meeting in Cheyenne last month, the application for charter was signed by thirty-five members, and the official charter will be presented at a formal dinner later in October.

Arthur F. Kelly (left) past President and past Board Chairman of AFA was named an Honorary Life Commander at the recent Santa Monica Airpower Banquet. With him are Sqdn. Cmdr. Czach and AFA President John R. Alison.

Jack Speight, a veteran of World War II and Korean action, was the principal organizer. His efforts were recognized by the membership by his election as Commander. He is public relations representative for the **Pioneer-Ridgeley Freight Lines** in Cheyenne.

Other officers on the roster include **Don Hefkin, Vice Commander, John Konopisos, Secretary,** and **David Schwartz, Treasurer.** We salute this newest AFA Unit, formed in one of AFA's most active regions.

"It's amazing what a guy will do to get back home to Pennsylvania." These were the words of **Maj. Arthur Murray**—the AF pilot who has flown higher than any other human—in Harrisburg, following a civic reception for him.

Secretary of the Air Force Harold E. Talbott, in his address to the 1954 AFA National Convention in August, first revealed that Maj. Murray had taken a Bell X-1A to an altitude of 90,000 feet —8,000 feet above the old record.

The idea for the Harrisburg reception came from members of the **Olmsted AFA Squadron. Robert A. Cox, Jack B. Gross, and William Lunsford, Jr.,** approached **Mayor Claude R. Robins** who appointed a civic committee headed by **Edwin F. Russell,** Harrisburg publisher, and Gross. Cox presented the Squadron's airpower trophy to **Major Murray.**

Pennsylvania Governor John Fine was a principal guest at the banquet which followed a downtown parade. Also present were: **Miss Evelyn Ay** and **Mrs. Erna Snyder,** winners of the 1954 Miss and Mrs. America contests; **Maj. Gen. Lyman P. Whitten, Middletown Air Material Area Commander,** and **Mrs. Elsie Murray,** the pilot's mother.

The sixth annual convention of the **New Jersey Wing** was held in Asbury Park on September 18. Feature of the day was the airpower banquet and the presentation of the Wing trophies.

Lloyd M. Felmly, editor of the Newark *Evening News,* received the top award for his contribution to "public understanding of the air age." Awards also were

(Continued on page 79)

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presented to the **Bogue Electric Company**, and the **Eclipse-Pioneer Division of Bendix Aviation Corporation**, for engineering achievement.

George R. Hill, Curtiss-Wright Vice President, presented a program on "Airpower for the Next Ten Years." **Miss Lucille Macaluso** was introduced to the guests as "Miss AFA of New Jersey."

Joseph Boricheski, South River, was elected Wing Commander, succeeding **John J. Currie**, who was elected to the national Board of Directors for 1954-55. Other officers include **Kenneth Hamler, Vice Commander, Lloyd Nelson, Secretary**, and **Enrico M. Carnicelli, Treasurer.**

Guests included **Randall Leopold**, AFA Regional President, **Michael Stroukoff**, President of **Stroukoff Aircraft Company**, and **Brig. Gen. Chester A. Charles**, of the **New Jersey Air National Guard. Irving B. Zeichner**, a past Director of AFA, served as convention chairman.

Edward R. Kanaby, Commander of the Flint, Michigan AFA Squadron, advises that the Squadron recently took part in a ceremony honoring **S. S. Stewart**, called the city's first citizen of aviation. "Sid Stewart Day" was the official title of the observance, and a dawn patrol flight of over 300 planes from all over the Midwest landed at the local airport to pay tribute to him.

The function was sponsored by the **Civil Air Patrol**, in recognition of the many outstanding contributions made by Stewart to civil aviation in the area. The Flint Squadron's role in the event consisted of the presentation of a plaque to Stewart, and remarks by Kanaby.

The third annual **Colorado Wing-Ding** was held at Ent AFB Officers' Mess in Colorado Springs. Approximately one hundred persons attended the banquet, at which **Gen. Benjamin W. Chidlaw**, Commander, Air Defense Command, was the principal speaker. General Chidlaw was given a plaque by the Wing in recognition of his outstanding contributions to US airpower. The citation was designed and produced by **Paul C. Potter**, first Wing Commander and a leader in AFA activities in the region. It was presented by **W. Thayer Tutt, Rocky Mountain Regional Vice President.**

A feature of the post-banquet activities was the first public announcement that Potter and a group of Colorado members had written a song, to be adopted by the Association. Title of the number is "Airpower's Here to Stay."

