

HOW REDS TORTURE OUR CAPTURED FLYERS

AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER



RED GERM WAR HOAX

YANKS IN ENGLAND

THULE—ARCTIC OUTPOST

NOVEMBER 1952 • THIRTY-FIVE CENTS





Sundstrand opens new Western Research and Development Center!

Another step
in Sundstrand's
program to expand
its service to the
aircraft industry

• Increased facilities for improved coordination with airframe and aircraft engine manufacturers will soon be available in the new Sundstrand Western Research and Development Center at Hawthorne, California.

Plans for the new Center, in the near future, call for complete laboratory and test equipment, plus necessary machinery used in basic development work. Attention will be concentrated upon Sundstrand Constant Speed

Drives for A-C generators, hydraulic pumps, and specialized hydraulic controls for aircraft.

Three experienced Sundstrand engineers have been assigned to the new Center to supervise these functions—research and design, service, contracts, sales and applications. Call on the Center for assistance on any problem involving Sundstrand's *reliable* research, *expert* engineering, *precision* production.



SUNDSTRAND AIRCRAFT HYDRAULICS

SUNDSTRAND MACHINE TOOL CO.
HYDRAULIC DIVISION, ROCKFORD, ILL.

New "Thunderjet" 100% Equipped with Goodyear Wheels and Brakes



32 rockets of 5" size and two 450 gal. fuel tanks can be carried in addition to fixed armament.

FIRST operational swept-wing fighter-bomber of the Air Force, the new Republic F-84-F "Thunderjet" will start rolling off assembly lines this year—100% equipped with specially designed wheels and brakes by Goodyear.

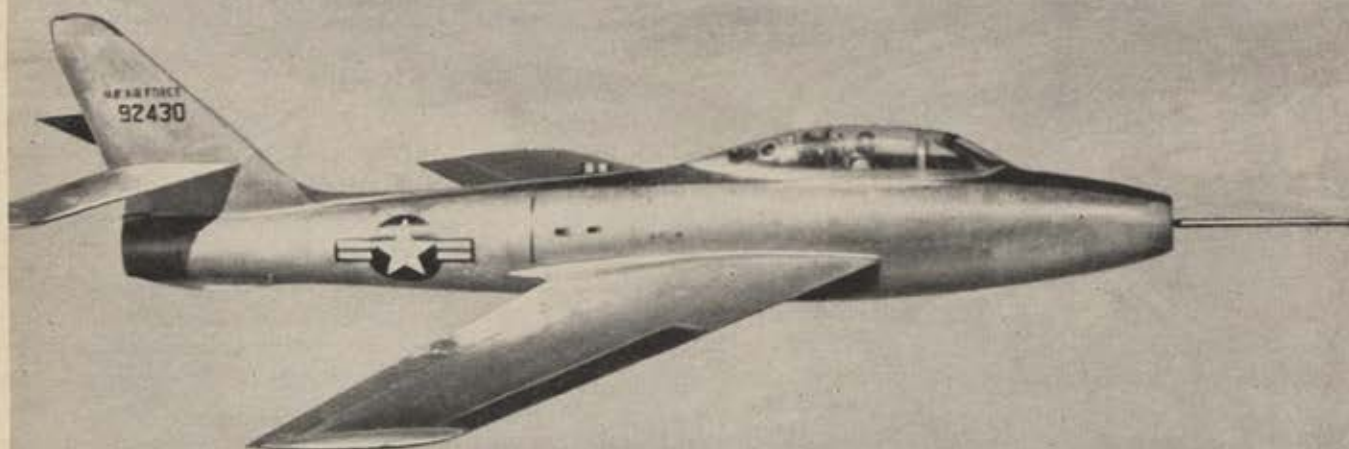
Design specifications for this high-speed, long-range jet included rigorous landing gear requirements—high brake energy, restricted space, new tire and tube size, and above all, urgent speed in design and production of this special landing equipment.

Drawing on its unrivaled background—40 years' experience and 40 years of outstanding accomplishment in aviation—Goodyear met the design and delivery specifications with marked success. After extended Air Force tests, Goodyear landing equipment *alone* was able to qualify.

Result: Republic's assembly line production of the F-84-F will be exclusively equipped with Goodyear wheels and brakes. And even more important is the fact that one more key unit in America's climb to aerial supremacy will be ready on schedule.



We think you'll like "THE GREATEST STORY EVER TOLD"—Every Sunday—ABC Network



"Speed much greater than 600 mph" is acknowledged for the F-84-F "Thunderjet" when flying without external armament and fuel tanks.



Here's defense on the line

In a gleaming row, Boeing B-47 Stratojets, the world's fastest known bombers, are shown above outside the Boeing Wichita plant.

The B-47 medium jet bomber is a revolutionary airplane, the first of its size to enter the over-600-mile-an-hour class. Its trail-blazing design required trail-blazing production methods. Tolerances of one- and two-thousandths of an inch had to be met, where in earlier, simpler aircraft, tolerances of 1/16 to 1/32 of an inch were per-

missible. Where 10 miles of wiring were needed for the B-29, for instance, the Stratojet requires 27 miles, not counting that used in equipment and government-supplied items.

Yet month after month the B-47's are rolling off the Boeing production lines at the rate called for by Air Force schedules.

Costs of materials and labor have both increased since B-47 production started. But Boeing's manufacturing efficiency has cut down the man-hours

needed to turn out this six-jet aircraft even beyond the reduction normally expected. The savings thus effected have offset rising costs and held today's price of the Stratojet down approximately to original estimates.

Boeing has produced more multi-engine jet aircraft than any other manufacturer. This unequalled backlog of experience in the application of jet power to large aircraft will be an invaluable asset in America's bid for jet transport leadership.

For the Air Force, Boeing is building the

B-47 Stratojet, B-50 Superfortress, C-97 Stratofreighter, KC-97 Tanker and the B-52 Stratofortress;
and for the world's leading airlines, Boeing has built fleets of twin-deck Stratocruisers.

BOEING

Shooting the Breeze

The mail is running heavy these days with requests from individuals and Air Force units for reprints of the command chart and the air base information we published in the September issue of AIR FORCE Magazine. Last year we made similar reprints available free of charge and undoubtedly a large proportion of the present spate of requests is the backwash from last year's offer. Unfortunately, our free reprint program cost us a great deal of money, more than we felt we could afford on a continuing basis.

Needless to say, we are pleased that our editorial efforts have met with such a fine response and it is hard to be forced to refuse these requests. On the other hand, while it is true that we are a non-profit organization, we do not feel that this is synonymous with "non-profitable" which we would quickly become if we made a handout of AIR FORCE Magazine and the material therein.

Certainly, our mail indicates that there is a crying need within the Air Force itself for the kind of material we are publishing every month. And we're old-fashioned enough to believe that if a thing is good enough to fill a need it's good enough to pay for. Therefore we'd like to take this opportunity to explain how Air Force people, and units, can get a copy of the magazine monthly with the hope that our service readers will pass the information along to their friends.

1. For \$5 annual dues you can become a member of Air Force Association, including a subscription to AIR FORCE Magazine.

2. For \$4 per year you may receive a straight subscription to AIR FORCE Magazine not involving membership. (See coupon, page 16)

3. For thirty-five cents a month you can buy a copy at your post exchange newsstand.

For specific information as to how organizations may obtain subscriptions for official use and distribution write:

AIR FORCE Magazine
1424 K Street, N.W.
Washington 5, D. C.
Attention, Subscription Dept.

FEATURES

KNOW YOUR ENEMY.....	by Arthur F. Kelly	19
HOW TO DO BUSINESS WITH ARDC.....		21
IT COULD HAVE BEEN YOU.....	by Colonel John F. Driscoll	23
ORDEAL IN HUNGARY.....		27
BROTHER, IT'S THE END OF THE LINE..	by Charles Corddry	28
YANKS INVADE ENGLAND.....	by Robert Raymond	32
HOW AMERICANS FEEL.....	by Hilde Marchant	35
THE HOT WAR GOES ON IN KOREA		
	an AIR FORCE Photo Feature	36
JET ACES TALK SHOP.....		65
A RESERVIST SOUNDS OFF.....		68

DEPARTMENTS

Air Mail	5	Wing Tips	16
Rendezvous.....	7	Mobilization News	38
Airpower in the News.....	11	Tech Talk	43
People in the Air News....	15	Technique	44
AFA News	54		



THE COVER

When two Air Force officers "confessed" to participating in biological warfare in Korea you were probably shocked. But an examination of the "brain-washing" techniques the Reds have used on other prisoners will help you understand what tribulations our captured airmen faced. See page 23.

AIR FORCE STAFF

JAMES H. STRAUBEL, Editor and Publishing Director

JOHN F. LOOSBROCK, Managing Editor

RICHARD M. SKINNER, Assistant Editor

NELLIE M. LAW, Editorial Assistant

WILLIAM A. DEAN, Art Director

JAKE CULPEPPER, Associate Editor

RALPH V. WHITENER, Associate Editor

SANFORD A. WOLF, Advertising Director

AIR FORCE MAGAZINE is published monthly by The Air Force Association at McCall Street, Dayton 1, Ohio. **EDITORIAL OFFICE:** 1424 K St. N.W., Washington 5, D. C. Sterling 2305. Publisher assumes no responsibility for unsolicited material. **ADVERTISING OFFICES:** Main Office: 114 East 40th Street, New York 16, N. Y., Murray Hill 9-3817. Sanford A. Wolf, Advertising Director. Pacific Coast Offices: Keenan and Eickelberg, 638 S. Van Ness Ave., Los Angeles 4, Calif. Dunkirk 2-8458; 235 Montgomery St., San Francisco 5, Calif. Douglas 2-1323; 333 S.W. Oak St., Portland 4, Ore. Broadway 3210. Mid-West Office: Urban Farley, 120 S. La Salle St., Chicago 3, Ill. Financial 6-3074. **MAILING:** Re-entered as second class matter, December 11, 1947, at the post office at Dayton, Ohio, under the Act of March 3, 1879. **SUBSCRIPTIONS:** \$4.00 per year. Single copy, 35 cents. **REGISTRATION:** Trademark registered by the Air Force Association. Copyright, 1952, by the Air Force Association. All rights reserved under Pan-American Copyright Convention. Printed in U.S.A. **CORRESPONDENCE:** All correspondence pertaining to editorial matter and change of address should be sent to Air Force Association, 1424 K St., N.W., Washington 5, D. C.

*First plane to dare a landing
and take off at
the North Pole*



—the Douglas C-47

Aviation history was made on May 3, 1952, when a U. S. Air Force mission made an actual landing on top of the world—at the North Pole. Their plane: a Douglas C-47.

Selection of the C-47 for this flight was natural, for this "workhorse of the air"

—flown commercially as the DC-3—has more than proved its dependability. Under the roughest conditions, from the tropics to the poles, its stability and rugged construction give added safety and performance. Commercially, since 1936, the DC-3 has flown more than 7

billion scheduled miles . . . 290,000 times around the world!

Performance of the C-47 is proof of Douglas leadership in aviation. Planes which can be produced in quantity, to fly farther and faster with a bigger payload, are a basic Douglas concept.



Depend on **DOUGLAS**



First in Aviation

AIR MAIL



Anniversary Issue

Gentlemen: Air FORCE is lively and informative and it seems to be getting better all the time.

C. G. "Chet" Miller
Douglas Aircraft Co., Inc.
El Segundo, Calif.

Gentlemen: What an issue! Your gang really did a fine job. Congratulations!

Maj. Arthur Dreyer
ARDC, Baltimore, Md.

Gentlemen: Reference to any reputable road map will reveal that you have Oklahoma City, Okla., and Enid, Okla., reversed on the Air Base map, pages 44 and 45.

The entire issue, including the error, was very satisfying—the staff should be complimented. Even the ads are above average.

Kenneth A. Reed
Kirkwood, Mo.

Gentlemen: Your anniversary issue is clearly the result of excellent planning and a lot of hard work, and it is a first rate job.

Permit me to offer congratulations and thanks for a welcome and needed collation of what has been a hodgepodge of Air Force miscellany.

1st Lt. Robert P. Jordan
O'Hare Internat'l Airport, Ill.

Gentlemen: In the September issue, the article about our outstanding airmen in the 3d Air Rescue Squadron in Japan and Korea, is well written and interesting, and does credit to the courageous and hard working members of an organization which has saved more than five times its own number.

Maj. Albion T. Sawyer
Air Rescue Service, MATS
Washington, D. C.

Gentlemen: We were especially interested in the article "How to Get an Education in the Air Force" by A/3C R. F. Brodman. Articles of this nature enable more men and women to become familiar with the offerings of the United States Armed Forces Institute.

We would be pleased if you would grant us permission to reproduce this article in a forthcoming edition of the USAFI Information Letter.

Robert J. Corcoran, Chief
Administrative Services Section,
USAFI
Madison, Wis.

• *Permission granted.—The Editors*

Gentlemen: Allow me to extend my congratulations on another fine anniversary

issue. The article on the jet aces was typical of the excellent and timely material.

Maj. John P. Cordova
Headquarters, 9th AF
Ft. Bragg, N. C.

Gentlemen: I have for sometime been noting the great improvement in Air FORCE Magazine. My congratulations.

The September issue is indeed a good reference item and your statement of some R&D problems the AF must solve was interesting.

Don Mace
Editor, Air Force Times

For the Record

Gentlemen: In your September issue, you list Clovis AFB as being an advanced single engine school, ATRC.

This is to advise that Clovis AFB is a fighter-bomber base under jurisdiction of 9th AF and TAC.

You and your editorial staff are to be congratulated on the progress made with Air FORCE Magazine as displayed in your anniversary issue for September.

Maj. Edward F. Brown, Jr.
Clovis AFB, N. Mex.

Gentlemen: I would like to call your attention to an error in the September issue. The "Mass-Air Jet Refueling over Pacific" story stated in error that KB-29 tankers from the 307th Air Refueling Squadron, based at Walker AFB, refueled the F-84s when it was the 91st Refueling Squadron based at Lockbourne AFB, Ohio, that actually refueled the F-84s on the Turner-Travis and Travis-Hickam legs of the flight.

I enjoy reading your magazine and would appreciate a subscription blank.

Col. Everett W. Holstrom
Lockbourne AFB, Ohio

Gentlemen: I wish to call your attention to an error which appears in the article "Guide to Air Force Bases & Housing" published in your September issue.

The address of Fairchild AFB and George Wright AFB is Fairchild, Wash., and the incorrect address of mail to Spokane, Wash., results in the delay of both official and personal mail to the residents of these bases.

Postmaster William T. Harmon
Fairchild, Washington

• *We did not purport to list proper mailing address for each base. We did indicate nearest city of any size so as to give a better indication of the bases' geographical location.—The Editors*

Gentlemen: The members of the AF ROTC at Occidental College thoroughly enjoy your magazine. Many of your ar-

ticles are used to augment our instructional material for they are, in the main, accurate and timely.

We appreciate your including a picture of our AFA Silver Medal winner, Cadet Jim Nickels, on page 106 in your anniversary issue. However, Mrs. Nickels, mother of Cadet Nickels, fails to recognize her son! Your layout man transposed some captions.

Lt. Col. Loren S. Nickels
PAS&T, Occidental College
Los Angeles, Calif.

• *Our apologies. We inadvertently switched captions on two of the pictures on page 106, Sept. issue. Occidental College caption is with Franklin & Marshall picture and vice versa.—The Editors*

To Each His Own

Gentlemen: In the September issue, there is an article on Medal of Honor awards to aviators. You have omitted the name of Erwin R. Bleckley, who was flying with Harold E. Goettler when both met their death and achieved (as was then thought) immortality.

The interesting fact is that at that time only three aviators had been honored by the Medal of Honor—Luke, Goettler, and Bleckley. Rickenbacker's was not awarded until July 14, 1930. But it was richly deserved!

I am very sorry that you omitted Bleckley's name. I was flying at the front at the same time, and the quality of his incredible courage was an inspiration to me and my comrades.

Percival G. Hart
Beverly Hills, Calif.

• *In compiling our list we confined ourselves strictly to men assigned to the Air Force or its predecessor services. Lieutenant Goettler was assigned as a pilot to the 50th Aero Squadron, whereas Lieutenant Bleckley was a ground officer assigned to 130th Field Artillery and acting that day as an observer.—The Editors*

Misconception

Gentlemen: In your September issue, you ran a feature story of AF Medal of Honor winners. I would like to know if you did not omit Capt. Colin Kelly, who was the first Medal of Honor winner in World War II?

S/Sgt. Earle F. Chase
Bolling AFB,
Washington, D. C.

• *Captain Kelly, who was posthumously awarded the Distinguished Service Cross, did not receive the Medal of Honor. Earlier he'd won the Distinguished Flying Cross.—The Editors*



Leadership demands constant achievement

WANTED!

300,000
SKYWATCHERS

AIR ATTACK!... This alarm could be sounded in the U. S.—tonight, tomorrow, any time! If it is, then time will be priceless—every moment vitally important.

Fortunately we do have a warning system—a combination of radar stations and volunteer civilian skywatchers, the Ground Observer Corps. And the Air Force has protective squadrons of Lockheed Starfire interceptors ready to answer any alarm—climb quickly to the attack—locate and knock out invading bombers in any weather, day or night.

But unfortunately our warning system is not complete. We need 300,000 more volunteer observers! WE MUST HAVE MORE GROUND OBSERVER CORPS MEMBERS TO ASSURE 24-HOUR WATCH OF ALL VULNERABLE U. S. AREAS.

Radar cannot do the whole job, because ground stations can't always spot planes flying under 5,000 feet. The only immediate answer is sheer man power—patriotic men and women who will donate just a few hours each week to the security of the U.S. and themselves.

Too few people realize the need or urgency. You can help—by joining the Ground Observer Corps and by spreading the word. To volunteer, simply call your nearest Civilian Defense Office. Or send a postcard to Ground Observer Corps, United States Air Force, Washington 25, D. C.

Lockheed

Aircraft Corporation

Burbank, California, and Marietta, Georgia

*Look to Lockheed
for Leadership*

ENEMY AIRCRAFT COULD PENETRATE U. S. DEFENSES

Early this summer top U.S. Air Force officials met with Civil Defense directors from 46 states and four territories, and reviewed in confidential detail the current efforts to defend America from surprise enemy attack.

"Despite a \$300,000,000 radar fence around the nation's perimeter, gaps exist through which enemy aircraft could penetrate our defenses undetected," the meeting was told.

That's why America needs a total of 500,000 civilian skywatchers as members of the Ground Observer Corps. Nearly 200,000 have already volunteered.

"The only practical means of filling the gaps in our defenses is through a 24-hour operation by civilian volunteers," the meeting was told.

Why isn't America's radar network sufficient?

Defense gaps exist because of radar's line of sight principle, and radar's failure to penetrate opaque masses. Every mountain, every hill casts a shadow behind which enemy aircraft could sneak undetected. Even in perfectly flat country the curvature of the earth shortens the effective range. Equally alarming, radar is susceptible to jamming.

These gaps cannot be filled by Air Force personnel due to the staggering expense. That's why civilians are needed in 27 perimeter states to man Ground Observer Corps stations 24 hours a day. Here is a critical, patriotic job that requires just a few hours a week from each volunteer.

Aircraft too are an important part of our national warning system and of course are the backbone of defense against attack. Three advanced Lockheed planes play a vital role:

The WV-2 *Super Constellation* Early Warning Aircraft, developed for the Navy and the Air Force to extend radar's range in a whole new concept of national defense.

The P2V *Neptune* Navy Patrol Bomber, charged by the Navy with anti-submarine patrol and protection of U. S. coastal waters.

And the F-94C *Starfire*, the nearly automatic all-weather interceptor, which does the final job of climbing to the attack at terrific speed, locating the invaders, and shooting them down with more than human accuracy.

When the U. S. has all necessary planes and personnel—civilian and military—it will be difficult for enemy aircraft to penetrate U.S. defenses.



RENDEZVOUS

Where the Gang gets together

FIVE LITTLE WORDS: Am trying to locate copy of poem written during World War II by an RAF fighter pilot who was later killed. Remember seeing it in wartime issue of *AIR FORCE*. All I recall of the poem is part of last two lines which ran something like this: "Oh I have flown . . . Reached out and touched the face of God." This poem is to be inscribed on bronze plaque which has been designed and approved and is ready for casting, but is being held up until a copy of poem can be obtained. *Harold W. Edwards, P. O. Box 1312, Hendersonville, N. C.*

CALLING FREDDIE: Anybody know the whereabouts or address of Fred Martin, formerly in "weather" at Childress, Texas, AF Base, and later transferred to Spring Lake, New Jersey? Would like to have it. *C. "Red" Chambers, 1400 E. 53d St., Chicago 15, Ill.*

A FUTURE REUNION: Interested in obtaining addresses, for purposes of a future reunion, of former members of the 405th Bomb Squadron, 38th Bomb Group. *George Milosevic, 1463 Market St., Harrisburg, Pa.*

SAGA OF THE SEVENTH: Would like to locate copy of "The Saga of the Seventh." I believe this book on the 7th AF was published in 1947, and have been informed that it is currently out of print. *William T. Downs, Ontario, New York.*

PRE-1945 ISSUES: I would like very much to obtain pre-1945 issues of *Air Force*, also any issues or a complete set of "Impact." Any assistance will be greatly appreciated. *William G. Haney, 1239 Rimpian Blvd., Los Angeles 19, Calif.*

OLD NEGATIVES OR SNAPSHOTS: I would like to get any old negatives or snapshots of all types of military aircraft from the era between 1919 to 1941. Also any of civil or experimental aircraft of that time. *A. L. Winer, 407 S. Stafford Ave., Richmond 20, Va.*

ATTENTION CREW 8025: I'd like to hear from crew members and friends who served with me in the 384th Bomb Group (H), 547th Squadron, 8th AF. Especially from my crew 8025. *Forrest*

E. (Skip) Fickling, 32112 Coast Highway, South Laguna, Calif.

FORMER HUMP PILOT DAVIS: Would like to know address of Lt. Col. John T. Davis, my former pilot on Hump run, CBI. I was his radio operator. His home address is in Waco, Texas, but don't know street or whereabouts. *B. Hughes, 229 Central Ave., Ocean City, N. J.*

MISPLACED HISTORY: The organization with which I served in World War II (313th Bomb Wing, VH) distributed illustrated histories shortly after the war. I misplaced my copy. Do you have any ideas as to how I might secure another? The 313th was based overseas at Tinian in the Marianas Islands. It was part of 20th AF (B-29s). I was with the 9th Bomb Group of the Wing. *Kenneth E. Carroll, 99-60 63d Road, Rego Park, New York City, N. Y.*

THE MAGAZINE BARN: Is it possible to have number of back issues of *Air Force* that readers can supply? Outside of June 1946, we need Vols. 25 and Title Page Index; Vol. 26, No. 9 and TPI; Vols. 27, 28, 29 with TPIs; Vol. 29, No. 6. *John Eugene Way, Jr., The Magazine Barn, P. O. Box 193, Seattle 11, Wash.*

MILITARY ADDRESSES WANTED: Would like the present military addresses of three airmen who I served with in Korea. Names and AFSNs are as follows: S/Sgt. Michael J. Delahanty, AF 12307349; A/IC Joseph R. Mayo, AF 11196808; and A/3C Ronald R. Booth, AF 11199062. All were assigned to the 452d Supply Squadron from August 1950 to April 1952. They were returned to US aboard the USMS Gen. Butner and were assigned to Det. No. 2, 2349th Personnel Processing Squadron, Yerba Buena Island, Calif. *S/Sgt. Newton E. Deiter, AF 19363196, 3565th Supply Squadron, James Connally AFB, Waco, Tex.*

22D BOMB GROUP REUNION: The former members of 22d Bomb Group are planning their third annual reunion. Date will be Saturday, November 15, 1952, starting at noon. The place, Akron, Ohio, Portage Hotel, corner Main and Market Streets. *Milton Weiner, 167 Fulton Ave., Hempstead, N. Y.*

To insure appearance in a given issue, *Rendezvous* items should be in this office approximately six weeks prior to publication. For example, copy for January issue should be in our hands by November 15.—The Editors

A DIGEST OF NEW DEVELOPMENTS IN HIGH PERFORMANCE PUMPS

PISTON TYPE FLUID POWER PUMPS



Constant and Variable Delivery Types . . . 0.25 gpm to 10 gpm . . . direct engine driven and motorized units.

Featuring continuous working pressures to 3000 psi and continuous speeds to 3750 rpm, today's STRATOPOWER oil hydraulic Pumps (both constant and variable delivery types), afford special advantages for aircraft and other applications. The dual pressure Pumps incorporate remote oil pilot controlled pressure regulator. An electric modification provides selective pressure control and Pump unloading. These Pumps are self-priming and develop suction line pressures approaching 1" Hg. absolute and will also operate under conditions of high reservoir pressurization.

VANE TYPE FLUID POWER PUMPS



Capacities 3 gpm to 120 gpm. Standard models rated at 1200 rpm . . . specials to 3600 rpm.

A distinctive Dual Vane construction, which provides increased fluid delivery rates (even with extremely thin fluids), makes DUDCO Hydraulic Pumps and Motors the first single-stage vane type proven for 2000 psi operation. The minimum size and high efficiencies of these Pumps and Motors create new opportunities in the design of hydraulic fluid power systems for all types of industrial equipment as well as countless applications on heavy-duty machinery and ordnance vehicles.

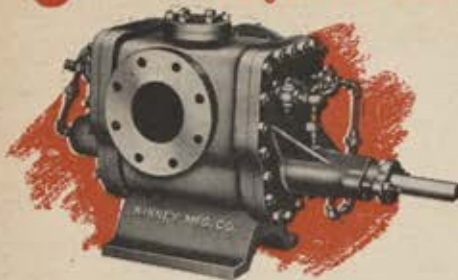
GEAR TYPE FLUID POWER PUMPS



½ gpm to 130 gpm for working pressures to 1500 psi and operating speeds to 2000 rpm.

A unique Four-Bolt design, which locates the assembly bolts within the area of greatest internal pump pressure, indorses HYDRECO Hydraulic Pumps for the heavy-duty required in equipment for the construction and materials handling fields. This Four-Bolt design provides the rigidity and stability that reduces distortion of housing parts and wear plates and insures against uneven wear and loss of overall efficiency in the face of extreme mechanical and hydraulic loads.

LIQUID HANDLING PUMPS



Plain or steam jacketed Rotating Plunger or Heliquad Types 2 gpm to 3360 gpm.

Virtually any material that will flow through a pipe, including difficult viscous fluid, can be handled with meter-like volumetric accuracy with today's KINNEY Rotary Plunger and Wide Angle Herringbone Gear Pumps. The Rotary Plunger Pump features a construction with no valves, blades, pistons or springs. The versatile line of Herringbone Gear Pumps includes models driven by timing gears with anti-friction bearings located outside the pump chamber. Both types available with or without heating jackets.

HIGH VACUUM PUMPS



Single Stage and Compound types, ¼ HP at 2 cu. ft. per min. to 751 HP at 1800 cu. ft. per min.

There is only one principle which has been found suitable for Vacuum Pumps in all capacity ranges . . . that of the Rotary Plunger employed in KINNEY High Vacuum Pumps. First to use the oil-sealed Rotary Plunger, these Pumps develop absolute pressure readings of 0.1 Micron (0.0001 mm Hg.) or better. Alone or in combination with oil diffusion Pumps, they provide the answer to the most exacting high vacuum applications in the electronic, processing and research fields.

MOTORS, VALVES & CYLINDERS



In addition to the complete range of Pumps described, there are equally important components . . . Hydraulic Motors, Valves and Cylinders . . . all available from a single source. DUDCO Hydraulic Motors, employing the remarkably efficient DUAL-VANE principle, with high running torques averaging 90% or more of theoretical at any speed down to nearly stalled and with smooth operation under load. Models rated from 9 to 720 in. lbs./100 psi for 2000 psi operation. HYDRECO Hollow Plunger Valves in single or multiple plunger units for controlling single, double-acting or telescopic HYDRECO Cylinders as well as other Hydraulic Power Units . . . capacities from ½ gpm to 150 gpm and for operating pressures to 1500 psi. Relief Valves, Pressure Regulators, Flow Dividers and other special purpose Valves are available for nearly any type of Hydraulic circuit.



The New York Air Brake Company and its affiliates provide a most comprehensive coverage of Pumps and related equipment for the needs of defense and industry. Here, in one organization, is "Know How" teamed with advanced facilities and a tradition of precision and craftsmanship. Here is research and development dedicated to the constant improvement and the ever-broadening service which hydraulic and vacuum equipment can contribute now and in the future.



Catalogs and complete information on the Hydraulic Pumps, Motors and other components herein described are available on request.

THE NEW YORK AIR BRAKE COMPANY
420 LEXINGTON AVE., NEW YORK 17

AFFILIATES: DUDCO DIVISION • • • HYDRECO DIVISION • • • KINNEY MANUFACTURING CO.



ROCK-STEADY FORTRESS *on wings!*

**New AiResearch Electronic Computer keeps
rocket fire "on target" with magical precision**

A tiny Elevation Computer in the nose of the F-94 Lockheed *Starfire* makes this new jet in effect a rock-steady platform at the instant its rocket guns are fired.

It was developed by AiResearch as a vital part of the complete Hughes Electronic Fire Control System, which directs the F-94 to the target. The computer continually and automatically calculates the angle of

attack by correcting for a half-dozen or more variable aim-influencing factors. They include the burning of fuel, disposal of ammunition, shifting of weight when rockets are fired, dropping of wing fuel tanks, rocket jump, and swift acceleration of the plane itself.

The Elevation Computer is just one of the many types of airborne electronic controls pioneered and

manufactured by AiResearch. Today the company produces over 800 electronic units every month.

If you have a problem involving electronic equipment for temperature control, remote positioning, synchronizing, or analogue computers, consult AiResearch now.

Would you like to work with us?
Qualified engineers, scientists and skilled craftsmen are needed now at AiResearch.

AiResearch Manufacturing Company

A DIVISION OF THE GARRETT CORPORATION

LOS ANGELES 45, CALIFORNIA • PHOENIX, ARIZONA

DESIGNER AND MANUFACTURER OF AIRCRAFT EQUIPMENT IN THESE MAJOR CATEGORIES



Air Turbine Refrigeration

Heat Transfer Equipment

Electric Actuators

Gas Turbines

Cabin Superchargers

Pneumatic Power Units

Electronic Controls

Cabin Pressure Controls

Temperature Controls

AIRPOWER IN THE NEWS

AIRCRAFT INDUSTRY: Production of all military supplies has increased 660 percent since start of Korean war. Nation's aircraft output in last three months has surpassed our losses in Korea, according to Sec'y Lovett. . . . AIA says more than 10,000 military planes have been delivered to nation's air services during last two years. Plane manufacturers in this country are expected to hire more Americans in next seventeen months than any other US industry. Present employment figures of 640,000 are expected to rise to nearly 875,000 by January of 1954. . . . Largest aircraft static test structures outside of Wright-Patterson AFB are rising at Douglas' Long Beach Division. . . . There are now 135 fully trained air crew members of the Comet Jetliner fleet operated by BOAC.

AF DOLLARS: Hugh Dean has been named special assistant to Sec'y Lovett for expediting military production. . . . An estimated \$48,000,000 in damage was caused by the tornado that swept Carswell AFB, Tex., several weeks ago. . . . PIO fund ceiling for three services during FY '53 is fixed at about \$5,500,000. . . . TAC says its property disposal program is returning \$100,000 a year to AF through sale of waste and salvage material. . . . Guided missile production at a US aircraft plant has been speeded through use of new machine capable of drilling twenty-six holes in a missile fin in only thirty-six seconds.

THE STAFF: Forty-seven general officer temporary promotions have been made by AF. New lieutenant generals are David M. Schatter and Bryant L. Boatner. Among names of the fourteen new major generals are John R. Gilchrist, Director of Finance, and Robert L. Copsey, special assistant to General Vandenberg for Reserve forces. Thirty-one colonels were promoted to brigadier generals. . . . Brig. Gen. John Walker Sessums, Jr., Deputy for Development of ARDC, will become CG of 13th AF. . . . ARDC's Dr. Amos G. Horney has been appointed as AF member of National Research Council's Chemistry and Chemical Tech Division. . . . Maj. Gen. Ernest Moore, of 13th AF, is new Deputy Chief of Staff, Far East Command. . . . Maj. Gen. William D. Old has been assigned to ATRC at Scott AFB as special assistant to CG of ATRC. . . . Maj. Gen. August W. Kissner, presently assigned to SAC Headquarters, will become special assistant to the CG of SAC. . . . Maj. Gen. William E. Hall has succeeded Maj. Gen. Alvan C. Kincaid as vice commander of ConAC. Hall had been commander of the 4th AF.

THE BASES: \$4,000,000 building program at Sampson AFB, N. Y., is now shifting into high gear. . . . A "positive" program to minimize air traffic over congested areas is underway at McClellan AFB, Ala. . . . Col. Joe Nazzaro is new boss of 68th Bomb Wing at Lake Charles AFB, La. . . . Six dormitories and two 550-man mess-administration buildings at Bergstrom AFB, Tex., should be ready for use sometime in March 1953. . . . Col. Carlisle Ferris, recent USAFE returnee, now heads Scott AFB, Ill. . . . Lackland AFB, Tex., will be home of "centralized" preflight program under AF's "revitalized" pilot training plan. . . . Jet fighter pilot training soon will join aerial observer training as function at James Connally AFB, Tex. . . . Col. Cyrus J. Lemmon is Gunter AFB, Ala.'s new CO. . . . Sixteen classes of AF supplies, formerly purchased through AMC procurement headquarters at Wright-Patterson AFB, have been decentralized to seven AMC bases and depots. . . . A sixty-eight foot, 110-ton traffic control tower at Miami International Airport was recently moved more than a mile to new location atop twenty-foot-high base.

THE PLANES: McDonnell has received AF contract for undisclosed number of F-101 "Voodoo" twin-jet fighters. . . . Buick Motor Division recently delivered its

first Wright J-65 Sapphire jet engine to AF for testing. . . . F-80 Shooting Stars have flown more than a third of all fighter sorties in Korea. . . . Boeing has handed over to AF first of a new type Superfortress, TB-50H, for ATRC.

TRAINING: Exercise Cold Spot, a winter weather operation for testing and training tactical air units will be held in northern New York state area during February and March 1953, and will involve units of TAC's Ninth and Eighteenth Air Forces. . . . Liaison squadrons, new unit using lightweight airplanes, are latest addition to TAC. . . . Joint Task Force 132 will conduct test this autumn looking toward development of atomic weapons.

MISHAPS: SAC's over-all accident rate fell from previous twelve-month rate of thirty-five accidents — for each 100,000 hours flown — to twenty during "flying safety year" which ended last August 31. . . . Last year, AF suffered 874 fatalities and 19,612 disabling injuries as result of ground accidents. . . . Two newer methods of artificial respiration have been adopted by AF.

AF DEPENDENTS: A 9,000-pound limit has been set by AF on shipments of household goods at government expense. . . . Randolph AFB, Tex., has brand new eighteen-room school building that will accommodate 550 students. . . . First AF dependents' high school in France was opened this fall. . . . Armed Forces have placed limitation of 500 families per month on dependent travel to Far East Command — because of housing shortage. . . . Mrs. Mary Metz, better half of Randolph AFB's M/Sgt. Dallas W. Metz and mother of twenty-year-old son, has been named "Mrs. Texas" for this year.

AWARDS: AF Brig. Gen. George W. Goddard, recon director of SHAPE, received the Harris Achievement Award for 1952 during recent national convention of Professional Photographers of America in Chicago. . . . Manly Memorial Medal has been presented to two Curtiss-Wright engineers, Joseph M. Mergen and Jack H. Kasley, by Society of Automotive Engineers in Los Angeles, for outstanding contributions to aircraft turbine-propeller development. . . . Capt. Daniel J. Miller, USAF, recently received this year's Cheney Award at Williams AFB, Ariz., for landing a helicopter behind enemy lines in Korea to rescue wounded soldiers.

COMING UP: November 6-26, Sixth Air Transportation Institute of the American University, Washington, D. C.; November 17-19, fifty-ninth annual meeting of Association of Military Surgeons, Hotel Statler, Washington, D. C.; December 1, tenth anniversary of CAP cadet program and eleventh anniversary of CAP; December 4-6, quarterly meeting of National Executive Board of CAP in Orlando, Fla.

POOP: About fifty AF movies are available for loan or sale. Requests should go to PIO of nearest Air Materiel Area headquarters. Ramsay D. Potts, Jr., former right-hand man to Stuart Symington and contributor to AIR FORCE, has been elected president of Independent Military Air Transport Association. . . . More than 15,000 items — personal papers of the late General "Hap" Arnold — have been donated to Library of Congress by Mrs. Arnold. . . . Plans have been completed for assigning a WAF squadron to Japan Air Defense Force — second WAF unit in Japan. . . . Seven out of the nation's twenty jet aces are non-regulars, Lt. Gen. Leon W. Johnson, commanding general of ConAC, has revealed. Of these, five are Air Reserve pilots and two pilots of the Air National Guard.

Research Rides a Rocket

The Naval Research Laboratory's Viking rocket research at White Sands Proving Grounds, N. M., hunts facts, figures and formulas in the upper atmosphere.

HURTLING far into the blue, Naval Research Laboratory rockets ask questions of the earth's upper atmosphere . . . flash back the answers needed to guide the designers of tomorrow's piloted and pilotless super-altitude systems for peace or war. What are the pressures and temperatures of the earth's atmospheric layers . . . the high-altitude changes in the earth's magnetic field affecting navigational instruments . . . the alterations in radio waves caused by the ionosphere . . . the effects of sun spots on communications equipment out beyond the filtering effects of the earth's heavy atmosphere?

Martin Viking rockets play a major role in this high-altitude flight research program. Last summer, the Viking cracked the world's altitude record for single-stage rockets . . . nosing 136 miles into the heavens at a top speed of 4100 m.p.h. Now, an even more powerful Viking is being readied for launching. The Martin Company is proud to be a partner with the Naval Research Laboratory in these vital activities . . . helping to prove that America's most valuable secret weapon is its scientific leadership! THE GLENN L. MARTIN COMPANY, Baltimore 3, Md.

Martin

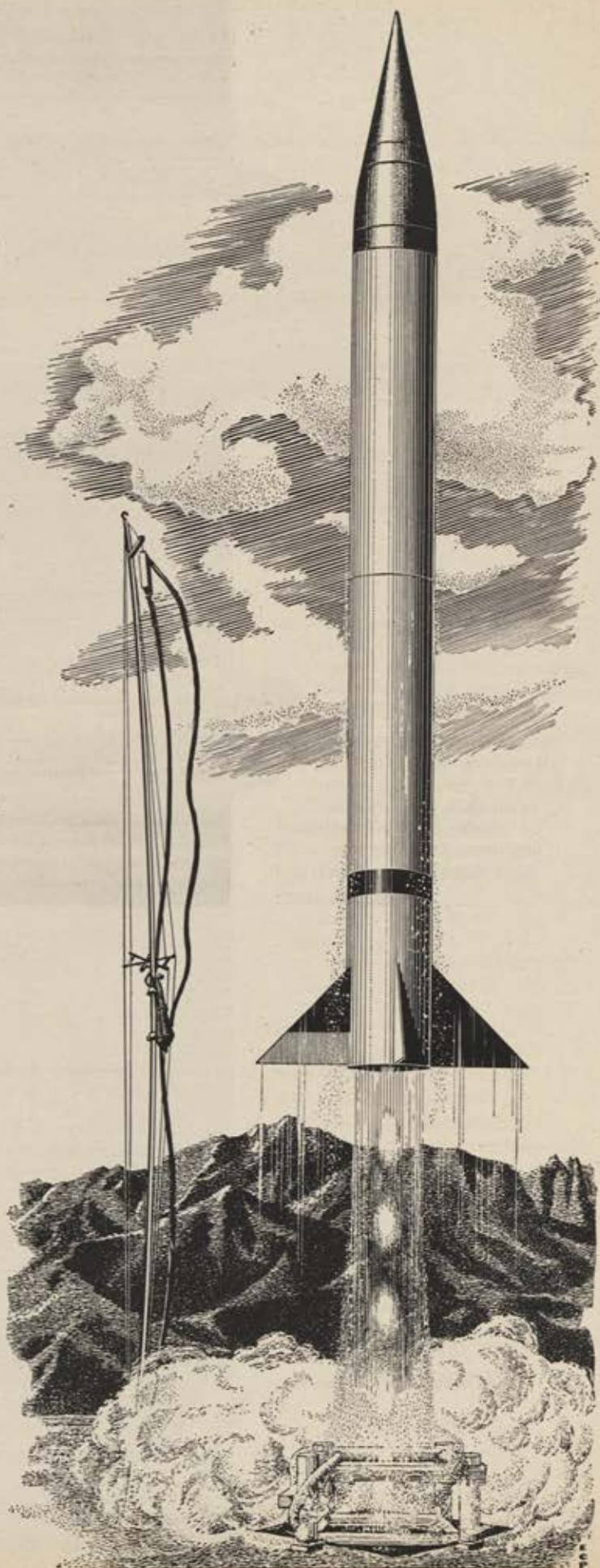


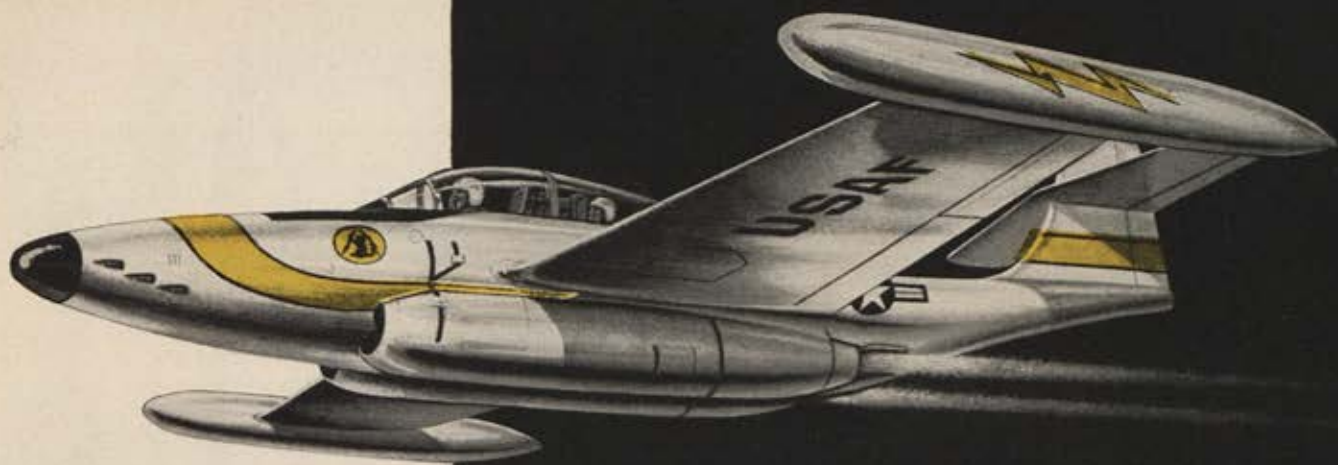
AIRCRAFT

Builders of Dependable

Aircraft Since 1909

Developers and Manufacturers of: Navy P5M-1 Marlin seaplanes • Air Force B-57A Canberra night intruder bombers • Air Force B-61 Matador pilotless bombers • Navy P4M-1 Mercator patrol planes • Navy KDM-1 Plover target drones • Navy Viking high-altitude research rockets • Air Force XB-51 developmental tactical bomber • Martin airliners • Guided missiles • Electronic fire control & radar systems • **Leaders in Building Air Power to Guard the Peace, Air Transport to Serve It.**





INFORMATION ON POSITIONS AT NORTHROP

Northrop Aircraft, Inc. is engaged in vitally important projects in scientific and engineering development, in addition to aircraft production. The program is diversified, interesting and long-range. Exceptional opportunities await qualified individuals.

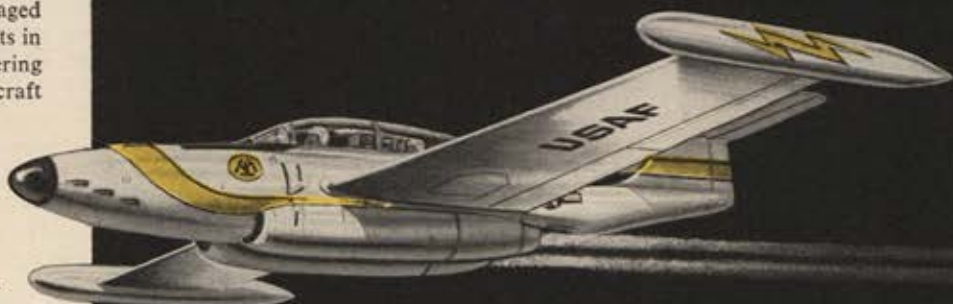
The most responsible positions will go to top-caliber engineers and scientists. However, a number of excellent positions exist for capable, but less experienced, engineers. Some examples of the types of positions now open are:

BOUNDARY LAYER
RESEARCH SCIENTISTS...
ELECTRONIC PROJECT ENGINEERS...
ELECTRONIC INSTRUMENTATION
ENGINEERS...RADAR ENGINEERS...
FLIGHT-TEST ENGINEERS...STRESS
ENGINEERS...AERO- AND
THERMODYNAMICISTS...SERVO-
MECHANISTS...POWER-PLANT
INSTALLATION DESIGNERS...
STRUCTURAL DESIGNERS...ELECTRO-
MECHANICAL DESIGNERS...ELECTRICAL
INSTALLATION DESIGNERS...
ENGINEERING DRAWING CHECKERS

Qualified engineers and scientists who wish to locate permanently in Southern California are invited to write for further information regarding these interesting, long-range positions. Please include an outline of your experience and training.