Newly elected officers of the Wing are **James J. Hewett, Denver, Commander**, replacing James J. Reilly; **Charles Johnson** and **Donald O'Regan, Vice Commanders; Herbert Stockdale, Secretary**; and **Harry Glick, Treasurer.** The Council is composed of **Warren Jewett, Anthony Biondini** and **Paul Canonica.**

In addition to General Chidlaw and Tutt, the guest list included **Mrs. Chidlaw, Mrs. Tutt, Brig. Gen. and Mrs. Kenneth Bergquist**, and **Maj. Gen. and Mrs. Rush B. Lincoln.**—END

When the going's tough, take to the air!

Logistics is not the only art in which the choice between ground and airborne transportation has to be made. The same problem raises its head in many a civilian situation, too—as simple a thing, perhaps, as long-distance telephoning.

Take the chap pictured above, for instance. He may not know it, but he is literally "on the air," taking part in a radio show which is changing the face of the earth, squeezing it smaller.

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DRESS RIGHT!

By M/Sgt. Frank J. Clifford

Here's another offering from the pen of our prolific Sergeant Clifford, who sounds off fairly regularly in our columns. He's a career non-com with plenty of service to back up his often rather salty opinions.

A SMART soldierly appearance has always been the unmistakable trademark of the military man, particularly of the officer corps. Traditionally, the plumage of the enlisted man has not always been so brilliant. In fact, it wasn't until after World War II that it was ruled out of bounds for an officer to dress any differently from an enlisted man. Full equality, said the new rule book. And, by and large, it has been a good rule.

But now that everyone dresses alike, does everyone look good? Not by a long shot! There are still plenty of men who can pass an inspection, but likewise plenty of bums. At least, they look like bums.

Is personal appearance tied to morale—to esprit de corps—to efficiency—to the re-up rate? I say it is. And the cost is low. It boils down to two rules—get a proper fit in the first place and then follow up with common-sense maintenance.

Next to the $35 overcoat, the most expensive item of clothing, modestly priced at $21, is the coat, wool serge, blue. A wise buyer will purchase with caution, paying closest attention to fit.

First, of course, try on the garment. Take a look at the shoulders. The coat should be loose hanging, not hugging. The armpits should not bind, nor should the collar "ride up" in the back. The hem of the coat should fall about in line with the tips of the fingers, held in the natural, relaxed position.

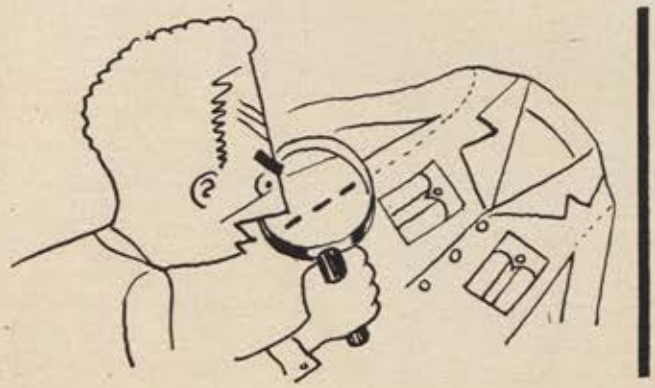
To test sleeve length, raise your arm parallel to the floor, and bend the elbow in the same plane at a forty-five degree angle. The cuff should cut across the wrist joint. The same for shirt sleeves. Better yet, read AF Ltr. 35-5, *USAF Uniforms for Male Personnel* and AF Ltr. 35-47, *Wearing of the AF Uniform.*

The coat should not bulge at the chest. Nor should it be so tight that it pulls the coat out of shape, and makes you uncomfortable and unpresentable.