Allowance for travel expenses.

Address correspondence to
Director of Engineering,
Northrop Aircraft, Inc.
1045 E. Broadway,
Hawthorne, California



ON GUARD!

Guardians of the upper reaches of the Western Air Defense Command are the men of the 84th Squadron, at Hamilton Air Force Base. The 84th flies the U. S.

Air Force's new all-weather interceptors —
fast, deadly *Northrop F-89 Scorpions*.

Northrop Aircraft, Inc.
Hawthorne, California

Pioneer Builders of Night and All-weather Fighters



PEOPLE

In The Air News

Maj. Frederick C. Blesse, who is jet ace number 19 and the leading jet ace of the Korean war with eight MIG-15s and one LA-9. Blesse is 31, a West Pointer with seven years' service. Now on his second combat tour, he's with the 4th F-1 Wing. Earlier he flew F-51s and F-80s in Korea. His wife and son live in Phoenix, Ariz. His parents live in Richmond, Va.



Capt. Robinson Risner, F-86 Sabrejet pilot with the 4th F-1 Wing in Korea, is jet ace number 20. He bagged MIGs four and five Sept. 22 on his 57th mission. He made his first kill Aug. 5. Risner, whose wife lives in Oklahoma City, entered service as a member of the Oklahoma Air National Guard. His parents live in Tulsa, Okla.



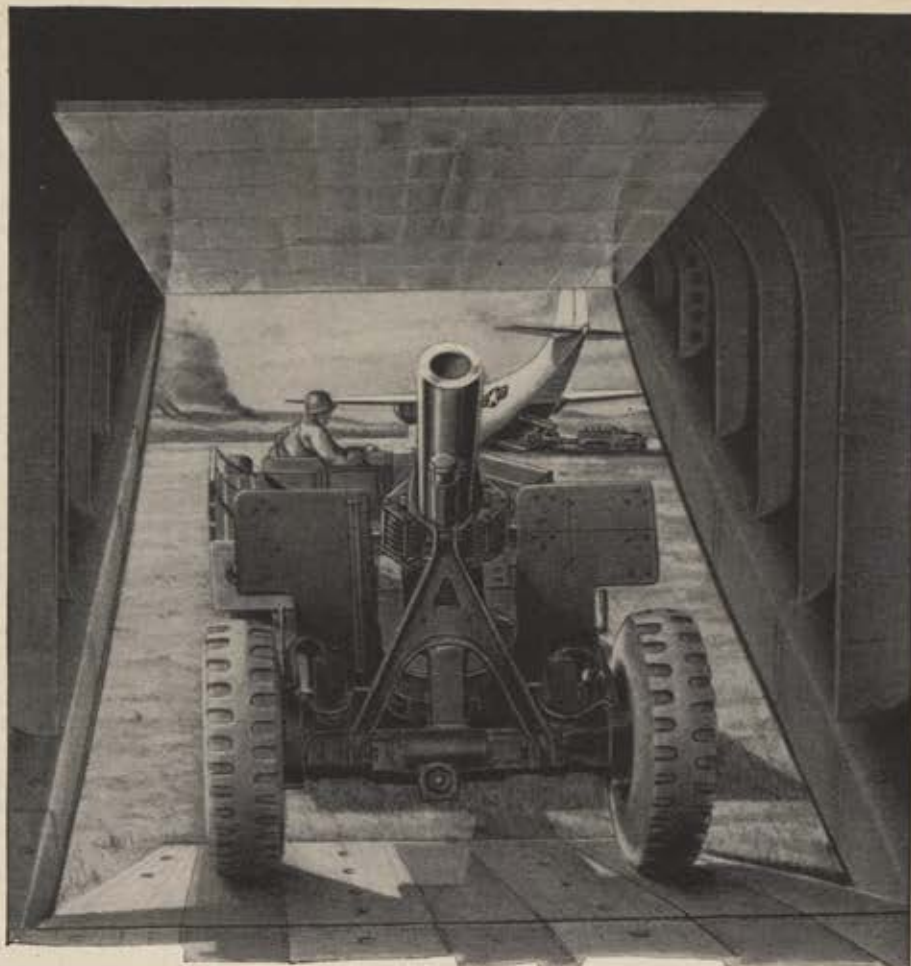
Elton J. Smith, Bell test pilot, who has set a world's distance record for helicopters. He flew a Bell Model 47D-1 (AF H-13D) 1,234 miles non-stop from Fort Worth, Tex. (his home) to Buffalo, N. Y., in 13 hours with enough gas left for 275 more miles. This beat the official record by 530 miles and the unofficial record by 278. Smith was an AF captain in World War II.



Capt. Jesse M. Allen, F-80 pilot with the veteran 8th Fighter-Bomber Wing in Korea, who turned down rotation after his 100 combat missions for a second go-around. Allen, 26, was an airman in WW II. He was recalled in 1950 and went to Korea in August



'51. "Flying combat is my job. I was trained for it," the Fisher, Ill., pilot says.



here's "HOW"...

Small unprepared fields—even in combat zones, present few difficulties to Chase Assault Transports. Heavy duty howitzers, with crews and prime movers are delivered to front line areas **by landing** ready for immediate employment—no time lost due to unpacking or reassembly.

The Chase Assault Aircraft is the only plane designed for this specific function and has more than fulfilled the exacting requirements of military necessity.



CHASE AIRCRAFT CO., Inc.
WEST TRENTON, NEW JERSEY



IMMEDIATE SAVINGS NOW COMPLETE AUTO INSURANCE

SAVINGS
TO
30%



... from prevailing board rates which apply in your territory can be YOURS on this complete, low cost Automobile Insurance Policy. GOVERNMENT SERVICES INSURANCE UNDERWRITERS can reduce costs to you because they deal direct with a highly selected and specialized class of policy holders. Protection against loss from bodily injury and property damage, liability medical payments... accidental death... comprehensive personal liability... comprehensive fire and theft coverage. Covers collision damage to your car. Covers towing. Remember, once a policy holder, INSURANCE is always available to YOU! Former Air Force men who know your problems handle your policies.

HOUSEHOLD CONTENTS FLOATER POLICY

This Floater Policy covers everything personal anywhere in the U. S. or abroad. It protects your household goods, clothing, uniforms, furniture, jewelry and valuable personal effects. Insures you against 14 named perils. Greatest coverage protection at lowest cost.

GOVERNMENT SERVICES INSURANCE UNDERWRITERS

Not Affiliated With United States Government

MAIL
THE
COUPON
FOR
FULL
DETAILS

GOVERNMENT SERVICES INSURANCE UNDERWRITERS
214 BROADWAY SAN ANTONIO, TEXAS

NAME.....
ADDRESS.....
AGE..... RANK..... MARRIED..... SINGLE.....
Car Description..... Annual Mileage.....
Business Use..... AGES OF DRIVERS.....

2 Great Policies for Preferred Air Force Personnel

KEEP POSTED
ON AIRPOWER...
READ AIR FORCE
MAGAZINE

DON'T DELAY... CLIP AND MAIL TODAY!

SUBSCRIPTION FORM

11-52

YES! I'd like to receive AIR FORCE Magazine every month. Please start my subscription with the next issue. I am enclosing ☐ check ☐ money order for \$4 for a year's subscription to The Magazine of American Airpower. ☐ new subscription ☐ renewal

AIR FORCE MAGAZINE 1424 K St., N.W., Washington 5, D. C.

NAME.....

ADDRESS.....

CITY..... ZONE..... STATE.....

Wing Tips

With the prospect of airliners approaching each other at speeds of 500 mph in the near future, high-intensity lights visible twenty to thirty miles will be necessary to provide the one minute warning considered to be the minimum for safety.

In good weather at 20,000 feet an air traveler can see 175 miles to the horizon in all directions. When visibility permits, he can see an area of the earth equal to the total of Pennsylvania, Massachusetts, Connecticut, Rhode Island, Vermont, Maryland, and New York.

Meals served by your airline stewardess last year cost the domestic airlines \$18 million. That was more than it cost to maintain all the aircraft in the airline fleet of 1945. The food bill was high despite the fact that the average passenger's digestive system is one-third less effective at 10,000 feet.

The world's airlines employ nearly 5,000 stewardesses. US applicants must be from 21 to 26 years old, from 5 feet 2 inches to 5 feet 7 in height, and their weight must be no more than 135 pounds. They must also be single—a status which the average hostess maintains for twenty-nine months.

The nation's sky girls come from all walks of life—teaching, hat checking, ballet dancing, elevator operating, professional ice skating, and secretarial work.

According to present mobilization plans, the scheduled airlines are to make 331 four-engine transport aircraft available to the government on forty-eight hour notice. The military thus has a quarter of a billion dollars-worth of transport equipment on hand if it needs it, to support operations anywhere in the world.

Air express has just celebrated its twenty-fifth birthday. There are now 1,100 air express offices, and 286 daily flights make it possible for shipments to be delivered overnight to almost any place in the country.

The US aircraft industry now has a record backlog of half a billion dollars-worth of commercial transport aircraft on order. Of the total of 456 planes to be produced, 166 are slated to go to foreign airlines.

Government entomologists with a flare for statistics estimate that in a recent aerial assault on grasshoppers infesting 2½ million acres of land in the West, 522 million of the enemy were killed in two weeks. That, they say, was enough grasshoppers to fill an average city block to a height of 400 feet.

The United Nations is getting more air-minded. About two-thirds of all international trips by UN employees are now made by air—a 100 percent increase in the past three years.

June 1952 was the first month in airline history that US scheduled trunklines accounted for more than two million passengers. It is estimated that domestic scheduled airline travel for the full year 1952 will be close to 11.6 billion passenger miles, a fourteen percent increase over the record year 1951.

—By Wilfred Owen



Pin-pointed for its target...

Increasing air speeds and higher level flight pose ever tougher problems for bombing accuracy. Finer and faster target pin-pointing requires bombing mechanisms of extraordinary precision and almost instantaneous action—yet they must function flawlessly under the most rigorous conditions. Not only engineering ingenuity but precision manufacture—

to ultra-fine tolerances—is essential. Such are the skills that Arma provides in close collaboration with our Armed Forces in designing, developing and producing the complex instruments that strengthen our defensive striking power. *The Arma Corporation, Subsidiary of American Bosch Corporation, Brooklyn, N. Y.; Mineola, N. Y.*

ARMA

FOR THE ADVANCED IN CONTROLS





Look quickly . . . it's a COUGAR!

You need a fast eye to catch the Navy's new GRUMMAN COUGAR in flight. Notice the pluming vapor trails formed by fuel jettisoned from auxiliary wing tanks. Cougar pilots dump extra fuel as a safety factor prior to engaging in combat and before returning to their base. A swept-wing successor to the battle-proved PANTHER, this powerful turbo-jet fighter is now moving off production lines to active operation with the Fleet . . . next move Korea.

GRUMMAN AIRCRAFT ENGINEERING CORPORATION, BETHPAGE, LONG ISLAND, NEW YORK

Contractors to the Armed Forces

KNOW YOUR ENEMY

We must get down to cases with Communism and recognize it for what it is—a system aimed at enslaving men's minds

IN ITS LONG and continuous struggle for adequate airpower for America, Air Force Association has consistently demanded that we measure our defense effort in terms of the enemy capability—what he can do to us. Up to now we have pretty much couched our discussions of the Red threat in terms of things—numbers and kinds of aircraft, numbers and kinds of bombs, numbers and kinds of guided missiles. As a result our thoughts on war and the threat of war tend to become rather impersonal. Our defense effort and national strategy take on the aspect of a giant chess game.

What is lacking in this point of view is the realization that we are presently engaged in a different kind of struggle. Communism and Communists are not a nebulous “enemy”—like the “Reds” or “Blues” in war games—but a solid and substantial threat to everything we hold sacred. To realize this is essential to any kind of understanding of what now faces America and the free world—an understanding which, unfortunately, is by and large sadly lacking.

A recent letter from one of the readers of AIR FORCE Magazine, in my opinion, touched the nub of the matter. He deplored the fact that we too often in speaking and writing refer to the enemy as the Commies—a gentle, almost friendly term, too much like the nickname we might apply to a baseball team. We even read the news from MIG Alley in terms of box-scores, much as we scan the sport section. We simply are not getting down to cases with Communism and recognizing it for what it is—a system which aims at the enslavement of the minds, the wills and the souls of men.

That is why I recommend to your attention the article beginning on page 23 of this magazine. It is a shocking story. Any story that tells the truth about Communism is bound to be shocking. But I ask everyone to read it carefully and to reflect on its implications.

Briefly it is the story of how the Reds extorted phoney “confessions” from two American flyers captured in North Korea to document their own palpably untruthful charges that the US Air Force was employing bacteriological warfare. It gives as keen an insight into what Communism really is as anything I have read. Much of the material, thanks to Col. Driscoll's fine research, is being presented publicly for the first time.

At the same time, there is encouraging evidence

that the enemy is not infallible. Col. Driscoll's examination of the captured flyers' statements and his comparisons with other Russian-style “confessions” reveals the repetition of stock Red phrases which brand the documents as faked to anyone familiar with the way American flyers think and talk.

Unfortunately, the Asiatic peoples at whom the propaganda is directed are not so familiar and its effect on them has been terrifyingly deep. The damage that this propaganda effort has wrought is incalculable, and it may be years before the true facts are made known. But certainly we owe it to ourselves to get at the truth.

Some AFA squadrons have already taken the initiative in this matter of learning about Communism. They are building their meetings around an intensive educational program aimed at learning more about this enemy. I ask all units to make this a continuing objective.

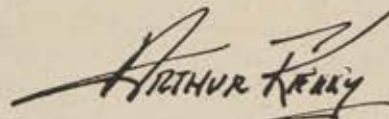
Such an understanding of the enemy is essential to knowing what we need to combat him. Which brings us right down to why we are in business—airpower.

Certainly an understanding of what Communism is and how it threatens our way of life will serve as an added spur in our fight for adequate airpower for this nation. For as the nature of the threat becomes increasingly clear so does the necessity to maintain the forces in being adequate to cope with the threat.

A “Know Your Enemy” campaign, or any other form of psychological warfare, is only as good as the physical forces we have available to back us up.

It all wraps up to a pretty convincing package, this business of Communism and airpower. We members of Air Force Association know, through bitter experience, that airpower can hurt. The Communists know this, too. In fact, it is the most immediate means through which pressure can be brought to bear on these people who make a mockery of all we hold dear.

Working for airpower is our best way of fighting Communism. Knowing about Communism is the best way to get enthusiastic about airpower. We must build ourselves into a position where we can lead from strength rather than weakness in this battle for the minds of men. We must never let ourselves forget the tortures experienced by these two captured flyers. That should be incentive enough to continue to work to stop Communism in its tracks, with the weapon best fitted for the job—American airpower.



PRESIDENT, AIR FORCE ASSOCIATION

Proxy air-strip proves Sabre Jet brakes



It measures up! Harvester simulates actual braking pressure under flight conditions to test every F-86 brake.

International Harvester is no stranger to production of material for the Armed Forces. Research, rigid inspection, the finest in machines and plant installations have stood behind IH production of weapons, as well as machines for food, in two world wars.


That same manufacturing and engineering skill is now working for the Air Force by producing brakes designed by Bendix Aviation Corporation for use on the North American F-86 Sabre Jet. Other airplane components, including landing gear struts, also are being produced for Army cargo and fighter planes.

For well over a century our business has built an ever-increasing variety of machines and equipment to serve agriculture, industry and transportation. Here is accumulated know-how that stands behind our ability to keep *precision* manufacturing on a *mass production* basis and enables us to make a positive contribution to America's expanding air power.



Tests were passed. Assembly on brake is completed as dust cover is attached.



INTERNATIONAL  HARVESTER

HOW TO DO BUSINESS WITH ARDC

CONTRACTORS who are interested in participating in the Air Force's research and development program will find a simple guide in ARDC's new publication, "Research and Development in the United States Air Force."

The Air Research and Development Command is responsible for R&D and the technical quality of the Air Force's materiel and equipment. Its mission, the publication points out, is to seek new basic knowledge; develop new and improved devices, processes, and techniques; and maintain qualitative superiority of materiel.

ARDC, which procures basic research, applied research, and development, cannot always use the standard buying systems found in other military agencies which use production materiel. Drawings, specifications, and sample items are generally not available, qualitative requirements are frequently mere descriptions of desired results, and many projects consist of theoretical or experimental studies.

A list of industrial and scientific agencies qualified to take part in R&D projects is kept in a special file at ARDC and at the various Centers. The procurement office at Headquarters is responsible for a master file, which contains sources for specialized technical equipment.

Individuals, groups, scientific and industrial organizations interested in qualifying as a source and being listed in the master file should write to Headquarters ARDC, Box 1395, Baltimore, Md., or one of the Centers.

ARDC Centers include: AF Flight Test Center, Edwards AFB, Calif.; AF Special Weapons Center, Kirtland AFB, N. M.; AF Missile Test Center, Holloman AFB, N. M.; Arnold Engineering Development Center, Tullahoma, Tenn.; AF Missile Test Center, Patrick AFB, Cocoa, Fla.; AF Armament Center, Eglin AFB, Fla.; Wright Air Development Center, Wright-Patterson AFB, Ohio; Rome Air Development Center, Griffiss AFB, Rome, N. Y.; and AF Cambridge Research Center, 230 Albany St., Cambridge 39, Mass.

For copies of the booklet, write ARDC Headquarters.



PRECISION HEATER EQUIPMENT

Designed for Dependability . . .

Because of their functional design, the high performance characteristics of ADEL Fuel Heater Pumps have been proven by efficient flight operation over many millions of air miles. Designed to Military Specifications. Compact, lightweight and built to one single standard of excellence in quality, you may be certain that ADEL equipment will assure you top aircraft performance and dependability.

ADEL equipment is on the world's best aircraft because in Aviation there is no substitute for ADEL quality.

Typical electric motor driven fuel heater pumps designed for pumping aircraft heater fuel; also light oils, kerosene and other light liquids. Available with Radio Noise Filters.



#20093

4 G.P.H. at 40 P.S.I.
Continuous 28 V.D.C. motor
Weight 1.45 lbs.



#18470

30 G.P.H. at 60 P.S.I.
Continuous 12 and 27.5 V.D.C. motors
Weight 3.0 lbs.



#20386

Pump housing includes adjustable by-pass relief valve.
25, 30, 45 and 60 G.P.H. at 20, 30 and 40 P.S.I.
Continuous 27.5 V.D.C. Motors
Weight 3.3 lbs.

ADEL also produces a complete line of aircraft HYDRAULIC & PNEUMATIC CONTROL EQUIPMENT, ANTI-ICING & FUEL SYSTEM EQUIPMENT, ENGINE ACCESSORIES and LINE SUPPORTS.



Write for new, descriptive Brochure containing detailed information on ADEL'S line of Aircraft Equipment and facilities. Address: ADEL DIVISION, GENERAL METALS CORPORATION, 10759 Van Owen St., Burbank, Calif.



DIVISION OF GENERAL METALS CORPORATION • BURBANK, CALIF. • HUNTINGTON, W. VA.

CANADIAN REPRESENTATIVE: RAILWAY & POWER ENGINEERING CORPORATION, LIMITED



CONCEPTION TO COMPLETION

In the field of Guided Missiles an engineering team which can carry a program forward from the very conception of the idea to the completion of a missiles weapon system is essential. Such a team is at work in Fairchild's Guided Missiles Division. Supporting this experienced engineering team is a production organization which has produced complete missile weapon systems for all three branches of the Armed Services. Recently Fairchild completed this country's first privately built plant devoted exclusively to missile design, development and production.



ENGINE AND AIRPLANE CORPORATION

FAIRCHILD

Guided Missiles Division

Wyandanch, L. I., N. Y.

Other Divisions: Aircraft Division, Hagerstown, Md.

Engine Division, Farmingdale, N. Y.

Stratos Division, Bay Shore, L. I., N. Y.





Lt. Kenneth L. Enoch being questioned by Joint Interrogation Group of North Korean and Chinese specialists.

IT COULD HAVE BEEN YOU

How Red mental torture methods forced two captured American flyers to become unwilling participants in one of history's cruellest hoaxes—the germ warfare fraud

By Colonel John J. Driscoll

"Only those acts are moral which contribute to the building up of a new Communist society."—Radio Moscow, August 20, 1950.

LAST January 13 a B-26 roared down the runway at Kunsan, Korea, bound for a routine night interdiction mission into North Korea. At its controls was 1st Lt. John S. Quinn, USAF, serial number 17933-A. Quinn, a 30-year-old Regular, was known as a good average pilot. Although a veteran of World War II he had got his first taste of combat in the Korean war. His wife, Mildred, awaited his return in Altadena, Calif.

Quinn's observer was a Reservist, 1st Lt. Kenneth L. Enoch, serial number AO-206988. Enoch, 27, hailed from Youngstown, Ohio. Like Quinn, the records show that his World War II service had all been Stateside.

At 10:40 that night the base received a routine position report. The B-26 was still inbound to the target. At 11:30 a friendly aircraft picked up another transmission as the plane was turning on target. As the official records put it, "no further transmission was received." Enoch and Quinn were listed as missing in action.

There was nothing in the circumstances surrounding their last mission, nor in their

previous history, to indicate that these two officers were to become the innocent victims of one of history's most infamous hoaxes. Yet, only a few weeks later the world was startled when the Reds produced detailed "confessions" by Enoch and Quinn to document charges that the USAF was employing bacteriological warfare in North Korea.

Absurd as those charges may seem to us, the effect on Asiatic peoples was to set off a wave of anti-American sentiment. I found it so in Hong Kong, in Indo China, in India, everywhere I went during a recent visit to the Far East. The effect on "middle-of-the-road" Europeans was no less disconcerting, as I learned later in Paris.

But these emotional reactions were largely by-products. It takes a lot of work to deceive the world and the Reds were aiming for some major objectives:

- They built up political capital to use at the truce talks.
- They turned their own deficiencies in preventive medicine into an asset and had a ready-made alibi for the epidemics that reportedly are ravaging North Korea.
- They created a situation in which Soviet-devised biological agents may be used against the free world under the guise of "retaliation."
- They devised an issue to bring up at the peace conference which must follow any Korean armistice. They now have a

AIR FORCE
NOVEMBER 1952

IT COULD HAVE BEEN YOU

counter-threat should the UN demand war crimes trials with North Korean and Communist defendants.

The groundwork for the big hoax had been carefully laid, more carefully than the average American realizes. Russia knew that the relatively uneducated masses of the world had to be told of the possibilities of germ warfare before actual charges could be hurled.

The pattern had begun to take shape as far back as December 1949, when a Soviet military tribunal, sitting at Khabarovsk, Siberia, placed on trial twelve former members of the Japanese armed forces. The charges—"preparing and employing the bacteriological weapon" in World War II.

As long ago as August 1946 the Japanese biological warfare experimental program had been categorized as a "dead issue" by the International Military Tribunal for the Far East, a body on which the Soviets were represented. Nevertheless, within six months of the Communist invasion of South Korea, the Reds revived the abandoned case.

The author has no assignment either in psychological warfare or intelligence. He writes in personal indignation from sources available to anyone willing to take the trouble to consult them. These are his personal views, not those of the US Air Force.

—The Editors.

Their principal propaganda dividend was the opportunity to publish and distribute, at the trial's end, what amounted to a fairly comprehensive textbook on BW. The volume, bearing a Moscow 1950 imprint, went on sale in several languages in Communist bookstores throughout the world. I have a copy of the cloth-bound English version bearing the innocuous title, "Materials on the Trial of Former Servicemen of the Japanese Army Charged with Manufacturing and Employing Bacteriological Weapons." I bought it for fifteen cents (I'd guess about a tenth of its production cost) from a sidewalk vendor in Calcutta. Containing detailed "confessions" of the Japanese prisoners, it provides excellent background on the "devising, manufacture, and tactical employment" of biological weapons.

After the invasion of South Korea the time was ripe for launching the big hoax. At first a steady stream of "prepara-

tory" propaganda poured from all Red sources—reports of epidemics in North Korea, charges that MacArthur was preparing to scatter germs, charges of biological experimentation on Red prisoners of war by US and Japanese scientists. Then a broadcast of the Chinese International Service from Peiping on March 5, 1951, accused the US of using poison gas and bacteria in North Korea. But the preliminary campaigns were badly coordinated, a fact that evidently was as painfully apparent to the Communists as it was to the outside world. For the blasts ended suddenly, in July, 1951, winding up with demands for "the arrest and trial of MacArthur, Ridgway, and the organizers of American intervention in Korea."

Evidently the Reds got together to plan their next attempt. I was told that many high level meetings took place between North Korean and Chinese propagandists, with direct participation by Soviet propaganda experts from Moscow.

The plans were carefully drawn. Finally, on February 21, 1952, a Chinese Communist news agency reported that the United States was dropping on North Korea bombs which contained "insects infected with the bacilli of the plague, cholera, and typhus." Rapidly and simultaneously the bogus "bug warfare" charges and the Soviet "hate America" campaign hit a crescendo of virulence.

Like all Communist propaganda, the BW charges were "well-documented." Photographs of burst "germ bombs" were published in the Communist press. Other photos purported to show "disease germs" and "disease-carrying insects" under a microscope. The so-called "germ bombs" were actually leaflet containers and top US scientists said the germs and insects the Communists had pictured were either harmless or not the type the Reds had labelled them.

But the charges persisted despite US denials. General Ridgway told a Joint Session of Congress, "I wish to reiterate what I have repeatedly stated publicly, that these allegations are false in their entirety; that no element of the United Nations command has employed either gas or germ warfare in any form at any time."

Secretary of State Acheson said, "I would like to state categorically and unequivocally that these charges are entirely false."

and press, who picture the Chinese as barbarian criminals, and who lead American troops to believe that, if captured, they will be shot, or worse I am beginning to see very clearly just who is the peace-lover and who is the warmonger responsible for this inhuman war and I am determined to struggle for peace against Wall Street capitalism, to clear my conscience of my past crimes. I am filled with determination to join the peace-loving camp, and with the determination to become a new man.

Kenneth L. Lush
8 April, 1952

The Enoch Statement





Three famous figures who made phony confessions under Red mental torture. Robert Vogeler, left, subsequently served fifteen months in a Hungarian prison when he was ransomed



by the US government. William Oatis, center, Associated Press correspondent, is still in jail in Czechoslovakia. Cardinal Mindszenty, right, is shown with his "defense" counsel.

The French Communist scientist Joliot-Curie endorsed the germ warfare charges and was roundly denounced by twelve Nobel prize-winning scientists.

The US proposed an investigation in North Korea by the International Red Cross. Russia refused, on the grounds that the "evidence" was irrefutable.

According to the Communists, the clincher in this mass of "irrefutable evidence" was the "confessions" by Lieutenants Enoch and Quinn that they had dropped "germ bombs" on North Korea. The "confessions", made in radio broadcasts and written statements, appeared to be complete and uncomfortably convincing. While in Hong Kong I bought copies of a Red publication, "People's China," in which the statements appeared.

I have no doubt but that Enoch and Quinn said and wrote what the Reds say they did. The \$64 question is, Why?

Certainly Enoch and Quinn were not the first. Other rep-

utable persons have made the same sort of "confession"—Cardinal Mindszenty, American businessman Robert Vogeler, Associated Press correspondent William Oatis, and others. What we need to understand is the methods by which such apparently voluntary "confessions" are wrung from strong-minded, high-principled men.

The answers lie in the Communist-devised methods of interrogation, beside which the rack and thumbscrew begin to seem relatively humane. Physical torture, in the Communist book, generally is reserved for the lower classes, which are not susceptible to exploitation in a dramatic courtroom "confession." The educated individual usually is broken in more insidious ways, ingeniously devised so that his "confession" appears to be entirely voluntary and so that he can be produced, physically unmarked, in public.

The basis of this mental torture is incredibly prolonged questioning, often by teams of interrogators working in



world will arise and condemn this
crime of germ bombs and bacteriological
warfare which has been started by
the U.S. imperialists of wall street.
I hope that the American people
learn the truth and rise up against
these war mongers wall street
must not be allowed to bring on
a third world war which would
be a disaster to all the peace
loving people of the world

John Quinn
14 April, 1952

The Quinn Statement

IT COULD HAVE BEEN YOU

shifts. This is combined with lack of sleep, threats to friends or relatives, drugs, and in many cases, hypnosis, to create a state of fatigue and apprehension that borders on, and often produces, a complete mental collapse.

Robert Vogeler, in his book "I Was Stalin's Prisoner," graphically describes the Communist methods. Vogeler, an American executive of the International Telephone and Telegraph Company, was arrested in Budapest and charged by the Red Hungarian government with espionage and sabotage. After seventy-one days of "the treatment," he "confessed" and spent seventeen months in a Hungarian prison before he was ransomed by the United States government. Excerpts from his book appear on page 27.

Wherever behind the Iron Curtain these atrocities occur, an ominous pattern emerges. There certainly is no reason to believe that the Asiatic brand of Communism is any less clever or more merciful than its European contemporaries. On the contrary, there is ample evidence to indicate that the two Air Force lieutenants, Enoch and Quinn, have had no easy time of it.

One such piece of evidence is a letter, recently received in this country by a personal friend of the managing editor of this magazine. The letter was written by a Belgian Catholic missionary, Father Richard Cocquyt, a veteran of twenty years in China, including four in a Japanese concentration camp. The recipient knows Father Cocquyt well, having shared his concentration camp experiences. The letter is a frank and detailed portrayal of the kind of mental and moral breakdown that Communist torture has been able to produce in intelligent, high-minded men of all faiths.

It is perhaps as clear a picture of Communist methods and procedures as anything that has come out of Red China up to now.

Father Cocquyt's ordeal went beyond mere extraction of a confession and into the realm of what the Chinese call

"brain-washing"—the removal of specific past recollections from one's mind. The brain is cleansed of past knowledge and beliefs and is receptive to whatever new ideas are presented to it. It is ready for positive indoctrination.

Father Cocquyt was arrested on August 4, 1951, and charged with crimes against the state. He was convicted and sentenced to deportation on August 6, 1952—more than a year of "the treatment."

His ordeal was divided into four phases. The first lasted a month, of which twenty-three days were spent virtually without sleep. For two continuous weeks he was forced to stand in the center of a room, his hands manacled behind his back, the guards exhorting him to "repent and confess."

The next three months were easier. He could walk up and down in his room, though still manacled. He could sleep. But he saw no one except his guards and spent each day writing his "sins" and "trying to repent."

"I went into a kind of mental imprisonment," wrote Father Cocquyt. "My senses began to give in to a sort of hypnosis, which I can't explain to this day. I began to suffer from vivid hallucinations."

"For example, I heard a close friend, a priest, screaming under torture. Day and night I heard him until he lost his mind and was taken away. Later he told me that he had never been in that prison, nor had he ever been tortured . . .

"I lost the ability to distinguish between dreams and reality but I still clung to my free will. Later they took even that away and I became their captive—body and soul."

The next three months were the tantalizing phase. The specter of freedom was alternately dangled before his eyes and snatched away. He was told that China had been liberated from the Reds, that Chiang was in Shanghai, that the UN armies were victorious in Korea. He was told that the new government was friendly to Catholicism and if he would only cooperate he could carry on his mission work.

Once the "brain-washing" was deemed successful he was forced to undertake the final, or indoctrination, phase of the torture. His manacles were removed, he was given Communist literature, and embarked on a rigid schedule.

From five each morning until ten at night he was subjected to the same routine daily for five months—read Com-



STOCK PHRASES IN PHONY CONFESSIONS

JAPANESE

Kawashima—I realized that the crimes I had committed were shameful not only for me, but for the whole of my country and I repented of them.

Karasawa—I realize the full gravity of my guilt and I repent of the crimes I committed.

Yamada—I realize the whole gravity of my guilt.

Kajitsuka—I repent of having been implicated in these crimes. I feel guilty towards the people for the crimes I committed.

Sato—I fully repent of the crimes I committed.

Mitomo—I fully realize my responsibility. I repent of having participated in the crimes.

AMERICAN

Enoch—I have seen the truth as printed by the democratic Chinese press; and all these truths and kind treatment show all the more clearly the lies and the untruthful war propaganda of the Wall Street radio and press . . . I am determined to clear my conscience of past errors . . . I am filled with the determination to become a new man.

Quinn—I have been treated far better than a person who had committed even much lesser crimes deserves to expect . . . At last . . . I realized my crime. My own conscience burdened me a great deal, and it is very good to be rid of this burden, to confess and repent . . . I have realized my terrible crime against the people. I ask that the people can see it in their hearts to forgive me for this crime.

munist literature, then meditate on it while facing a blank white wall. The routine was broken only by two meals daily—two small cakes, a plate of vegetables and a cup of warm water—plus strictly supervised visits to the latrine. He was given ten pamphlets, which had to be read and meditated upon over and over. Red ideas were bound to begin to sink into a mind weakened by months of torture. He became, as he put it, "their slave." He had visions of becoming a cog in the new "Communist Catholic Church" which he had been told would arise in China if the missionaries would only cooperate. He signed anything, admitted anything.

Finally, after more than a year had passed, he was hailed once more into court, convicted on his own statement, and expelled from China. He wrote that he was seeking the advice of a specialist in mental ailments immediately upon his return to Belgium, for he truly cannot account for his own tragic actions.

This is but one example, of which I have personal knowledge and from a source which I trust. There are hundreds more, all well-documented. They make an ominous pattern, whether the scene be Moscow, Budapest, or half-way around the world in Korea. If the pattern has an apparent weakness it is this—that the "brain-washing" technique induces the repetition of stock Communist phrases. "Wall Street capitalism," "peace-loving camp," "confess and repent," "US imperialist warmongers," etc., appear again and again. The striking similarity between parts of the "confessions" of Enoch and Quinn and those of the Japanese defendants (see page 26) brings out this fact clearly. To an American the thought of a US flyer employing such phraseology is almost ludicrous but for Red internal consumption they sound fine.

There is no question in my mind but that these fiendish techniques forced the two Air Force lieutenants to lend their names to the Soviet propaganda.

What the Air Force specifically can do to prevent future Enochs and Quinns from becoming unwilling luckless tools of the Soviet propaganda machine is another story.

Our job is to cease our defensive strategy in the psychological warfare field and to take the initiative for a change. Fortunately, there are encouraging signs that such a revision of tactics may be in the making.

Certainly our medics should be looking into the problem of conditioning the human mind and body to withstand such an ordeal. Our chaplains face a spiritual problem which is fully as important as the physical and mental ones which accompany it—and against which some exceedingly spiritual men have struggled in vain.

Certainly our intelligence people should be going all out in this direction, for it is as important to know how the enemy thinks as how he acts. We must become more aware of the human element that is implicit in this struggle against the most vicious conspiracy the human spirit has ever faced. We must learn that this war against Communism is far, far more than MIG vs F-86 or even pilot vs pilot, but is a struggle for the minds and souls of men. We must give our airmen an idea of what they are facing, beyond "tell them only your name, your rank, your serial number."

Obviously, and I want to make this clear, no blame can be attached to Lieutenants Enoch and Quinn. Their case should be approached from the viewpoint of "There, but for the grace of God, go I." They were forced to become innocent tools of the most vicious conspiracy in history. They were unfortunate enough to be captured at a time convenient to the Red propaganda schedule. It could have been any pilot bailing out over Red territory. At some future date it could be me—or you.—END

Ordeal in Hungary

*Excerpts from Robert Vogeler's story
of his interrogation by the Reds*

EVERY FOUR hours No. 1 and his secretary would leave the office, and for the next four hours I would have to write . . .

"I was the only one who got no rest. Every time the guards were changed, I was given another cup of coffee. I was also given all the cigarettes that I could smoke. Except for the two small sandwiches, however, I was given nothing to eat until Monday afternoon. The desk lamp was trained on my eyes throughout the entire period of the 'preliminary investigation.'

"By Saturday afternoon I was ravenously hungry, but whenever I mentioned food No. 1 replied, 'Only after you've signed a full confession. . . .'

"Generally, as my fatigue increased, my hunger lessened. Late on Saturday night, I remember, I fell out of my chair from sheer exhaustion. The agents picked me up, emptied a pitcher of water over my head, and gave me a vigorous shaking. . . .

"By Sunday afternoon I was suffering from hallucinations, some of which were extraordinarily vivid. . . ."

After this preliminary inquisition Vogeler then was moved to another place, "next to a room in which other prisoners, women as well as men, were tortured every night. Their screams were obviously calculated to drive me to distraction.

"The electric lights were never turned off and I was never left alone. The guards were always present. During waking hours they made me sit at a desk and continue working on my 'autobiography.' During sleeping hours they made me lie on a daybed with my face exposed to the light. I was never allowed to sleep for more than three hours at a time."

At one point in the questioning Vogeler was told:

"If Mindszenty told me what I wanted him to tell me, so will you. Make no mistake about it. Even if Jesus Christ were sitting in your chair, He'd tell me everything I wanted Him to."

Later Vogeler had a cellmate, who explained the difference between treatment of "cultured" and "uncultured" prisoners.

"The Russian police had learned from experience that most 'uncultured' prisoners were of little value to the prosecution in court. . . .

"Cultured prisoners, however, and particularly those who were selected to be the principal defendants, had to be handled with care. It was risky to torture them physically. Too many of them died without confessing, and those who survived too often showed the scars of the treatment they had received. Physical torture was usually eschewed, therefore, in favor of psychological torture. It was a slower process, but its effects were more likely to be satisfactory. Almost all cultured prisoners would confess in the end if they were properly conditioned. Threatening their loved ones, Alex said, was the most effective means of extracting their confessions. The important thing was to excite their imagination and thus drive them to distraction. If hostages were unavailable, the same results could be achieved more slowly by subjecting them to prolonged lack of sleep, malnutrition, excessive stimulation, and solitary confinement."

("I Was Stalin's Prisoner," by Robert Vogeler, Harcourt, Brace and Co., New York, \$3.75.)



Brother, It's the End of the Line

Thule, the AF's arctic outpost, was the biggest secret military operation since the Normandy landings. A 3-day pass? There's no place to go

ON A RECENT day at Thule Air Base, a WAF major strolled casually into the consolidated mess, picked up a tin tray and made her way through the line. This mess, which is about as close to the North Pole as one can go and still find hot roast beef and green vegetables, is patronized alike by officers and men, white and colored, Americans and Danes, Air Force, Army, Navy, Coast Guard, and civilian workers.

But—a WAF, 760 miles inside the Arctic Circle!

"That does it," announced a diner in mock disdain. "It's time to move on. That's the third woman I've seen in a month."

There was, of course, almost nowhere to "move on" to, unless it was Thule's weather alternate 430 miles west at Resolute Bay near the magnetic North Pole, or Fletcher's ice island near the geographical North Pole 930 miles north.

Anyway, not that anyone would be happy about it, the WAF, who had come from Northeast Air Command Headquarters, St. John's, Newfoundland, to set up a library for Thule's approximately 5,000 military and civilian inhabitants, would be gone

soon and the base would be back to "normal," that is, a male reservation.

Lt. Gen. Charles T. Myers, Northeast Commander, wants no excess demands on his logistics and scarce housing, and that means no dependents or other women north of Goose Bay, Labrador, and precious few there.

Myers runs the only unified command situated entirely on foreign soil—Canadian and Danish, Greenland being a colony of Denmark. The command, at the moment, is unified chiefly in the sense that Myers has on his staff two Army and two Navy officers. Apart from that, and from the gigantic construction and supply projects in which inter-service cooperation and cross-service support have been generally praised, the Northeast is an air theater.

It is, says Col. Charles Rankin Bond, Jr., deputy for operations, "one of the foremost strategic areas in the Western Hemisphere," an area "rapidly building up" to meet its "tremendous responsibility" in both air defense and strategic offense.

At the summit, on Greenland's far northwest coast, lies Thule, a name which, as you must be weary of hearing, comes from the ancient "Ultima Thule," meaning northernmost part of the world or, "brother, this is the end of the line."

To reach this "garden spot of the Arctic," which is not entirely a misnomer, you fly 2,732 statute miles north from Westover Air Force Base, Mass., via Goose Air Base and either Frobisher on Baffin Island or Bluie West 8 (Sondrestrom Air Base) just above the Arctic Circle on Greenland's west coast. The Military Air Transport Service has been making the run at an average of four flights a day since April 1951, without a fatality or plane loss.

Thule presses against the Greenland ice cap to the east and juts to the edge of North Star Bay, a slight indentation on the map leading in from Baffin Bay to the west and forming a good harbor for the amazingly favorable base site.

Your first view, as the base comes beneath the plane's wing, is memorable evidence that here Americans have engineered an historic conquest of the Arctic and under agreement

By Charles Corddry

Thousands of American airmen in England are changing the tempo of British life.



Yanks Invade England

A British writer looks at the large areas of England that are as securely under the Stars and Stripes as Capitol Hill

OVER THE PAST two years this country has been invaded by a vigorous, juvenile, generous, frightened, enthusiastic army whose way of life is rapidly creasing the peaceful face of rural England into a perplexed frown. Their influence on English village life, pubs, girls, children, rentals, and dollar income is daily growing more pronounced.

Large areas of the country, mainly in East Anglia and the West Country, are under the Stars and Stripes, as securely American as Capitol Hill—and more is being handed over as required. Their occupants have settled in with their families, schools, hospitals, and shops. By Christmas

they will be operating from more than thirty bases. And they are here to stay; understand that.

No more than necessary has been said, either in Parliament or in Congress, about this new invasion. But a serious problem of human relations is now involved, with two entirely different ways of life being forced into contact. That is why it is important for the British people to understand what the Americans are doing here, and how they feel about us.

Many people, particularly those

living near American bases, seem doubtful whether their presence here is an asset or a liability. The unpalatable fact is, however, that the use of Britain as an American aircraft carrier *must* shorten a war. And the presence of US sonic-speed Sabrejet interceptor fighters here, although meant for the defense of American atom-bomb bases, must ease the strain on the RAF's still thinly-spread fighter defense force.

Star-spangled Skies

Operationally, the Americans show signs of lacking the unspectacular efficiency which we have come to expect from the RAF. The pilots themselves, despite the apparent fre-

By Robert Raymond



quency of headlines about jet crashes, are obviously good.

It was not reassuring, however, on one important exercise with other NATO air forces, to find some pilots being dropped beside their planes for take-off without their inflatable dinghies, in the hope that "there'll be one in the plane"; a jet out of fuel just before take-off; and another entirely unattended when the pilot arrived.

Security is patchy, although maintained by huge numbers of armed Air Police. Anti-aircraft guns are manned night and day at some bases; but when we enquired why clumps of young trees round one bomber base, ideal cover for paratroops, had not been cleared, we were reassured that "nobody would get out of those trees alive." A few days later British servicemen on exercise captured a US fire engine and drove it all around the airfield.

Administration is swamped under an unbelievably heavy load of paper work; they even put in a report on superfluous reports. The Americans admit this, but argue that their top-heavy ratio of non-operational personnel gives them a pool of partially-trained men to draw on in emergencies.

We had the impression that the whole set-up is looked upon as a huge game, an extension of school-boy warfare. There is an enormous amount of roaring about the bases in cars, of wearing guns, of excessive nicknaming ("Operation This and That" is painfully familiar; even bases now suffer, Bentwaters becoming "Crooked Creek," and Shepherd's Grove "The Grave," because it is rather isolated). Their enthusiasm is unbounded and endearing. One officer in Suffolk announced the birth of his baby by persuading the local weekly newspaper, old-established and old-fashioned, to devote the entire front page to "news" stories about this family event, under date-lines from the hospital, Washington, and Moscow.

America's excessive solicitude for her servicemen overseas is something that would astonish any British service. The attitude is that life should be as nearly normal as possible. So with the men go their families, their cars, their own furniture, their amusements, their music, their food and drink, their literature. They have complete freedom to go, do, and dress as they please outside duty hours. American bases in England conse-

The American "invasion" brings some \$420 million annually into England. Local salesmen go right to the bases to keep their GI customers satisfied.

Probably not everyone in the USAF will agree with this article condensed from the British magazine "Picture Post." But we found it different and enlightening.—The Editors.

quently resemble Main Street. But it hardly seems suitable for fighting.

The import of such aspects of the American way of life is not unamusing; what is disturbing is the accompanying attitude of mind. It seems strange in England to find an American schoolboy of twelve who will not cycle in daylight from one village to another in case he is waylaid by Communists, and utterly fantastic to find an American officer who will not leave his wife and children alone in the house at night for fear that *Reds will break in and attack them.*

Such attitudes do not make it any easier for local people to understand the Americans. But, regrettably, we found much evidence of treatment by English people which must make it equally difficult for the Americans to like us. Traditional English honesty is taking some hard knocks in many areas. We found widespread and unscrupulous short-changing. We found vicious exploitation of Americans by property owners and estate agents. We personally witnessed a round of drinks in a high-class hotel suddenly increase in price when ordered by an American officer in our company. We found British girls encouraging excesses which the US authorities and civil police are powerless to control.

Despite all this, we found Anglo-American relations surprisingly better than might be expected. The Americans like being here, and they like the English. There is a lot more mixing than one would think. American officers play games with the RAF; they join local golf clubs; their doctors exchange patients and consultations with their opposite numbers. Their wives and English housewives entertain and help each other. Their children go to English schools and join scout troops and cub packs.

One thing which should be made more widely known in England is that in no way whatever do the Americans "live off the country." *In fact, they have become one of our biggest dollar-earners.* Every penny they spend here, and they spend enormous sums, is dollar income for us.

The ground rent for one fighter

Despite some hard feelings, pub incidents are surprisingly few. For the girls, it's fine. But the lance corporal feels differently about the Americans.





Americans are the world's greatest sightseers, even in British weather. Showing these two the sights of a small seaside town are two English girls.