(Continued on following page)

Once you're sure about the size, check the workmanship. Are the buttons anchored? Are the buttonholes well-stitched? Inspect the stitching where the arm joins the coat. Turn back the cuffs, turn up the collar, and check the stitching at the pockets.

Trousers follow the same general rules. Fit and quality are what count. The waist should be snug enough so that the pants will stay up without support but will fall if you try to walk.



Wearing trousers, in the standing position, thrust both hands into the side pockets—if they fit perfectly you can withdraw your hands with the fists clenched. Test the seat by squatting. Cotton khaki trousers should be slightly oversize as they will shrink in the first laundering. For the same reason, don't have a cotton khaki shirt tailored until it has been washed several times.

In selecting either coat or trousers it is better to make a mistake on the "large" side. All tailors say it is easier to "take in" than to "let out."

The AF will foot the bill for a certain amount of tailoring. This includes altering the length of trousers and sleeves, taking in or letting out of trousers at the waist and minor changes in the over-all structure of the coat. No major alterations of any kind are authorized, the solution being to choose a different size garment.

Now look at the cap service, which old-timers still call the garrison cap. There is only one right way to wear it and that is squarely on the head. Lay three fingers along your nose—if they make a smooth fit against the underside of the bill the hat is being correctly worn.

You can get an exact fit by removing, or adding to, the felt cushioning material behind the sweat band. While tinkering with the sweat band you can make the hat perspiration-proof by inserting a strip of waxed paper or aluminum foil behind the sweat band. The inside of the band is also a fine place to write your name.

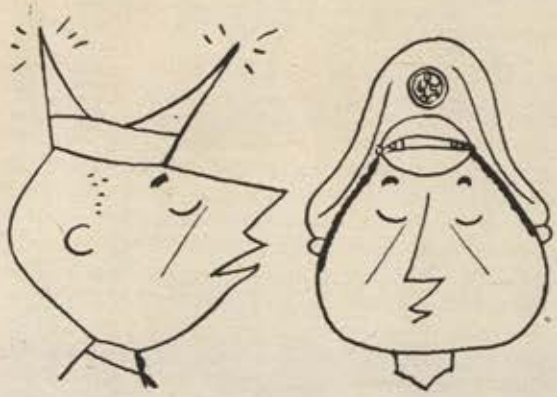
The hat gets more abuse than any other item of the uniform. Pamper your hat when you take it off by setting it down in the same position it rides atop your head.

The cap service can be dry cleaned but it isn't a good idea because the solvents used may damage the leather bill. A stiff brushing does the job just as well. The garrison hat, or flight cap, as it is popularly called, can be safely sent to the cleaners.

The flight cap, a newcomer introduced just before World War II (its grand-pop served with the AEF and was called the "overseas hat") can be made to look civilized, and just a bit rakish, too, by stitching together the gap on top. Open, as it comes from the Sales Store, it has a raw, recruitish appearance.

For a garment with no moving parts, the flight cap has been subjected to some bizarre manipulations. Possibly the worst is the notorious "Fort Knox" hat, easily identified by its two prominent fore and aft tips. As for the service cap, DON'T fashion it into a "fifty-mission" crush. This has had its day; let it rest in peace.

To protect the service cap a plastic or rubber cap cover is a good buy. The cover can be carried inside the hat when fair weather prevails. For long-time storage, it's best to place the service cap in a large Kraft paper bag, with a handful of mothballs. Seal the bag with Scotch tape. Make sure the hat, and especially the sweatband, is thoroughly clean and dry and free from grease before it is mothballed.



Buy your Air Force shirts just like you buy civilian shirts. Although shirt styles are standard it is still possible to go astray. Avoid button-down, rounded, spread-eagled or other variations of collars which are out of step with the prevailing AF styles.

I do not buy shirts from Army-Navy outlets because I believe that these shirts are often just ordinary blue shirts. I have found some of them to be sub-standard in workmanship.