The sisters at this convent school soon got used to American kids. Above, an improvised game of skittles. An officer's wife, below, finds shopping at the small town greengrocer's cheaper than buying at the base commissary.



base in Suffolk is 60,000 pounds (\$208,000) a year—much more than the land could ever produce under agriculture. The payroll at another station, which at present supports just twelve jets, is nearly 400,000 pounds (\$1,120,000) a month, every penny of which is spent locally. The PX at Lakenheath sells a quarter of a million dollars' worth of goods every month; nearly half of this is British merchandise, bought with dollars—cars, bicycles (a shipment of 500 to one base was sold within three days), refrigerators, vacuum cleaners, clothing, china.

Adding this all together, this year the Treasury will benefit by something near the staggering sum of 150,000,000 pounds (\$420,000,000) in dollars—nearly equal to our entire exports to the US in 1951.

But there is still no use denying that many people would rather the Americans were not there. It is an unreasoning attitude, rooted deep in everyone's underlying fears of war. But if it is too late for sanity, then the lesson which emerges from our contacts with the Americans and their ways is this: if you know them, try and understand them. If you don't know them outside the pub and the press, then don't believe all you hear, but get to know them somewhere else, preferably in your own or their own home. For it is deadly certain that we are going to have to live with these goddam Yanks—and very likely that many of us goddam Limeys will have to die with them.

Main Street, England

Any American serving overseas can take his wife and children with him. As a result, there are thousands of complete American homes in England today.

Where possible, the families live on the bases, but many are forced to go afield for quarters. And in this the British are putting the squeeze on. There are reasonable landlords, but we heard of rents up to ten guineas (about \$30) a week for inadequately furnished flats. This kind of thing leaves a nasty taste.

Their other expenses are not light, either. A sergeant in Aldeburgh spends five pounds (\$14) a week on petrol, much of it driving to Bentwaters fighter station and back every day, and another five pounds a month on garaging and repairs. Trying to compensate for lack of what they feel is adequate heating, another American family had a gas bill of forty-three pounds (\$120.40) for the first cold quarter they were on the East Coast.

Even American pay takes heavy
(Continued on page 49)

CIVILIAN EMPLOYMENT: AF unskilled and semi-skilled workers are easier to find in some areas, but engineers, technicians, and highly-skilled craftsmen still are scarce. Many AF installations are recruiting farther afield than usual as local sources are failing to fill the needs. The increasing demands of aeronautical research and development programs and competition by industry are among the factors which make it harder for the Air Force to find engineers and scientists.

VETERANS of present Korean war who want to learn how to fly will, under new GI Bill, get seventy-five percent of their flight training costs paid by the government. Other twenty-five percent will have to come out of veterans' own pockets. . . . VA has advised veterans to have photostatic or certified copies made of their original discharge or separation papers for use in applying for benefits. . . . Those who are planning to go to school under the K-Vet Bill have been also advised to take along enough money of their own to tide them over for about two months. . . . More than 20,000 checks for mustering-out pay have been mailed to AF veterans from AF Finance Center in Denver, Colo. About 2,000 claims are being processed a day. Veterans can expect to receive their checks within less than thirty days after submission of application.

AIRMAN REENLISTMENT is receiving stepped-up attention from AF — not only to keep trained, skilled people during AF buildup, but also as economy measure. Training of an airman is expensive; the lower the AF turnover in personnel, the lower the cost of training. Revised AF policy puts more emphasis on role of unit commander in reenlistment. An example is requirement that he interview each qualified airman ninety days before separation and explain reenlistment benefits to him. Personnel planning is giving increased attention to rights and dignity of airmen. . . . AF husbands, wives may now ask same overseas station assignment. . . . AF plans to increase its fighting strength by nearly fifty percent — from eighty operating wings to 143 — with an increase in personnel of only fourteen percent.

FORTY-TWO June AF-ROTC graduates are among the 160 officers enrolled in the USAF Institute of Technology Resident College at Wright-Patterson AFB, Ohio. . . . Airman pilot training enrollment will increase fifty percent in 1953. . . . Largest AF OCS class thus far, class 52-C, added 396 new second lieutenants to the service in recent graduation exercises at Lackland AFB, Texas.

PERMANENT grades and promotions will return for Regular airmen in near future, with airmen of the lower four grades scheduled to receive permanent rank first. Airmen promotions have been temporary since January 1951. . . . AF at present is only able to promote officers to fill vacancies as they occur and as restrictions permit. Plans are for selection boards to convene this fall in order to establish "recommended lists." Number of officers on these proposed lists, however, will be based on anticipated relief legislation, rather than on present limitations. Promotions from permanent colonel to temporary brigadier general are pending, because promotion vacancies in upper grades must be filled if overages are to be avoided and vacancies created in the lower grades. Airmen serving under indefinite enlistments who wish to leave the AF may submit their resignations before completing four years' service. Indefinites are "advised to withhold resignation requests until they have completed a period of service equal to service required of airmen who enlisted for three years on the same date the indefinite enlistment was contracted."

TRAINING PROGRAMS of AF Reserve have positions open at present time for 129,000

THE MOST important thing the Americans have learned in their second invasion of Britain is that the British people are *people*. Now that the Americans have had time to live in our towns, instead of just passing through on their way to Europe, they find that we, too, produce all the delightfully confused and contradictory patterns of human nature they left behind in a small, Middle West town.

As a technical sergeant who was here during the war and has returned, said: "There ain't no such thing as an average Britisher." I only wish I could report that we too had learned that "there ain't no such thing as an average American," but, with a few happy exceptions, I fear we remain ignorantly aloof and self-satisfied in our utter Englishness.

Take, for instance, the colored sergeant's wife. She is a good case because we are very quick to accuse the Americans of their intolerant treatment of Negroes. She came over with the first batch of American wives and families to settle in an East Coast town. The good American wives were invited to tea and a get-together by the local English wives. It was all very genteel, and surface-friendly, and the general idea was that each American wife was to have an English wife to help her to use ration books, learn to light archaic boilers, and generally become part of the local community. It worked in a few cases, but for the majority of the American wives it stopped at the tea and buns. Certainly it did for the colored wife. When she is out shopping she sometimes sees a woman who was at the party give her a half smile of recognition, and when she replies with a "Good day," they hurry past each other.

Is it her color, or is it just that she is an American living in a fairly isolated town which produces rather insular-minded people who do not like foreigners of any kind? It seems a pity that one colored sergeant's wife is, rightly or wrongly, becoming conscious of her color in this country, and that her only real friends are white Americans.

But the most serious point of conflict was put to me by one of those straight speakin', rough ridin', hard livin' Texans. He thinks he knows us—he was here during the last war when he admired us and went back home to tell his friends what a fine, tough people we were. Now he is not so sure. Here's what he says.

"You Limeys were fine — you worked hard, fought hard, and said to hell with the bombing. Now we're back again and nobody here knows why. You don't see another war coming on you. You don't want to. You're not working any more. Why, we have British workmen on our field who do two hours' work and call it eight. We have to get the job hurried through by GI's or it would never be done. But we pay you people just the same—we pay to be here when war starts. It don't make sense."

That is quite a typical American view. They do not understand why we are not in a frenzy of anti-Communism: why we are not jailing every Communist in sight, and why—the final insult—the *Daily Worker* is sold in their camp towns. It is the main cause of arguments in the local pubs.

A main point of argument is money. "You seem to think we're rolling in it," was the constant complaint. The Americans *know* that many landlords are charging too much rent for too little service, and on the whole they feel foolish rather than resentful. At home, they say, they would argue, but here they just have to be taken in, because they don't want to make trouble.

The Americans, of course, find us rather slow. They phone for a plumber, and it takes him a day to arrive and a day to finish the job. They want their clothes pressed and it takes five days. It was the same with garlic. The Americans like garlic in their extensive and imaginative salads, but the local greengrocer had never been asked for it by English housewives. So he had garlic sent by parcel post from London. Now it is grown locally, though only the Americans want it.

Apart from the universal criticism that the British do not seem to know that there is an earnest and final war on their hands, these Americans think we are too superior, too "goddam snooty." One of them put it this way: "We're a braggart people — we show off. We're proud of being Americans. But you Limeys never boast about yourselves. What are you hiding? You excuse yourselves and say you're just English and I say back, 'What's English? Half Europe's in your blood,' and you smile at me as if I'm a kid and don't know what I'm saying. Why don't you boast?" This, he felt, was not only an insult to him, but made us intensely secretive and rather alien.

Another American made quite an unusual point —

How Americans Feel

In rebuttal, a British writer tells how

Americans feel about the English

By Hilde Marchant

"You're too nice. You treat us like babies." What he meant was that when joining English people in conversation they dropped their normal discussion of politics or of European affairs and talked to him of the American elections "which they seem to look on as a variety act," he added. It was, he thought, no disrespect but a rather obvious means of "making him at home," and an inference that European affairs were too complicated for him to understand and certainly none of his business.

They went on, these GIs. The English were clannish. They stuck to themselves. They did not share, very gladly, even a ten-minute conversation over a drink the Yank had bought. And then a wise American sergeant said the right thing. The trouble about Americans, he said, was that "we've got to be liked. At all costs; people must like and love us on sight." The English, he added, only like people on their value and after a long period of understanding. "Packs of cigarettes, parcels of sweets for the kiddies, and the odd bottle of whisky never yet converted an English family. That is the way some of us have gone about Anglo-American relations—over-generous, over-enthusiastic, overwhelming. And when we get a chilly reception we are upset and worried."

On the whole, once one gets over the rift caused by antique heating systems and archaic plumbing in British houses; once one gets over the fact that the Americans among us are urgent and we are slow; once we settle the problem of who won the last war and who is going to win the next, it could be said that Anglo-American relations are on the whole amiable, tolerant, passive. But no one could say they are very close, and this seems a pity. — END



Six streams of .50 caliber slugs rip up the bulls-eye of a 51st F-1 target as an armament specialist synchronizes the gunsight of an F-86.



You do more than pull a trigger to operate a Superfort's .50 caliber. This gunner is surrounded with his electronic sighting equipment.

They make it rough on Reds. Here two aerial gunners load the four-gun forward turret of their B-29 Superfort with .50 caliber ammo before another night-strike against targets in North Korea.



Sentry dogs help keep intruders at a respectful distance from the new bomb revetments at an ammo supply dump.



Before and after B-26s batter a Communist cement factory and boat-building facilities in the first mass daylight attack by the light bombers this year. Damage was heavy at the installation near Haeju, on the northwest coast.



THE HOT WAR GOES ON IN KOREA

Despite the stalemate and apathy back home, the 5th AF plugs away around-the-clock



An air commodore of the Royal Thailand Air Force (second from left) studies aerial recon photos during a 5th AF combat briefing for the Thailand delegation, during their recent visit to the war front.





ON THE "FRONT LINE" IN COMMUNICATIONS

The rich experience and vast facilities of Delco Radio are again at the service of the nation!

Delco Radio has a major part in the current rearmament program . . . is currently producing advance-type radio equipment for many branches of the military. Delco Radio products serve equally well in civilian communications . . . in millions of passenger cars and trucks . . . in untold numbers of homes. Yes, in peace as in war, Delco Radio is on the front line in communications with on-time production of *superior* products. See for yourself!

DELCO RADIO

DIVISION OF GENERAL MOTORS, KOKOMO, INDIANA

LEADER...

IN PRODUCTION

Delco Radio is the world's largest builder of automobile radios . . . the leader in production and assembly of component parts.

LEADER...

IN ENGINEERING

Delco Radio developed many of the most important advances in automotive radio . . . has unsurpassed experience in this field.

LEADER...

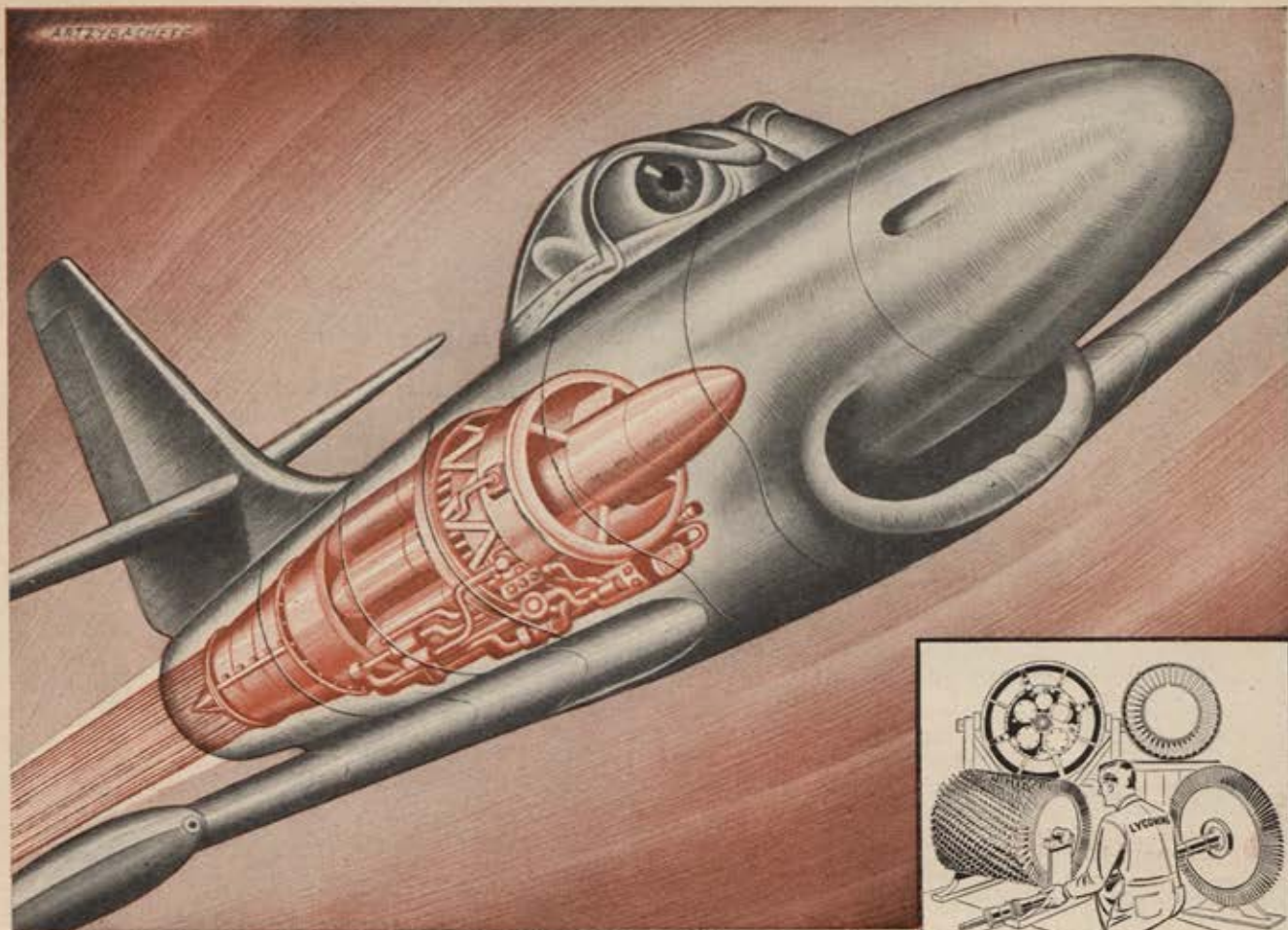
IN QUALITY

Every step in the manufacture of Delco Radio products is closely supervised to maintain high, uniform product quality.

LEADER...

IN MANUFACTURING

Completely integrated for efficient production, from raw material to finished product, Delco Radio meets any customer need.



"Blasts" for Jets

To gun a jet to incredible speeds . . . to power it through the intricate twists and turns of combat . . . to "pour it on" in climbs, in dives, in instantaneous bursts of speed—the mighty engine of a jet plane demands parts that are tough, precise and unfailing. To assure such vital performance, General Electric looks to Lycoming as a leading supplier of the major components that go into its superb J-47 jet engine.

Whether you require precision parts of *any* kind . . . or need high-volume production, product development—or a *complete* air-cooled power plant—Lycoming's extensive research facilities and well-rounded experience stand ready to serve you. *Whatever* your problem—look to Lycoming!



For a more complete story on Lycoming's varied abilities and facilities, write—on your company letterhead—for the interesting, illustrated booklet "Let's Look at Lycoming."

For major engine parts that put the "blast" in jets,

Lycoming is one of General Electric's leading sources of precision production.

AIR-COOLED ENGINES FOR AIRCRAFT AND INDUSTRIAL USES • PRECISION-AND-VOLUME-MACHINE PARTS • GRAY-IRON CASTINGS • STEEL-PLATE FABRICATION

LOOK TO **LYCOMING** FOR RESEARCH
FOR PRECISION PRODUCTION

LYCOMING-SPENCER DIVISION
BRIDGEPORT-LYCOMING DIVISION



WILLIAMSPORT, PA.
STRATFORD, CONN.

Reservists. Less than 9,000 Reservists are participating in the two elements of Organized Air Reserve training program (Mobilization Assignments and the twenty-two AF Reserve Training Center Wings). There are vacancies in these activities for 33,600 more officers and airmen. . . . VART units across the nation total 500 squadrons, with more than 42,000 assigned personnel. There are more than 100 VART groups; the latter are administrative and supervisory units rather than training elements. To learn location of nearest VART unit, inquire at any AF base, Reserve District headquarters, Army and AF Recruiting station, or any one of ConAC's four numbered air forces.

NEW AF RESERVE DISTRICTS and headquarters locations are expected to be as follows:

Fifth Air Reserve District at Boston, Mass., serving New England states; Sixth at Portland, Ore., for Oregon, Idaho, Washington, and Montana; Seventh at Minneapolis for Wisconsin, North and South Dakota, and Minnesota; and Eighth at Shreveport, La., serving Arkansas, Oklahoma, and Louisiana.

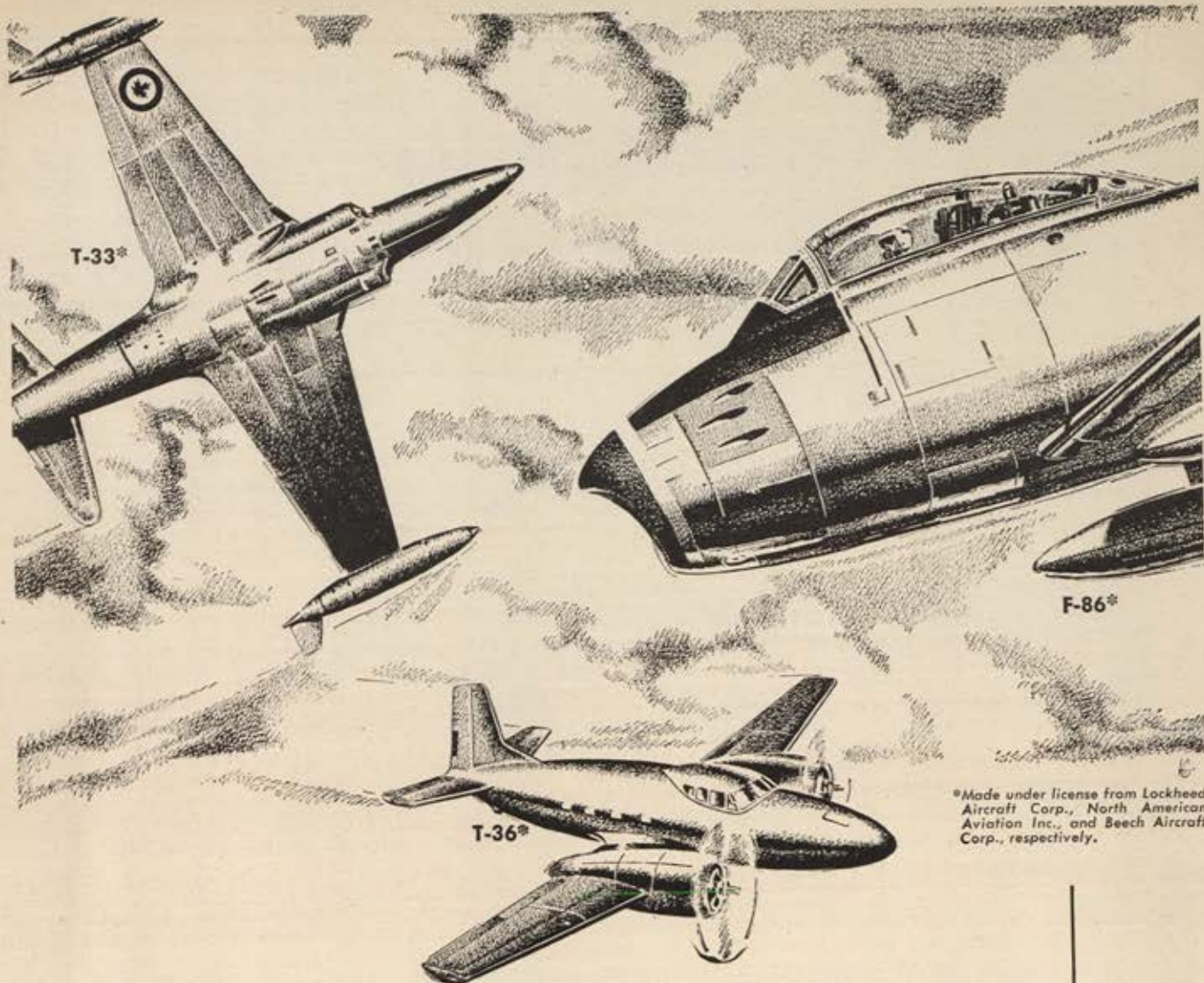
INDEFINITE APPOINTMENTS in the AF Reserve will be offered AF officers now on active duty in the near future. In all cases these appointments will be offered prior to July 1, 1953. . . . AF Medical Reservists, officers and airmen, not on active duty are eligible to take courses at AF Medical Service schools. Courses are given at School of Aviation Medicine (Branch), Gunter AFB, Alabama, with exception of Aviation Medical Examiner's Course, which is given at SAM's Headquarters, Randolph AFB, Texas. . . . SAC has been told it may enter bombardiers and navigators in grade of major in Basic Observer Course. . . . More than 27,000 AF Reservists are currently enrolled with USAF Extension Course Institute. Over 3,000 Reserve airmen are taking the Institute's Officer Candidate Correspondence Course, while 215 Reserve officers are taking the Senior Officer Correspondence Course, which is based on the curriculum of Air War College.

TRANSFERS of students are now permitted between the ROTC of Army, Navy, and Air Force, and to Medical Corps ROTC units from other Army ROTC units. Transfers are limited to exceptional cases and made at the request of the students involved. Students requesting transfer must obtain approval from the PAS&Ts and the CG, Air University. Transfers must be accomplished before admission to the advanced course of training. . . . 360 more planes have been authorized to the Civil Air Patrol on loan from the AF. . . . Territory of Alaska has been authorized to set up units of the Alaska Air National Guard, first such units in the history of Alaska. . . . President Truman has authorized the recess appointment of 302 AF Reserve officers to the Regular Air Force.

NEW AMENDMENTS to the Social Security Act went into effect recently under which wage credits will be given for active service in the Armed Forces through December 31, 1953. Earlier act gave such credits from September 16, 1940, to July 24, 1947. . . . Department of Defense is expected in near future to ask Mr. Truman to endorse a proposal for an upward adjustment of at least six percent in military pay.

KOREAN CASUALTY TOLL has risen to 117,973. AF losses in Korea now total 1,264.

. . . A change in MATS's continental US air evacuation routes will speed the return of Korean combat casualties by 24 hours. The direct east-west flights began last month. . . . More than ninety percent of the pilots and air crewmen shot down in Korea, including those who are downed in enemy territory, are flown out by air-sea rescue teams and live to fight again. . . . The Third Air Rescue Squadron has rescued or evacuated 6,469 UN personnel in Korea since start of hostilities on June 25, 1950. Of the total number rescued, 902 were from behind enemy lines.



*Made under license from Lockheed Aircraft Corp., North American Aviation Inc., and Beech Aircraft Corp., respectively.

What are we building at Canadair?

Canadair is building high speed "T-33" jet trainers and "T-36" trainer transports . . . while accelerated production of F-86 'Sabre' jet fighters continues unhindered.

In the production of three types of aircraft, Canadair exhibits the high flexibility of this enterprising plant. It is this ability to handle varied assignments *simultaneously* that has aroused such interest in military and civil aviation circles.

Watch Canadair: its versatility, its production capacity, its ability to deliver aircraft on schedule, its high quality of workmanship: — all merit the attention of astute buyers of aircraft throughout the world.

Canadair
LIMITED, MONTREAL, CANADA

A subsidiary of
GENERAL DYNAMICS CORPORATION
(Formerly: Electric Boat Company)
New York, N.Y. — Washington, D.C.



CA52-21UST

TECH TALK

By Richard Skinner

F-86 pilots in Korea will have a better record of their tangles with MIG-15s when a newly developed gun camera especially designed for the high speed jets gets into action. Made by the Bosley Corporation, the first units of the recording camera have been delivered to the AF. The Bosley N-9 uses 16mm film in fifty foot magazines and shoots up to sixty-four frames a second. Its 1/1000 second exposures can freeze the action of jets, even when the planes are zipping past each other at relative speeds of more than 2,000 mph. The little N-9 (about the size of your hand) is rugged too. It's designed to withstand 25 or more Gs and, according to its maker, temperatures of from 65 degrees below to 160 above zero. The camera starts clicking when the guns begin firing and continues after firing ceases, to give a complete record.

Small jet engines, acting as "push button" starters, will make it possible to crank up big jet engines without having to use ground power units, GE's Gas Turbine Division claims. There are two kinds of the starters being developed. One uses a combination of jet fuel and compressed air. The other is powered by the hot gases resulting from burning a solid propellant in a replaceable cartridge. This method creates hot (1,800 to 2,000 degrees) gas for driving a starter turbine.

Ever wonder who invented the aircraft wing flap that rolls out and down? It was a man named Harlan D. Fowler, who's now doing research for the Air Technical Intelligence Center, part of AMC. He conceived his flap principle in 1916 as an improvement on the hinge or

slot flap that drops down from the wing like a door and which, greatly improved, is still used on many types of aircraft. The Fowler flap, proved successful by Lockheed in 1937, became standard equipment on thousands of AF planes in World War II. Today it's found on the wings of such planes as the B-29, B-50, B-47, B-52, C-97, and C-121.

Stanford University scientists have built a vacuum tube powerful enough to kick out a 15,000 kilowatt jolt sixty times a second—the same power a city the size of San Francisco uses continuously. The tube, about the size of a fire hydrant, is for a new atom smasher.

There are about 6,000,000 color-blind men in the US, the USAF School of Aviation Medicine reports, though the school prefers to say they have a "color vision deficiency." This comes to about eight percent of all men, as against only about half of one percent for women. And there's not much that can be done about it, Dr. Ingeborg Schmidt reports. She's an international expert on color vision, now doing research for the school. Some of the treatments that have been tried include wearing tinted glasses, giving massive doses of vitamins, injecting cobra venom, and even stimulating the eyeballs with electricity. All have failed. Red-green blindness is the commonest form of color blindness. Only a few individuals can't see blue and yellow, but the AF isn't going to use those colors for stop and go signals. Instead, the AF's now using slightly different shades of red and green for signal lights so men with marginal defects can recognize them. And it's studying other kinds of signals for instant recognition.

RAYTHEON ELECTRONICS keeps pace with the Jet Age



Supplying more and better electronic equipment for our bigger, better, faster-flying aircraft is a Raytheon responsibility. Throughout the Air Force, the name Raytheon is synonymous with *reliability* in radar, navigational aids, communications equipment, tubes and a wide variety of electronic components.

RAYTHEON MANUFACTURING COMPANY

Contractors to the Armed Services

WALTHAM 54, MASSACHUSETTS



Excellence in Electronics

Now Hear this...



and hear it you will on a Hallicrafters! Hallicrafters makes more military type communications equipment than *all other manufacturers combined*. This same engineering skill and know-how has now produced sets for you that give you truly world-wide reception—at a reasonable price. Now, wherever you go—at home or overseas—these radios keep you in touch. See them at better stores or your PX.



HALLICRAFTERS MODEL S-38C

Powerful broadcast reception plus three short wave bands. Hear U.S. broadcasts plus BBC, France, Australia, Russia, AAF broadcasts, Police, etc. Wherever you go this radio gives you world-wide reception. Only 13 x 7 x 7 inches, light weight. Plays on 117 volts AC or DC. Jacks for earphones, built-in speaker.

Only \$49⁵⁰



HALLICRAFTERS MODEL S-72 PORTABLE

The most powerful portable on the market! Light weight, compact design, remarkable performance. Here's a radio that plays anywhere, on 117 volts AC or DC or on its own batteries. Servicemen from all over the world have written praising the performance of the S-72. See this remarkable set—hear it—own it!

Regular list price
less batteries—
in brown leatherette.

\$109⁹⁵

East Coast Representative

George E. Abbot & Co.
756 Fourth Avenue
Brooklyn 32, N. Y.

West Coast Representative

Foley-Williams Co.
537 West Broadway
Long Beach 2, Calif.

For information on other Hallicrafters radios,
Write Dept. AF-112.

hallicrafters

World's Leading Manufacturer of Precision
Communications Radios • Chicago 24, Illinois

TECHNIQUE



New Life for PSPs

The pierced steel planking used in Korean runways takes a terrific drubbing from the constant traffic of jets. Now a flourishing PSP rehabilitation program has reconditioned enough planks to stretch from Washington, D. C., to Boston—nearly 400 miles. First, natives use pneumatic hammers to free planks from mud and tar. Then the planks are fed through a rolling machine and straightened before other Koreans hammer out the interlocking devices. An acid bath cleans off rust. The process costs 8¢ per plank and has saved \$1¼ million so far, at \$5.12 per new plank.



Production
expanded
to 514% of
pre-Korea
level

2 NEW MANUFACTURING DIVISIONS

23 COMPLETE UNIT SUB-CONTRACTORS

2300 PARTS SUB-CONTRACTORS

As the world's largest producer of aviation instruments and accessories, we were faced . . . even before Korea . . . with heavy demands on our production. Came Korea and, overnight, demands swelled to tremendous proportions. Enlisting the vast network of helpers shown above, we went all-out in tackling this new, vastly greater assignment. And, indeed, we increased our production output to 514% of our pre-Korea level. But there is yet no time for boasting. Though we're "catching up," much still remains to be accomplished. You can count on us to continue devoting our full energies and capabilities to bringing you critical instruments and accessories in ever-increasing numbers.

PRODUCTIVE CAPACITY NOW AVAILABLE FOR THESE HIGHLY CRITICAL ITEMS

Autosyn Remote Indicating Systems
Flight Instruments
Warning Units
Reciprocating Engine Starters
A.C. and D.C. Generators
Carbon Pile Voltage Regulators
Radar Antenna Positioning Systems
Jet Electric Starters
Radio Magnetic Indicators
Omni-Bearing Converter Indicators
Special Purpose Servo Amplifiers

Automatic Pilots and Automatic
Approach Systems
Oxygen Regulators
Radar Pressurization Equipment
Engine-Driven Dry Air Pumps
Turbine-Driven Fuel, Water and
Alcohol Pumps
Ordnance Electrical Equipment
400 Cycle Synchros
(AY-200 Series Types)

Eclipse-Pioneer

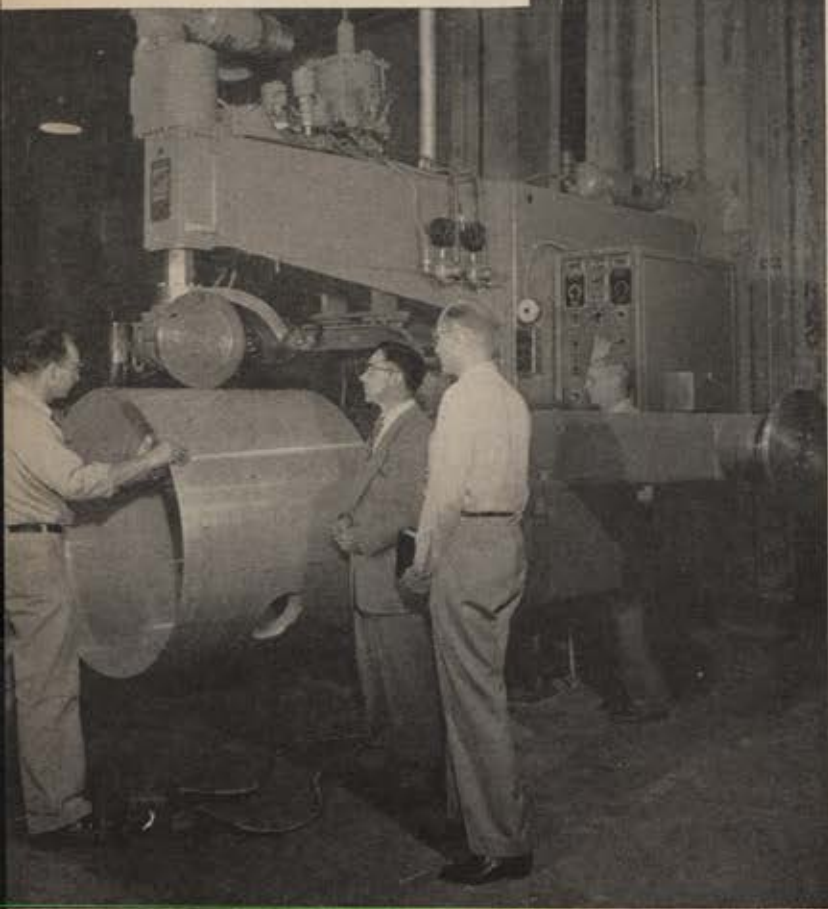
DIVISION OF



TETERBORO, NEW JERSEY

WORLD'S LARGEST PRODUCER OF
AVIATION INSTRUMENTS AND ACCESSORIES

Export Sales: Bendix International Division
72 Fifth Avenue, New York 11, N. Y.

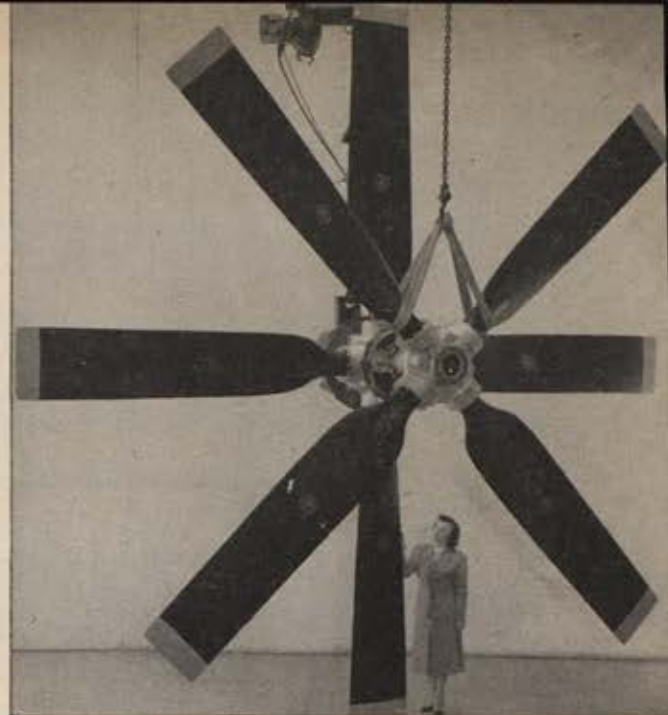


Northrop Seam Welder in Action

This Sciaky seam welder, being used by Northrop in the production of F-89 Scorpions, is said to be the only one of its kind operating on the west coast. It can weld at the rate of twenty-four inches per minute on either Alclad or steel and manages a longitudinal seam five feet long or a cylinder five feet in diameter. Maximum pressure is 10,000 PSI generated by an airline pressure of eighty PSI. Welds may be made on Alclad materials up to .125 inches thick or on steels to five-sixteenths inches. The machine, which stands thirteen feet high, weighs sixteen and a half tons. It has two arms that can be interchanged as easily as closing or opening a door. They're hung on trunnion hinges and swing either way.

From Beer Barrels to Combustion Chambers

From making milk cans and beer barrels to turning out hot parts for AF jet engines is the word along the production line of the Firestone Steel Products Co., Akron, Ohio. Firestone, which in World War II made shatterproof oxygen cylinders for aircraft, now makes jet combustion chambers, turbine casings, exhaust cones and support assemblies, and transition lines. Below, two workers at the Akron plant weld construction chambers of J-47 jet engines.

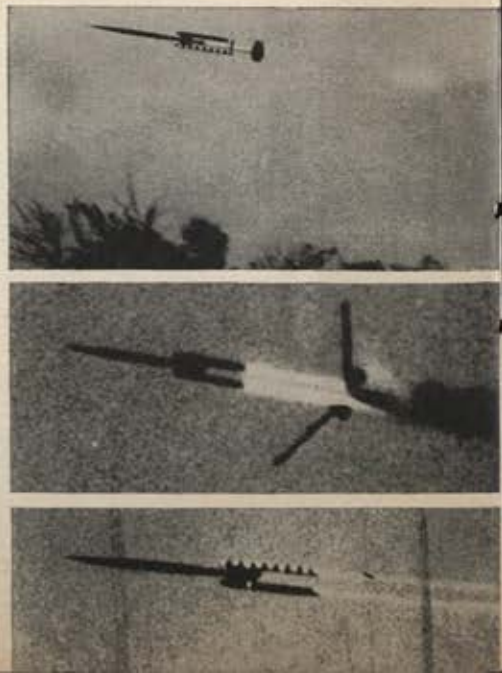


Big Wind from Winnetka

These blades will kick up a breeze. The prop's part of an advance group of propellers Curtiss-Wright calls its Turboelectric series, which will be capable of harnessing power outputs up to 20,000 hp, Roy T. Hurley, president of Curtiss-Wright, says. One of the largest in the series is the eight-bladed, dual rotation giant above—the eighteen-foot "octoprop." Its blades are hollow-steel, produced by a new extrusion process Curtiss-Wright perfected in cooperation with the AF. The Turboelectrics, according to Mr. Hurley, have been selected to equip a majority of the turbine-powered, propeller-driven aircraft now being built in the US. The engines involved include the new Wright Turboprop, the Allison T-38 and T-40 models, and the T-34. The turboprop Wright now has under development is said to dwarf in power any engines yet made public (6,000 hp is about tops among turboprops now).

British Missile for Air Defense

Britain is experimenting with a jet-engined, supersonic Ramjet with an eye toward using it as an anti-aircraft weapon. The missile, being developed by the Bristol Aeroplane Co., is launched from a twin-railed ramp with help from a pair of 7.5-inch rocket booster-motors (top). When it passes the speed of sound, the boosters slide away (middle), and the jets take over (bottom).





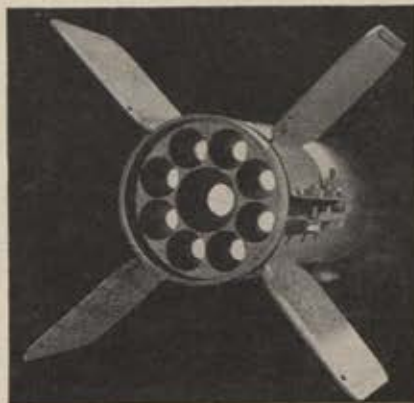
New British Four-Jet Bomber Is Shown

Latest British delta to make its bow is the Avro 698 heavy jet bomber. It first flew August 30 at the British air show at Farnborough. It's powered by four Rolls Royce aerial flow turbojets, though Bristol Olympus turbojets are believed to be the engines in the production version. The 698 is estimated to be about 120 feet long, with a 100-foot wingspan. The nosewheel has dual tires, while the main gear consists of eight wheels on each of the two bogie-type legs. The bomber has no horizontal tail.



Smallest 'Copter

The smallest, lightest helicopter ordered by the armed forces is the Army's one-man, collapsible, pulse-jet helicopter, the XH-26. Built by the American Helicopter Co., it's six feet high and weighs 300 pounds empty but can carry twice that at 80 mph for an hour and a half. Fuel is housed under the pilot and pumped out the leading edges of the blade to the engines. The tip-mounted engines are free swiveling.



Staying on Target

It takes more than pilot marksmanship to make aircraft rockets hit on target. Precision machining, like that done by Firestone in building five-inch rockets, is necessary too. Above is an unusual view of a five-inch's "accelerator." Escaping exhaust gases through the nozzle control speed and direction.

Swedish Delta Uses New Design Principles

Sweden's unconventional little delta-wing, jet research plane, the Saab-210 Dragon, differs from British and American deltas by having an extremely small aspect ratio, which means its wing is considerably longer than the plane's span. In flight the center of gravity can be moved by pumping liquid between trim tanks in the nose and tail.



Give the Ones
You Love



The World's Best-loved Lighter!

For that favorite girl . . . or that favorite dad . . . a never-failing, windproof ZIPPO makes a warm and welcome gift. One zip and it's lit—every time! (And every time, it's a reminder of you.)

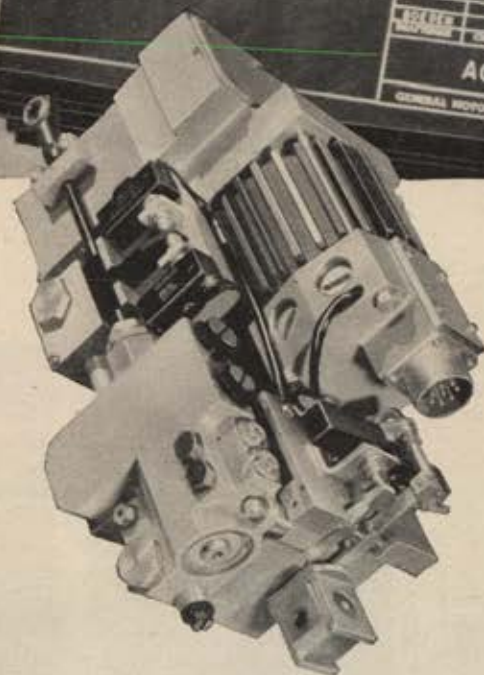
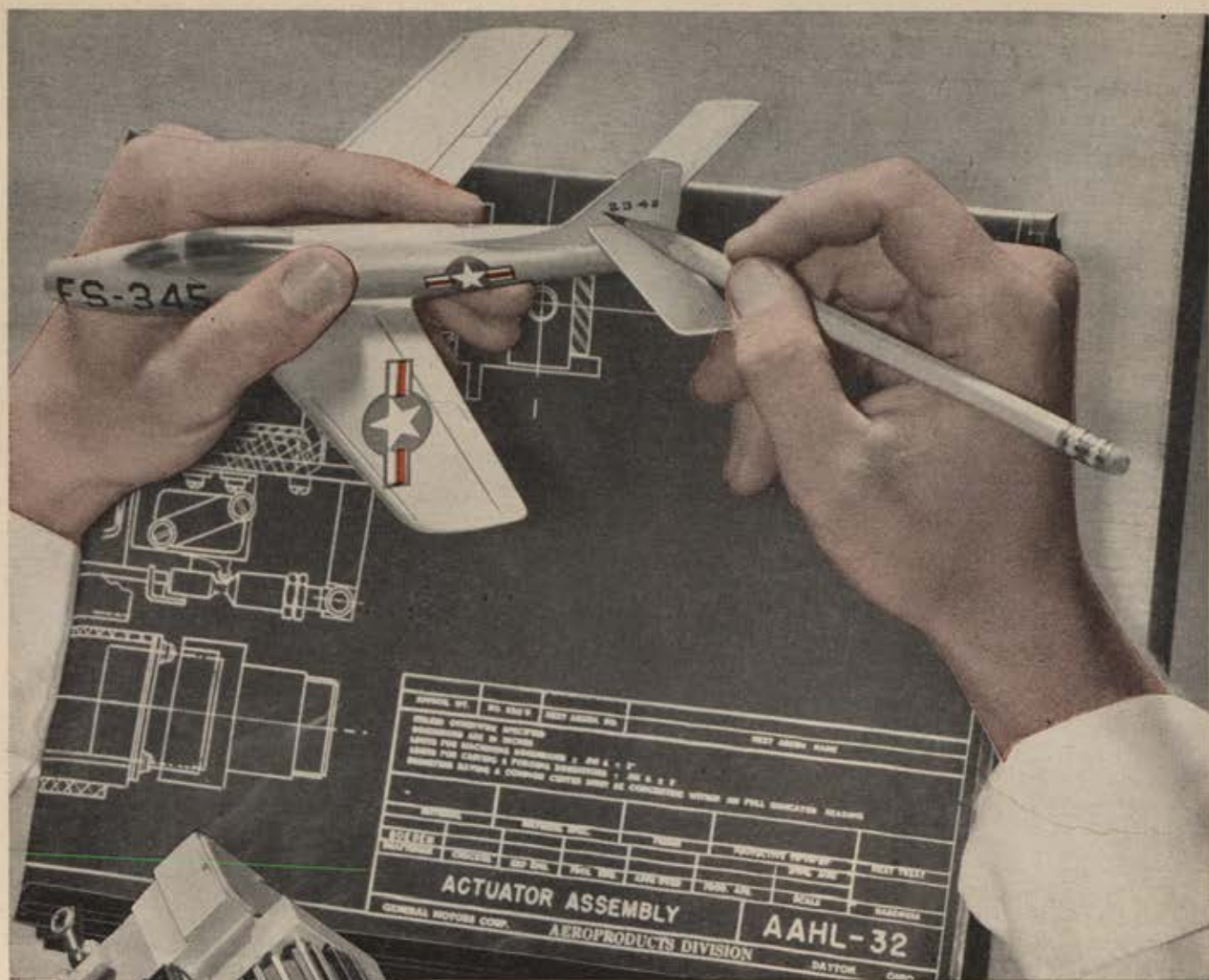
And ZIPPO offers free mechanical repair service for a lifetime. Ask your Post Exchange about having a ZIPPO engraved with your own signature, or a message in your writing.