(Continued on page 85)

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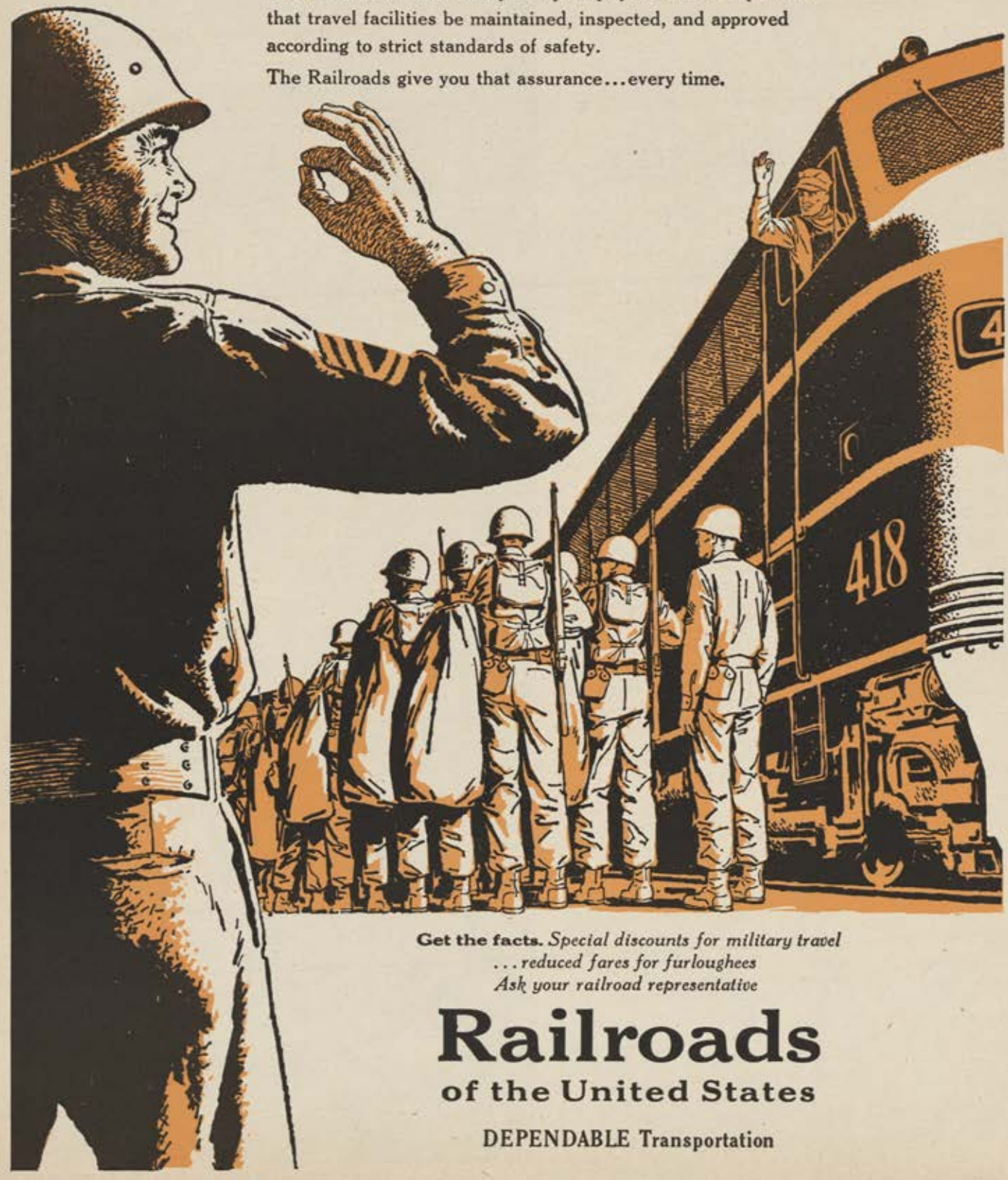

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"From their efforts will come the bombers, fighters and missiles that will play a major role in keeping the peace or winning a war."

B. L. Boatner

Statement by Lieutenant General B. L. Boatner, Deputy Chief of Staff, Materiel, United States Air Force

DRESS RIGHT! CONTINUED

Tying a tie properly was never the easiest job in the world but the bop-age has introduced a new hazard. This is the infamous Windsor knot which comes in various sizes, some as large as a hangman's knot, and none of them regulation. Just as wrong is the tiny knot. Big or small they are both off limits.

To keep the tie smart looking it should be untied and allowed to "hang out" on a coat hanger or a tie rack after each wearing. A good wool tie, priced at about sixty cents, will almost keep itself pressed. Strange as it may sound, it is possible to wear out a tie. The abrasive action of chin stubble will fray the tie at the knot.

Shoes are the very foundation of the military man. Don't use civilian shoe sizes as anything more than a guide to military sizes. Check the fit at the four points identified in TM 10-288. Shoes should be snug under the arch. The ball joint of the foot should be located at about the widest portion of the shoe to allow the foot room to expand when weight is put on it. This is determined by pressing the thumbs against the lower, inner and outer portions of the vamp.

The foot should fill the shoe without pressure. Check the fit of both feet since foot sizes are not exactly the same.

Polishing shoes used to be a jealously guarded secret in the now legendary "Old Army." The *modus operandi* of each man was regarded as his private business and it was rude to ask, "Hey, Pop, how do you get a shine like that?"

Actually, there is nothing to it. All you need is good equipment, including a good polish, both liquid and paste types, a bristle dauber, and a genuine (not fibre or plastic) bristle brush. Two cloths, one a "hard" one, the other "soft" and both at least 18 inches long, complete the kit. A good brush will cost at least $2.50 but it is well worth the investment.

To get a first-class shine, the shoes must be clean and dry. Shoes that are wet cannot be shined and should be dried, slowly, away from high heat. To speed drying get the shoes off the floor by tying the laces to the rungs of a chair or the springs of a cot.

Field shoes can be scrubbed with a brush and ordinary GI soap. Keep water out of the shoe. The same treatment will work on the dress shoe but to a lesser degree. Shoes that have cracked from "overdrying" can be restored to some usefulness by rubbing with castor oil. Use only as much oil as the shoe will absorb readily—too much will interfere with the polishing. Rinse soap from the shoe as it contains alkalis which are harmful to leather.

To remove oil, grease, rubber, or other stains, use lighter fluid or carbon tetrachloride and a soft rag. Do not oversoak the rag and rub lightly.

Liquid polishes are better than they used to be and make good sole dressings. Apply first to the heels, then the sole edges, and last to the uppers —without redaubing the brush in the liquid. This way you apply just a thin film of polish—one of the secrets of a good shine.

Brush and rag the liquid to a gloss.

Follow up with the paste polish, using a dauber or a pad of clean cloth. A cloth pad left in the can, by the way, will sop up the oils and reduce the efficiency of the polish. Use a fresh pad every time; better yet, use a dauber.

The dauber has another important factor to recommend its use. Some polishes contain highly poisonous chemicals. These should be used with great caution, particularly if you have a cut on your hands. Use a shoeshine holder or shoe trees and allow the polish to dry completely before the shoes are worn.

Work a light film of paste polish into the leather until a low-key shine emerges. Follow this with the brush, stroking evenly and smoothly. Concentrate on one spot for ten or twelve strokes. This warms and fuses the waxes and produces the high gloss.

(Continued on following page)

For the final touch, polish with a wool polisher or soft flannel cloth, taking care not to rub too vigorously in one spot lest you "burn" through the film of polish. At this point you can apply what is known as "spit-and-polish"—sprinkling a few drops of water on the tips of the shoes and rubbing it up. Old-timers insist that actual spittle is the only thing to use. Not so—clear water is much better.

To protect against mildew, put two coats of polish on the soles and rub to a gloss. Shoes put away for storage or for shipments should be treated this way.

Once you get your uniform it is up to you to take care of what you've bought and paid for—roughly about $250 worth, including summer uniforms and fatigue clothing. This is made easy because the AF allows $72 a year for maintenance and upkeep. This is enough to satisfy the needs of any normal man—and it is $72 more than industry pays its workers.

Wherever possible, all clothing should be bought from the Sales Store because there is never any question of whether the item is regulation or not. This is not true of many private military suppliers. A typical example of this took place near a big AF recruit training base where a private merchant assured recruits that a plastic raincoat not only was regulation but that it was required. As a result, a lot of kids were flim-flammed out of several dollars each.