ZIPPO

THE ONE-ZIP
WINDPROOF LIGHTER

©1952 Zippo Manufacturing Company, Bradford, Pa.



Self-Locking Hydraulic Actuator

"Designed to fit the job," describes Aeroproducts' new hydraulic self-locking actuators. They lock in *any* position without pre-selection or positioning—they stay in that position until changed. Aeroproducts actuators may be coupled for absolute simultaneous action. They feature manual, electrical, or pneumatic operation in case of hydraulic system failure. Designs have been approved and are being used for *variable control surface applications* and are being readied for jet engine variable nozzles, guided missiles, and others including commercial use.

Definite applications of this unit now being readied for production are for: Republic F84F Flyable Tail • McDonnell F3H-1 Horizontal Stabilizer
Others unannounced.

APPLICATIONS

- Stabilizer Control
- Jet Engine Variable Nozzle Control
- Dive Brakes
- Variable Wing Incidence
- Flap Actuation
- Aileron Control
- Variable Wing Sweep
- Bomb Bay Door
- Cargo Door
- Landing Gear
- Turret Control
- Canopy and Seat Control



*Building for today
Designing for tomorrow*



Aeroproducts

AEROPRODUCTS DIVISION • GENERAL MOTORS CORPORATION • DAYTON, OHIO



It may whip loneliness but it creates problems for both sides.

punishment from items like these, and we found many officers' wives housekeeping not in Hollywood style, but on their English rations, because they simply cannot afford the unrated but expensive food available in the base commissary. They draw their cigarette ration of 300 a week per adult, their bourbon ration of about a bottle a week, an odd pair of nylons which only married men are now allowed to buy, perhaps an occasional staggeringly-priced joint of meat—and that's that. As it is, one sergeant we spoke to spends twenty-five pounds (\$60) a week simply living and working.

The American women we met are genuinely grateful for the helpful attitude of their British neighbors—although the latter are careful to offer

help or guidance only where it will clearly be welcomed. If an American family wants to do things their own way, the English housewives don't force advice upon them.

There is less fraternization between US wives on the bases and the Women's Institutes in the nearby villages than there is in towns like Aldeburgh and Thropeness, whose women's organizations recently gave the Bentwaters wives a teaparty. In return they were entertained at the base. There were 185 women to tea!

Young America

Only one thing is necessary to explain why Americans are as they are—an experience of American children *en masse*. If ever the child is father to the man, it is so with these lively, assertive, precocious youngsters.

We visited one of the schools on the bases, magnificently equipped and well staffed with material and teachers from America. The children were vividly dressed in all combinations of cowboy suits, jeans, and T-shirts—and deposited their guns at the classroom door, just like in the movies. The classroom atmosphere was informal to a degree, but everyone was very happy with it that way.

It was easy to understand, however, the turmoil which the other school we visited had undergone—the St. Louis convent school in Newmarket, where the junior classes are now almost exclusively American. The sisters, startled at first, now take the most astonishing remarks in stride.

One thing they cannot get used to, however, is the children's prodigality with equipment. Huge exercise books, supplied by the bases, which the sisters would expect an English child to use for a term, last about a week. Expensive and magnificently illustrated books from the base store are also considered expendable. In class, the sisters find the Americans quick to learn when young, but too dominating when older. And they are still mildly surprised when new five-year-olds turn up with "diplomas" granted for "graduating" from kindergarten.

The American children now wear the school uniform, and it is literally impossible to distinguish the girls from the English girls in the classes. The boys, however, have something characteristic about them—apart from the earmuffs, plaid jackets, and long trousers which they prefer to the school blazers and shorts.

What still never fails to amaze the sisters is the casualness with which these youngsters treat world travel. They frequently disappear for a week with their parents on leave, and return with matter-of-fact accounts of jaunts between Oslo, Vienna, Paris, and Rome. On one memorable occasion a young man of six, who had objected to sharing a desk because he was "allergic to girls," finally condescended to sit next to one little girl—but only because he had "met her in Tokyo."

Going to Town

The plain fact is that many Americans, by nature, go after their basic



Hostesses are one answer to an old problem. Selected girls regularly visit enlisted men's dances. Here, they sign in.

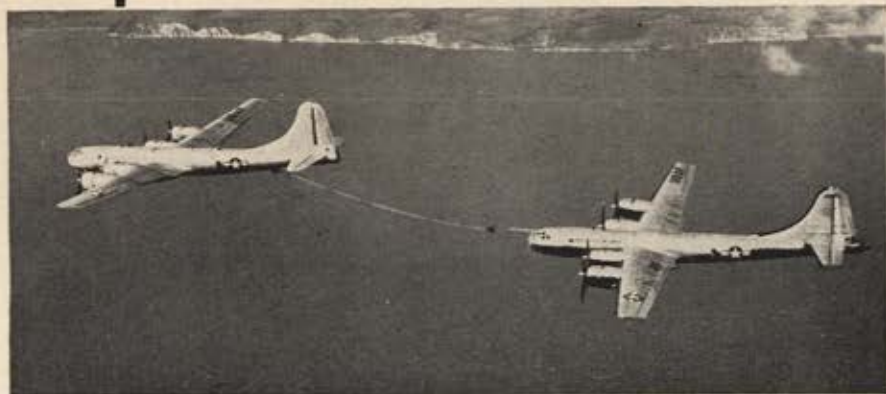
FR FLIGHT REFUELING



...is the simplest in-flight refueling system yet devised. Contact requires less skill than a landing.



Its flexibility reduces need for precision flight while there is virtually no limit on air speed during rapid transfer of fuel.



Now in use by the United States Air Force, the FR system makes possible virtually limitless range for bombers and long, sustained operation for fighters.

FLIGHT REFUELING INC.

Specialists in Aircraft Fueling Systems and Equipment
Danbury, Conn.



CANADIAN OFFICE
Flight Refueling Canada, Ltd.
6910 Birnam Ave., Montreal 15, Que.

FR equipment fueled the B-50 "Lucky Lady"—first to fly round-the-world non-stop.

WEST COAST OFFICE
6842 Beck Ave.
North Hollywood, California

recreational needs with a directness which sometimes shocks the English. When you have tens of thousands of them suddenly set down in sparsely populated rural areas, the majority without their families, there is bound to be a problem in what they're supposed to do when off duty. What British troops have been doing throughout history, in fact, in other countries, is now happening here. "The brutal and licentious soldiery" is not an American invention.

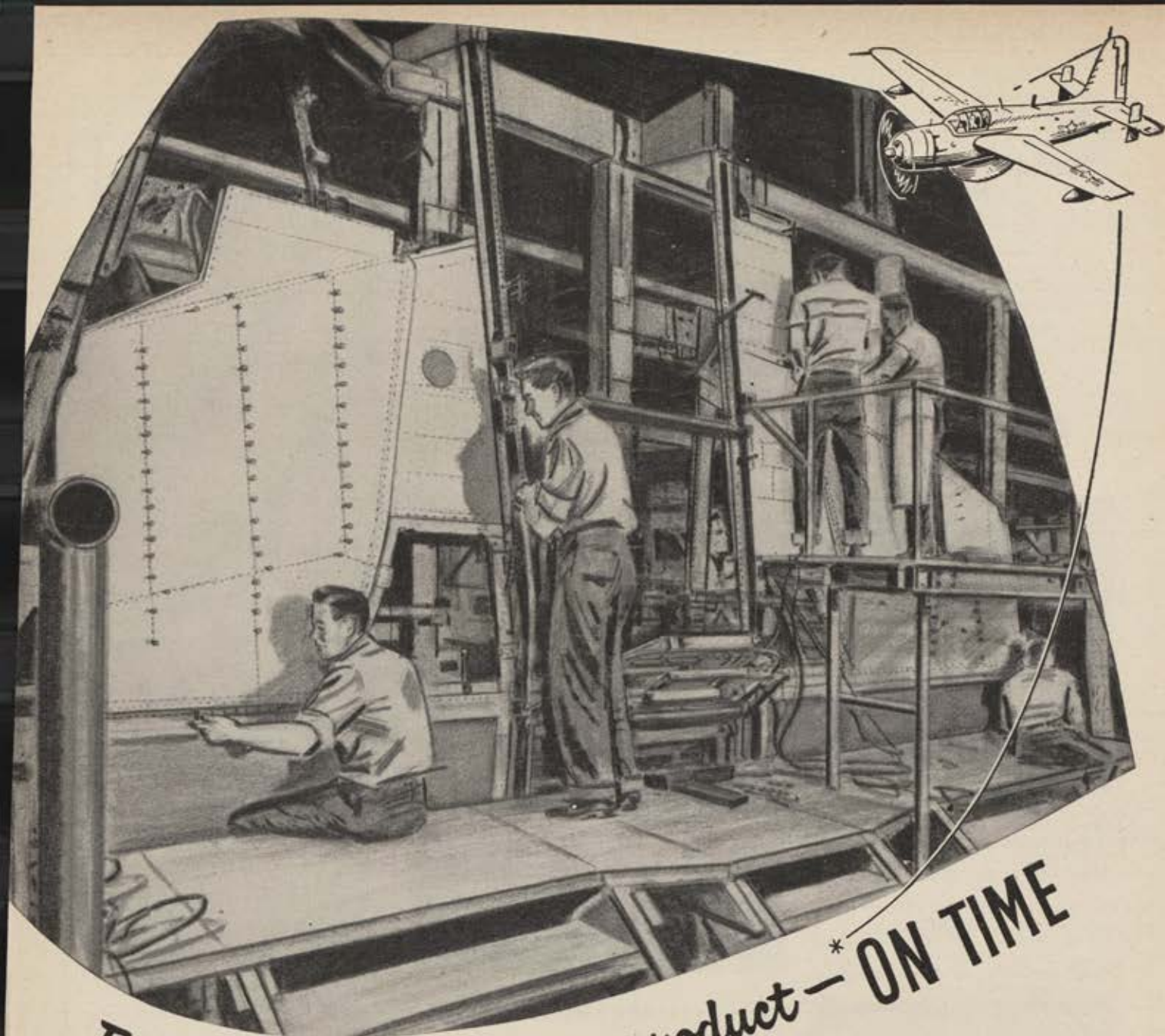
Every entertainment possible is provided on the bases to occupy the men. Many thousands of them are revelling in the peaceful pursuit of our history, for the Americans are the world's most indefatigable sightseers and photographers. These Americans drink, on the whole, rapidly and noisily. There are inevitably pub arguments. But Col. G. Robinson, the commander of Lakenheath base, states that there are fewer incidents with civilians in England than there are in the States.

The one real problem concerns girls. Other armies in history have had their solution, but modern morality rules out the official camp-follower. Today in England, however, the camp-followers are on the scene as soon as the Americans.

Near the bases you can find girls living in tents or homemade bivouacs in woods, or even sleeping in hedges. At King's Lynn they make their contacts in the pubs, then simply walk out of town into the lanes. In all these towns there are taxi drivers who, for a consideration, will supply addresses to Americans. The probation officers are certainly handling more young girls in their teens than they used to—but wild rumors about skyrocketing illegitimacy and VD rates cannot be substantiated.

What is the answer? Men do not become celibate simply through going overseas. And for some girls in rural or industrial England, to whom life appears to hold little, the attractions are understandable. Here are big-spending, interesting young men with luxurious cars, eager to show them a good time, free with their compliments, fascinating with their Hollywood accents. It is the movies come to life.

One answer is more, many more Anglo-American clubs where Americans can meet the kind of girls they would consider marrying. Another is the hostess service run by an enthusiastic girl in Norwich. She has about 100 girls available, selected by herself, who go to dances at the various American bases. These American servicemen welcome the chance this gives them to meet the right kind of English girl.—END



From print...to part...to product — *** ON TIME**

COMPLETE CENTER SECTIONS for Grumman Guardians are among the important aircraft products now in large scale production at Twin Coach.

These are being built *on schedule* with tools, dies and fixtures designed and made by Twin in cooperation with Grumman engineers. Special parts production techniques eliminate delays, keep assembly lines operating at top speed.

This smooth efficiency is typical of Twin Coach Aircraft Division plants. It enables prime contractors to set and hold to tight schedules.

Modern facilities, modern equipment and *experienced* manpower make Twin Coach a dependable source for every type of major airframe assembly.

A-5727



William Mistrik, power hammer operator, came to this country after serving his apprenticeship. With over 20 years in the aircraft industry, 5 of them with Twin Coach, he is now training his son in the traditions of Twin Coach craftsmanship.



TWIN COACH COMPANY

Aircraft Division

BUFFALO, N. Y.

TWIN COACH PRODUCTS:

AIRCRAFT ASSEMBLIES • MOTOR COACHES • TROLLEY COACHES • SUPER FREIGHTER CARGO TRUCKS
• PAGEOL GASOLINE AND PROPANE ENGINES • PAGEOL-LEYLAND DIESEL ENGINES

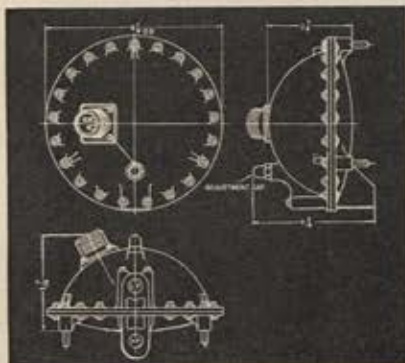


PRESSURE SWITCHES

HELP MAKE TODAY'S AIRCRAFT

Safer Than Ever!

Greater safety for your planes is the goal of every Aerotec designed control. To cover every possible contingency, our instrument specialists have developed hundreds of different types of controls. Below are a few typical examples of Aerotec pressure switches covering a host of applications. Aerotec is supplying thousands of controls of these types to meet today's demands. They are playing an important part in raising the high standards of safety on commercial and military aircraft.



SENSITIVE LOW PRESSURE SWITCH SERIES P904

Differential Type for Ram Air

Sensitivity: $\frac{1}{16}$ " H₂O

Actuating Pressure Range: 1.50" H₂O to 3 psi with differential of 20% of applied pressure

*Electrical Rating: 28 VDC 5 Amp. inductive
Complies with A.F. environmental specification 41065-B*

For stall and flap warning applications and as safety switch for cabin de-icing heaters.

PRESSURE SWITCHES SERIES M800

Gage, Differential, Types

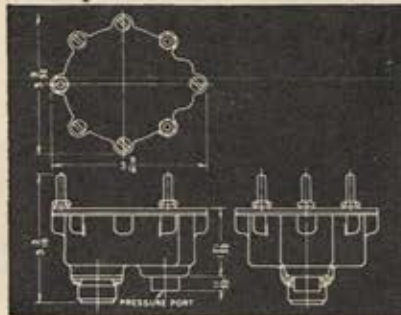
Actuating Pressure Range: 2.5 psi to 200 psi

Mediums: MIL Fuels, hydraulic fluids, air

Electrical Rating: 28 VDC 3 Amp. inductive to 45,000 ft.

Complies with A.F. environmental specification 41065-B

Over 80 different types designed and produced



HIGH PRESSURE SWITCHES SERIES T100

Actuating Pressure Range: 200 psi to 5000 psi

Mediums: MIL Fuels, air, hydraulic fluids

Electrical Rating: 28 VDC 5 Amp. to 45,000 ft.

Temperature Range: -65° F. to +170° F.

Proof Pressures up to 7500 psi.

*We invite your inquiry. Write
or call any of the following:*

AIRCRAFT REPRESENTATIVES

CLEVELAND 29, OHIO
Jay Engineering Co.
5413 Pearl Rd.

GREENWICH, CONN.
John S. Hammond, Inc.
45 East Putnam Ave.

ROSLYN HEIGHTS, L. I., N. Y.
John S. Hammond, Inc.
P. O. Box 52

DAYTON 3, OHIO
Jay Engineering Co.
1517 East 3rd St.

GLENDALE 2, CALIF.
Forsnas Engineering Co.
1102 W. Glenoaks Blvd.

SEATTLE 1, WASH.
John E. Freeman & Assoc.
1529 9th St.

WICHITA 17, KANSAS
John E. Freeman & Assoc.
5401 East Kellogg

Project Engineers

THE THERMIX CORPORATION

GREENWICH, CONNECTICUT

Canadian Affiliates: T. C. CHOWN, LTD.

1440 St. Catherine St. W., Montreal 25, Quebec • 983 Bay St., Toronto 5, Ontario

THE AEROTEC CORPORATION

AIRCRAFT DIVISION

GREENWICH, CONNECTICUT

Designers and Manufacturers of Automatic Controls—Valves: Regulating, Relief and Check types—Pressure Switches: Gage, Altitude, Differential and Absolute Types—Float Switches: Top, bottom or side mounted—Single, Dual, or Tandem.

THIS IS AFA

The Air Force Association is an independent, non-military, airpower organization with no personal, political or commercial axes to grind; established and incorporated as a non-profit corporation February 4, 1946.

ITS OBJECTIVES

To assist in obtaining and maintaining adequate airpower for national security and world peace.

To keep AFA members and the public abreast of developments in the field of aviation.

To preserve and foster the spirit of fellowship among former and present members of the USAF.

ITS MEMBERS

Active Members: Individuals honorably discharged from military service who have been assigned or attached to the USAF or its predecessor services, or who are currently enrolled in the Air Force Reserve or the Air National Guard.

Service Members (non-voting, non-office holding): Individuals currently assigned or attached to the USAF.

Cadet Members (non-voting, non-office holding): Individuals enrolled as Air Force ROTC Cadets or as Civil Air Patrol Cadets.

Associates (non-voting, non-office holding): Individuals not eligible for Active or Service membership who have demonstrated their interest in furthering the aims and purposes of Air Force Association.

Industrial Associates: Companies affiliating with Air Force Association on a non-membership status who receive subscriptions to AIR FORCE Magazine and special magazine supplements known as Industrial Service Reports.

ITS OFFICERS AND DIRECTORS

ARTHUR F. KELLY, President

Regional Vice Presidents: Randall Leopold (Northeast); George D. Hardy (Central East); Jerome A. Waterman (Southeast); Morry Worshill (Great Lakes); Merle S. Else (North Central); Frank T. McCoy, Jr. (South Central); Harry B. Johansen (Midwest); N. Michael Kavanaugh (Far West); William Thayer Tutt (Rocky Mountain); Thomas D. Campbell (Southwest); H. R. Wallace (Northwest); Roy J. Leffingwell (Pacific Ocean). Secretary, Julian R. Rosenthal. Treasurer, George H. Haddock.

HAROLD C. STUART, Chairman of the Board Directors: John R. Alison, George Anderl, Warren DeBrown, Ira C. Eaker, Cortez F. Enloe, Jr., Samuel M. Hecht, J. H. Henebry, Cass S. Hough, Russell F. Hunt, George C. Kenney, Rex V. Lentz, Jerome H. Meyer, William F. Mullally, Charles W. Purcell, Mary Gill Rice, James Stewart, C. V. Whitney, Gill Robb Wilson.

Ex-Officio Board Members: Edward P. Curtis, James H. Doolittle, Robert S. Johnson, Thomas G. Lanphier, Jr., C. R. Smith, Carl A. Spaatz.

NATIONAL HEADQUARTERS STAFF

Executive Director: James H. Straubel

Organizational Director: Ralph Whitener

Organizational Assistant: Gus Duda

Service Director: Jake Culpepper



more

GCA Radar Landing Systems—Military and Civil—have been produced by Gilfillan (1942-1952) than by all other companies combined.



more

Nations, Air Forces and Civil Airports are equipped with Gilfillan GCA. Gilfillan GCA is the only standard equipment adopted by 24 nations of the free world.



more

Civil and Military Aircraft landings (2000 every 24 hours) are made on Gilfillan GCA Radar than on any other instrument landing system.



more

Military and Civil GCA equipment is being produced today by Gilfillan and more will be produced during 1953 and 1954 by Gilfillan than by all other companies combined.

In GCA and Radar research, design and production

—the FIRST name is...

Gilfillan

Los Angeles



GCA

WOMEN ORGANIZE FOR AIRPOWER

Adoption of constitution and by-laws and election of national officers make the AFA Auxiliary official; AFA Medic and Chaplain Divisions name their new officers for the coming year

After nearly two years of planning, the Air Force Association Ladies Auxiliary came into its own during the sixth annual AFA convention in Detroit with the election of the Auxiliary's first national officers. Mrs. Marietta C. Miller, 138 Broad St., Hollidaysburg, Pa., was chosen president. She was serving as president of the Pennsylvania Wing Auxiliary at the time of her election.

Geographical representation was given the Auxiliary membership with the election of officers to assist Mrs. Miller. Vice presidents of the Auxiliary are: Mrs. Rita Hastings, Toledo; Mrs. Kay Patterson, Pittsburgh; Mrs. Margaret Gran, Chicago; and Mrs. Edward Kranch, San Diego. Mrs. Mary Jane Long, of Pittsburgh, was elected secretary and Mrs. Frances Freundt, of Kalamazoo, Mich., was named treasurer.

The Board of Governors elected includes Mrs. Milton A. Hahn, chairman, Cleveland; Mrs. Kathleen Murray, Pittsburgh; Mrs. Frank Miller, Lansing, Mich.; Mrs. John Kelley, Kalamazoo, Mich.; Mrs. Dorothy Bohde, San Diego; Mrs. Louis Hauger, Pasadena; Mrs. Muriel Reading, Whittier, Calif.; Mrs. Mary Bolinger, Toledo; Mrs. Jerome Green, Detroit; and Mrs. Teresa Ferry, Drexel Hill, Pa.

The first order of business for the group in Detroit was the adoption of a constitution and by-laws. Several revisions were made in the temporary constitution and by-laws under which several units had been operating during the past two years. Key provisions of the

approved rules governing the Auxiliary are the types and qualifications for membership, and the annual dues.

The Auxiliary approved three types of membership. First, Active, which includes any wife, daughter, mother or sister of an Active member of the Air Force Association, or the widow, daughter, mother, or sister of any deceased person who qualified for Active or Service membership in the Association. Second, Service, the wife, daughter, mother or sister of any Service member of the Association. Third, Associate, any person who has demonstrated that she is interested in furthering the aims and purposes of the Association, or the development of United States airpower, who is not eligible for Active or Service membership in the Auxiliary.

National dues for Active and Service Auxiliary members are \$1.50 annually, payable to the National Headquarters of AFA, until Auxiliary headquarters are established. Associate dues are the same as for Associates of the Association: \$15.00 for the first year and \$10.00 each year thereafter. Local Auxiliary units may assess their members up to \$3.50 annual dues. The Auxiliary Wing receives fifty cents of the \$1.50 national dues paid to the Association.

President Miller, who travels for the American Cancer Society, announced that the formation of new Auxiliary units and a national membership drive are the two major objectives for the coming year. Her first official trip as president was to AFA Headquarters in Washing-



Maj. Gen. Charles I. Carpenter (left), Chief of AF Chaplains, and Col. Constantine Zielinski discuss Division matters with Julian B. Rosenthal, Secretary of Air Force Association.

ton for a conference on the organizational procedures and mission of the Auxiliary.