Taking care of clothing is a matter of ordinary common sense. Frequent dry cleaning and pressing is not good for clothing since the high degree of heat used in the pressing and the chemicals used in the cleaning process are injurious to fabric. A stiff brushing can often save a trip to the cleaners. Fortunately, uniform pants do not have cuffs, thus eliminating one big dirt trap.

Hang up your clothing when you take it off. This is especially true of the coat and trousers. Don't use wire hangers—they are for dresses or shirts. Also, a rusty wire hanger will leave a stain that cannot be removed. Use wooden hangers. They cost only a few cents each and they pay for themselves in saved pressing jobs. Pants should be hung from the bottom on a clip hanger.

Take everything out of the pockets before you hang up your uniform. Empty pockets frequently to get rid of dust, lint and bits of tobacco, all of which make the garment tastier to moths.

While traveling, the uniform should be unpacked nightly, if at all possible, in order to preserve the press. A good uniform will "hang out" overnight.

First aid for small tears is a wise course to follow. Get them sewed immediately and they stay small—and inexpensive. Replace buttons at once. It is a good idea to carry a spare button for the coat in a pocket.

In tailoring the uniform avoid any extreme interpretation of the regulations. "Sharpening" is strictly forbidden. However, there are some touches which are both regulation and good-looking. For example, it is all right to have the buttons on the bottom flap pockets of the coat sewed to the flap. This has the advantage of making it easy to get in the pocket and gives an "always buttoned" appearance. It doesn't work for the breast pockets, however. Breast pocket flaps can be made to behave by sewing small black snap fasteners to the underside.

The Eisenhower jacket is hopeless and money spent to improve it is a waste of cash. In a similar category is the blue wool shirt, worn sometimes as an outergarment. Wait until the dust settles before investing in this item.

Concealed pockets are useful and the cost of having one built into the coat is not great—about $2—and the saving, say of a potentially lost billfold, is obvious. Under no circumstances should a zipper be used as a substitute for buttons on the coat.

Arm shields can help to preserve the life of the wool coat and gabardine or wool shirt. These should be "tacked" in, that is, sewed in with a single strand of thread and done in long stitches so they can be readily removed for washing, with soap and water, while the garment is at the dry cleaners.

An "extra" found in many quality trousers is a waist band on which is sewed a corrugated strip of rubber. This rubber, which any tailor will sew in for less than a dollar, encourages a shirt to stay put. Another extra is the addition of a small piece of black cloth to the inside rear of the trouser cuff. This retards fraying caused by pants rubbing the back of the shoe.

At one base in the Midwest, some of the men decided that it was too much trouble to keep a good trouser crease in the conventional way, so they had the press line sewed in! Fortunately, the practice was halted.

We now arrive at the embellishment of the uniform and here the airman has it, hands down, on the officer—he has more embroidery to play around with. Absolutely out of bounds is the practice of sewing on chevrons, hash-marks and Hershey bars with a cross-hatched stitch. The felony is compounded when the stitching is done in white thread. The only right way is with black thread, preferably by machine.

In passing, let me mention that hash-marks and overseas bars may only be added when they are fully earned. That is, you put on four service bars only when you have actually served twelve years—not when you are entering on your fourth enlistment. In the same way, an overseas bar can only be added when the wearer has completed a full six months of overseas service—and only service during certain periods of time count for Hershey bars. Be suspicious of anyone wearing more than five.

No tailoring of the raincoat is permitted since it is designed to fit loosely. It has been my experience, however, that a close inspection of all stitching, especially the pockets, should be made before purchasing. The nature of the material and the thread used in sewing it seem to make it prone to imperfections. Chevrons are not sewed on the raincoat.

Finally, we come to the overcoat. At $35 it is the most expensive single piece of clothing in an airman's wardrobe. It should get that much respect. Never hang the overcoat from the little loop inside the collar. It will droop out of shape and develop a permanent "pucker." If the coat gets wet, as it frequently does, hang it so that it is freely exposed to dry air before putting it away.

Because of its bulk the overcoat is a natural nesting place for moths. To store it for the season the most satisfactory results can be gained by sending it to a reputable cleaner and asking to have it prepared for long-term storage. This consists mainly of a good cleaning, impregnating with an insecticide and, finally, sealing in a dust-proof bag. A garment treated in this manner will remain insect secure for at least two years under normal circumstances.

Chevrons are worn on the overcoat, of course, but no other markings are permitted.

Dress the part of an officer or airman and you will be soon swept up into the role and acting the part will become second nature—except that you won't be merely acting, you'll be the genuine article, recognized and respected as such regardless of where you are.—END

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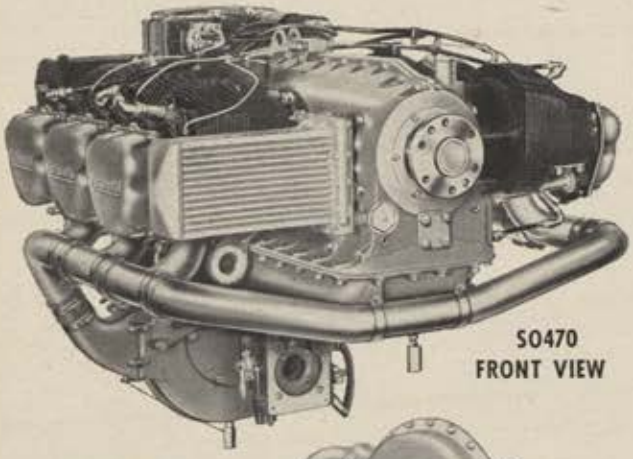

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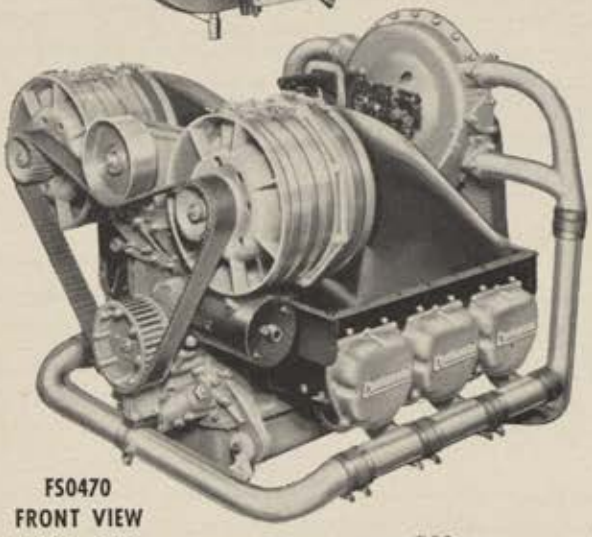

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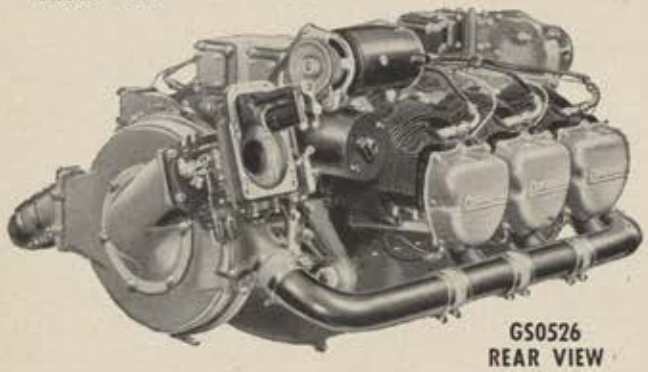

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R.P.M.	2600	3000	3000
Alt. (ft.)	10,000	10,000	15,000
T.O. Power (Sea Level)	265	260	320
Length (in.)	37.73	39.64	52.28
Height (in.)	30.77	34.81	23.96
Width (in.)	33.62	33.62	34.68
Bore (in.)	5.00	5.00	5.125
Stroke (in.)	4.00	4.00	4.25
Displ. (cu. in.)	471	471	526
Comp. Ratio	6.0:1	6.0:1	6.0:1
Total Dry Wt. with Accessories (lbs.)	512	550	578
Type of Prop. Drive	Direct	Direct	Geared .688:1
Recom. Fuel Octane	91/96	91/96	91/96
Supercharger Ratio	12.45:1	10.13:1	12.0:1
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