Delegates to the AFA convention in Detroit expressed their support of the ladies' taking a hand in the airpower battle by unanimously approving their constitution and by-laws, thereby recognizing women as an official component of the Association.

Medics, Chaplains Meet

Highlight of the annual meetings of Medic and Chaplain Divisions of the Air Force Association during the AFA convention in Detroit was the election of officers for the coming year. Dr. Cortez F. Enloe, Jr., of New York City, was unanimously re-elected Commander of the Medics group, and the Rev. John R. McLaughlin of Englewood, N. J. was chosen to head the Chaplains.

Dr. Enloe reported to the meeting of



Joe Lydick (standing) announces plans on taking over Texas Wing at meeting in Ft. Worth. Seated (l to r) Raymond Buck, AFA Associate; Thomas G. Lanphier, Jr., AFA Board Chairman for 1951-52; Lawrence R. Melton, Dallas Sqdn. CO; and John Crawford, Regional V-P Asst.



Southern Cal AFA Squadrons stage joint council meetings. Seated (l to r), Bernard Peters, L. A. Group CO; James McDivitt, Wing CO; and Sqdn. CO's Merrill Levy, L.A.; Ed Kranch, San Diego; standing, Cecil Howard, Pasadena; Clarence Hanson, South Bay; Joe Myers, Vice CO, Santa Monica.

**WHAT'S
AHEAD OF
THE INFANTRY?**



THE *Cessna L-19* BIRD DOG

... dependable, popular servant of the Infantry, itself!

Today, hundreds of these light L-19 reconnaissance planes roam over enemy lines, probing for targets, directing air and artillery fire, supplying isolated UN troops, transporting important military personnel and equipment, in short, serving as every infantryman's own personal "air force."

Equally proud of these sturdy L-19s are the men who fly them, veteran Army and Marine aviators who praise the Bird Dog's powerful 213 HP engine, its *all-metal* construction, visibility, shock-resistant landing gear, high-lift flaps and multiple-installation radio (for contact with both air and ground units!).

What does it all mean? First, more up-to-date, usable battlefield information. And that, of course, means easier missions. But most important, accurate intelligence saves GI lives. That's a combat-proved fact!

We at Cessna are tremendously proud of the L-19s and we're building them as fast as we can. A job? No ... we think it's an honor.

CESSNA AIRCRAFT COMPANY, WICHITA, KANSAS



AFA'S FAMILY AWARDS

For outstanding service to AFA and airpower — awards announced at the 1952 National Convention in Detroit

UNIT AIRPOWER PLAQUES

Chicago Group: For outstanding efforts in promoting the Association and its development; for participation in numerous civic affairs and Civil Defense activities; and for leadership in organization of new Squadrons.

Mifflin County (Pa.) Squadron: For outstanding performance of duty; for a well-rounded program of Squadron activities; for the maintenance of an excellent club house; and for the sponsorship of an enthusiastic Auxiliary.

San Francisco Squadron: For continued outstanding contributions to public understanding of the Association, and for sponsoring an inspiring homecoming for Col. Francis S. Gabreski, America's leading ace.

Toledo (Joe E. Brown) Squadron: For outstanding efforts in promoting the Association, and for accepting the responsibility for the Ground Observer Corps activities for the Toledo Area.

University of New Mexico AFA-ROTC Cadet Squadron: For contributing to the development of the Association by enrolling more cadet members of the Association than any other college or university in the nation.

INDIVIDUAL AIRPOWER PLAQUES

George A. Anderl, Chicago, Ill.: For leadership as a unit commander.

Samuel S. Boghosian, Fresno, Calif.: For helping reorganize Fresno Squadron.

Dr. Cortez F. Enloe, Jr., New York, N. Y.: For outstanding service as commander of the Medical Division.

Frances Freundt, Kalamazoo, Mich.: For organizing new Squadrons.

Jerome Green, Detroit, Mich.: For assistance at 1952 Convention.

William H. Hadley, Jr., Mansfield, Mass.: For service as Regional Vice President.

George D. Hardy, Mt. Rainier, Md.: For service as Regional Vice President.

Richard C. Hodges, Detroit, Mich.: For service as 1952 Convention Chairman.

Cass S. Hough, Plymouth, Mich.: For service at 1952 Convention.

Irving H. Kempner, Detroit, Mich.: For service at 1952 Convention.

Edward C. Kranich, San Diego, Calif.: For service as Squadron Commander.

Edward J. LeFevre, San Diego, Calif.: For assistance to the Association.

Frank T. McCoy, Jr., Nashville, Tenn.: For assistance to the Association.

Norman Miller, Dayton, Ohio: For service as Squadron Commander and assistance to the 1952 Convention.

Joseph M. Murphy, Honolulu, T. H.: For service as Squadron Commander.

Wm. Thayer Tutt, Colorado Springs, Colo.: For service as Regional Vice President.

William W. Walker, Los Angeles, Calif.: For service as a unit officer.

John S. Warner, Baltimore, Md.: For Squadron and Wing activities.

Frank W. Ward, Battle Creek, Mich.: For contributing to the success of the 1952 Convention.

Arthur G. Wegman, Brooklyn, N. Y.: For service as a Squadron officer.

Ennis C. Whitehead, Newton, Kans.: For distinguished service to airpower.

George W. Wilson, Chicago, Ill.: For service as a Squadron officer.

Kenneth B. Wolfe, Ashville, N. C.: For distinguished service to airpower.

Leonard A. Work, State College, Pa.: For untiring efforts in carrying out the objectives of the Association.



AFA members receive their Medals of Merit at the National Convention. Left to right, Larry G. Hastings, Toledo; Irving Zeichner, Atlantic Highlands, N. J.; James McDivitt, Los Angeles; Morry Worshill, Chicago; Thomas F. Stack, San Francisco; and Bert D. Lynn, Los Angeles.

AFA NEWS — CONTINUED

his group that his pre-convention membership campaign had netted the Division 191 new members. Results of the campaign were still coming in and the Division expected to increase its membership by several hundred before the impact of the campaign subsided. The Medic group held its meeting in the Sheraton-Cadillac Hotel during the AFA convention. A luncheon and a tour of one of Detroit's top medical manufacturing firms climaxed the meeting.

The Chaplains also met at the convention headquarters hotel, with Maj. Gen. Charles I. Carpenter, Chief of Air Force Chaplains, addressing the group at its annual luncheon. The new Commander of the Chaplain Division succeeded Colonel Constantine Zielinski, who returned to active duty shortly after the outbreak of the Korean war as head of the Budget, Fiscal & Supply Division of the Office of Chief of AF Chaplains. Chaplain Zielinski gave his group an annual report on the status and activities of the Division.

Divisions were added to the organizational structure of the Air Force Association in 1949 when the Chaplain Division was officially chartered during the Association's national convention in Chicago. Chaplain Zielinski was one of the organizers of this group. The Medic Division was chartered during the AFA convention in Los Angeles last year.

Under the constitution and by-laws of the Association, Divisions are authorized when their membership is confined to former and present personnel of numbered Air Forces or Air Force units, and total 150 or more members upon application for a charter. The purpose of the Division, in addition to the objectives of the Association, is to retain the identity, and foster and preserve the traditions and fellowship of the numbered Air Forces and Air Force units. Members of a Division may participate in the conventions of the Association, and voice their opinions and sentiments on matters of primary concern to their membership through their official delegates. A Division is allowed one delegate as a Division and one additional delegate for each of its Squadrons composed of twenty or more active members.

Former and present Medic and Chaplain personnel are urged to affiliate with their respective Divisions. Dr. Enloe may be contacted at 500 Fifth Avenue, Suite 5130, New York City. The Rev. Mr. McLaughlin's address is 223 Tenafly Road, Englewood, N. J. Chaplain Anthony A. Cirami of East Vineland, N. J., was elected Deputy Commander of the Division, and Chaplain Charles W. Carnan of Rockville Center, N. Y., was elected Adjutant.

Eleven Named for Medals

Additional AFA family awards made at the 1952 Convention and Reunion in Detroit included Member Medals of Merit, which went to nine men, and



What it takes to silence a pillbox!



Steel: 90,000 lbs.

+



Rubber: 1,800 lbs.

+



Copper: 2,000 lbs.

+



Bronze: 100 lbs.

+



Specialized Personnel: 5

A single blast from a 105 mm. howitzer can reduce a pillbox to smoldering silence! This tremendous firepower is awesome... only a mount of great strength can withstand its recoil.

American Machine and Foundry Company's vast manufacturing facilities guide the production of these mounts from initial stage

to the time they're ready for action.

AMF is pleased to make its contribution to Army Ordnance. Along with thousands of other companies we are utilizing industrial *skill* and *speed* to insure America's military readiness.

Above figures are given with due regard to security.

AMERICAN MACHINE & FOUNDRY COMPANY

Executive Offices, 511 Fifth Avenue, New York 17, N. Y.

AMF does it better—automatically!



CREATORS AND PRODUCERS OF ELECTRONIC AND MECHANICAL EQUIPMENT FOR THE ARMED SERVICES: Radar antennae and drive units • automatic loaders for Army and Navy weapons • elevating and azimuth mechanisms • cooling fans for Army tanks • airplane parts • mobile ovens • electronic training devices • naval ordnance • rolled and welded steel products • shell components • silver-zinc batteries • special military projects.

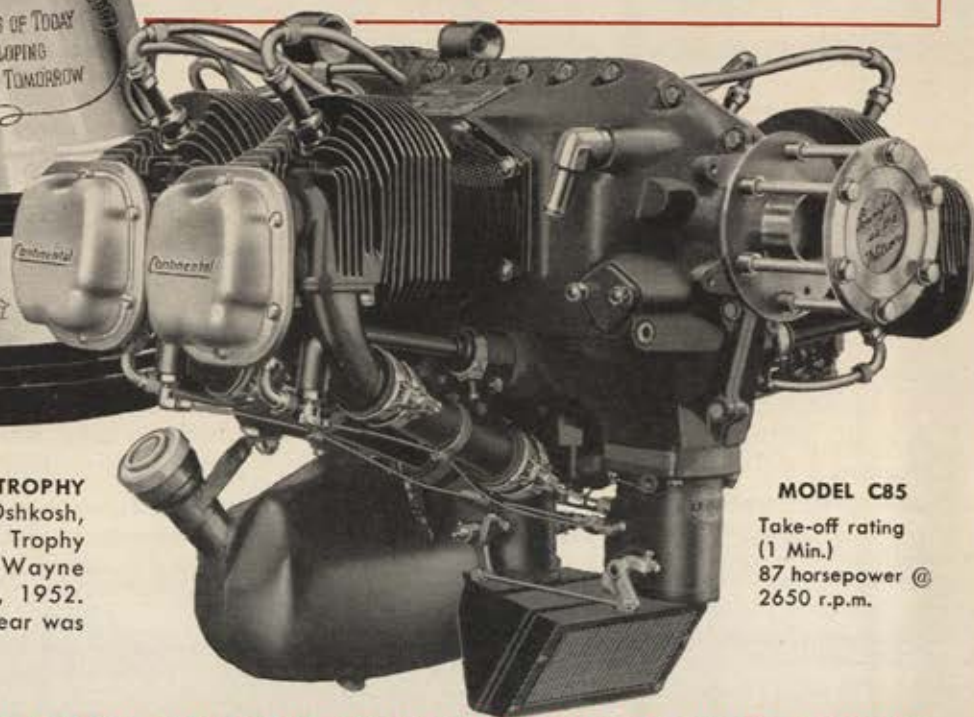
CONTINENTAL



**For More Than
... 20 Years ...
First Name in
UTILITY PLANE
POWER**



CONTINENTAL MOTORS TROPHY won by Steve Wittman of Oshkosh, Wis., in the Continental Trophy Race finals at Detroit-Wayne Major Airport, Labor Day, 1952. Top speed recorded this year was above 200 m.p.h.



MODEL C85

Take-off rating
(1 Min.)
87 horsepower @
2650 r.p.m.

ONLY CONTINENTAL BACKS YOU WITH ESTABLISHED WORLD-WIDE SERVICE

Continental Motors Corporation
Aircraft Engine Division
MUSKEGON, MICHIGAN

two non-member medals. Winners of member medals were:

Thomas D. Campbell, Albuquerque, N. Mex.: For outstanding service in furthering the development of AFA.

Milton Caniff, New York City, N. Y.: For continued distinguished service to airpower and AFA.

Larry G. Hastings, Toledo, Ohio: For outstanding contributions to public understanding of AFA.

Vernon Johnson, Washington, D. C.: For outstanding service to airpower in furthering the development of AFA.

Bert D. Lynn, Los Angeles, Calif.: For outstanding contribution to public interest in Air Force personnel.

James H. McDivitt, San Gabriel, Calif.: For outstanding service to AFA and Air Force ROTC.

Thomas F. Stack, San Francisco, Calif.: For outstanding contribution to public interest in Air Force personnel.

Morry Worshill, Chicago, Ill.: For outstanding service to airpower in furthering the development of AFA.

Irving B. Zeichner, Atlantic Highlands, N. J.: For outstanding contributions to public understanding of AFA.

Non-member Medals of Merit

Norman K. Haig, Detroit, Mich.: For outstanding service which contributed greatly to the success of the 1952 Convention.

Clarence J. Reese, Detroit, Mich.: For outstanding service which contributed greatly to the success of the 1952 Convention.

Truman, AF Commanders Send Greetings

A message from the White House to AFA members was read by Toastmaster Harold Stuart as he opened the program of the 1952 Airpower Banquet in Detroit's Masonic Temple.

"I am grateful," wrote President Truman, "for your kind invitation to attend the sixth annual convention of the Air Force Association. I regret that my schedule does not permit me to be with you in Detroit."

"The members of the Air Force Association have helped to promote the growth of airpower, which included not only the military arms, but the aviation industry as a whole and commercial airlines as well. In airpower, as in other elements of our national strength, our military stature is dependent upon a healthy and progressive economy developed during the years of peace."

"Your Association has also helped to explain the meaning of airpower in this new world of ours where no nation can live to itself or for itself alone. Because of the rapid development of aircraft, the continents and even the hemispheres are no more than a few hours apart, and because of new and powerful weapons, no nation on earth can dominate or intimidate its nearest neighbors without regard for those that formerly were con-



SEWING HOT SEAMS THAT ADD MILES ... by PASTUSHIN!

Modern, precision methods used by Pastushin Aviation to produce aircraft components make possible lighter, stronger jettisonable fuel tanks to increase range and combat effectiveness of America's fighting aircraft.

AIRCRAFT FUEL TANKS • SEATS • LANDING FLAPS
AILERONS • TAIL SURFACES • BOMB BAY DOORS



PASTUSHIN AVIATION CORPORATION

5651 West Century Boulevard • Los Angeles 45, California

LOS ANGELES INTERNATIONAL AIRPORT, LOS ANGELES, CALIFORNIA

sidered distant. Today all nations are neighbors, whether their governments like it or not, and when all learn to be good neighbors, we shall have peace and prosperity such as the world has never experienced.

"The existence of airpower as a revolutionary force in warfare is now recognized, for land and sea forces are now just as dependent on air forces, as air forces are dependent on them. Here in the United States we have the genius and the capacity to produce and maintain strength in the air that will guarantee our own survival and that of the free world. We are already engaged in that worthy project as a part of our program of military preparedness to meet the challenge of the years ahead."

"Please extend my greetings to your members and my hope that this will be a most successful annual gathering."

Congratulatory telegrams offering thanks to the Air Force Association for its support came from officers and airmen of the Air Force's far-flung overseas commands. Among the messages were:

"Greetings to the Air Force Association from the Fifth Air Force and congratulations upon the occasion of the Association's sixth national convention. The importance of an adequate Air Force in the fight against communist aggression cannot be disputed. It is encouraging to know that the Air Force Association is aiding, materially, this effort through its program of promoting airpower." — Lt. Gen. Glenn O. Barcus



HERE'S VAPOR-SAFE CIRCUIT PROTECTION AT ANY OVERLOAD LEVEL!

THIS M.P. Trip-Free Circuit Breaker completely eliminates the danger of explosion from high level fault currents produced by large aircraft power systems. It's a precision built device . . . engineered to provide positive circuit protection under all flight conditions from sea level to 50,000 feet altitude. It safely and consistently interrupts maximum currents encountered on 120 KVA, 115 volt, 400 cycle A.C. systems . . . with a margin of interrupting capacity to handle even larger systems now projected for future aircraft. It's highly resistant to shock, vibration and corrosion. And its single pole, double break, push-pull type trip mechanism is permanently enclosed with a special arc resistant case that assures vapor-safe protection at any overload level.

Produced in all standard ratings from 5 to 50 amperes for use on all 28-30 volt D.C. and 115 volt, 400 cycle A.C. circuits. Write for complete technical information and specifications today!



M.P. SERIES 80AE TRIP-FREE BREAKER
Explosion-proof, arc resistant Melamine-Formaldehyde case. Yellow button, and fluorescent trip indication. Extended collar for edge lighted panels.



M.P. SERIES 60 NON-TRIP-FREE BREAKER
Black Bakelite, flame retarding case. Black button. Radioactive luminescent, fluorescent trip indication. Approved for 115 volt, 400 cycles A. C. and 28-30 volt D. C. operation.



MECHANICAL PRODUCTS, INC.

1824 RIVER STREET • P. O. BOX NO. 116 • JACKSON, MICHIGAN

"Hearty congratulations to the Air Force Association on the occasion of your sixth national convention. The Northeast Air Command salutes your essential role in support of world-wide Air Force activities."—Lt. Gen. Charles T. Myers

"On occasion of sixth national convention of Air Force Association, sincere congratulations are extended. Many wishes for future success in carrying over principle of 'Peace through Airpower.'"—Brig. Gen. Emil C. Kiel

"In the UK the Seventh Air Division of SAC salutes the members and the officials of the Air Force Association on the occasion of the sixth national convention of the organization and wishes you every success in accomplishment of your important mission. Regret I cannot personally be with you."—Maj. Gen. John P. McConnell

"Please accept my congratulations upon the occasion of the sixth national convention of the Air Force Association. In light of present world conditions it is an appropriate time to rally all air-minded Americans to full realization of the heavy responsibility placed upon the USAF creating and maintaining an impregnable air frontier. Your fellow airmen and officers in Europe join me in sending greetings."—Gen. Lauris Norstad

"On the occasion of the Air Force Association's sixth national convention, I should like to congratulate our vigorous organization for its part in promoting in-

SQUADRON OF THE MONTH

San Juan, Puerto Rico Squadron

CITED FOR

outstanding attendance at the national convention in Detroit, for arranging the presentation of the first Colors of the new Commonwealth of Puerto Rico to the U. S. Department of Defense via AFA President Harold C. Stuart, and for sending the AF ROTC Cadet Color Guard to participate in the ceremony.

terest in, and understanding of, the Air Force. In these unsettled times, it is important that the people of our country appreciate the importance of airpower as deterrent to aggression. I hope the Association will have a long life and success in the fulfillment of its worthy purposes."—Lt. Gen. W. E. Kepner

"The Alaskan Air Command extends its best wishes for a successful convention to an organization that has contributed much to our national defense."—Maj. Gen. William D. Old

"The Twentieth Air Force congratulates the Air Force Association on five years of aggressive action in promoting airpower. The Twentieth has never been home and is again fighting the kind of an air war so many of you learned dur-

floating anchor

**MEANS
SAVINGS IN
ASSEMBLY TIME
VIA**

plate-lok →



The established efficiency of BOOTS' line of all-metal self-locking nuts is emphasized by the internationally used PLATE-LOK. The BOOTS PLATE-LOK affords weight savings of 33%...functioning smoothly in temperatures from sub-zero to 550° F, and complying with AN-N-5 and AN-N-10 specifications. With one or two lugs and right angle base, for regular or counter-sunk rivets, for welding, the incomparably efficient FLOATING ANCHOR PLATE-LOK, is the perfect self-locking nut when float is needed. The versatility of the PLATE-LOK is further accentuated by its use with:



→ ***gang channel***

Removable or permanent...in standard length channels...wide range of spacings. (Special spacings can be ordered.)



→ ***anchor bases***

Plain anchor...one lug...corner...midget and right angle. Positive locking action is assurance against failures due to vibration and extreme temperature changes.

For any lock-nut problem, consult BOOTS Engineers. Experimental quantity supplied at no charge. Specifications and necessary technical data on the complete PLATE-LOK line available in our catalog.

WRITE:

Free -



BOOTS Aircraft NUT CORPORATION
NORWALK, CONNECTICUT

CARE FOOD PACKAGES FOR HOLIDAY GIFTS

Americans who wish to assure Christmas cheer for needy families overseas this year have a choice of three CARE food packages especially prepared for holiday gift-giving. • The CARE Holiday Package, containing a whole canned turkey plus dinner trimmings for as many as twelve persons—\$18.75. • The turkey alone \$12. • The Budget Food Package, containing bacon, sugar, rice, coffee, butter, candy, etc.—\$6.95. The Holiday Package is available for delivery to Austria, Belgium, Finland, France, West Germany and Berlin, Great Britain, Greece, Italy, The Netherlands, and Norway. The other two packages can also be sent to East Germany and Yugoslavia, while the turkey alone can go to all these countries and also Japan, Okinawa, and the Philippines. Orders may be sent to CARE, 20 Broad St., New York 5, N. Y., or any local office of the non-profit agency. Deadline for Christmas delivery is December 1st.

AFA TRAYETTES

These beautiful AFA Trayettes, 4½ inches in diameter, can be used as ash trays, coasters, or hung on your wall. A polished brass ring encloses a tough, milk glass base with baked in, full color numbered Air Force insignia. An attractive accessory for study, den or living room.



\$2.50



\$4.00

AFA ZIPPO LIGHTERS

Here is your personalized copy of the world famous ZIPPO Lighter with ZIPPO'S unconditional guarantee. These popular wind-proof lighters have the Air Force Association insignia etched in full color on the front. This is a real bargain and makes a handsome gift. If you wish your name engraved on the back, please add one dollar.

AIR FORCE BINDERS

Don't let your copies of AIR FORCE Magazine get torn and dirty! This attractive new binder, sturdily constructed of 130 point bindersboard, covered with beautiful blue Levant Leathercloth, holds 12 copies—a full year's subscription. Magazines can be inserted and removed individually, each held in place by its own wire retainer.



\$2.85

Place Your Order Now

The above items are ready for immediate shipment postpaid. Air Force Association guarantees all items against breakage in transit.

Mail Today!

AIR FORCE ASSOCIATION

c/o Department, OM-9
1424 K St. N.W., Washington 5, D. C.

- _____ Ash Trays @ \$2.50 each ☐
 - _____ Zippo Lighters @ \$4.00 each ☐
 - _____ Zippo Lighters (engraved) @ \$5.00 each ☐
 - _____ AIR FORCE Binders @ \$2.85 each ☐
- SORRY NO COD's

NAME _____
STREET _____
CITY _____ ZONE _____ STATE _____
I enclose check or money order for _____

AFA NEWS CONTINUED

ing World War II, when you flew in or supported the 'heavies,' B-17s and B-24s, or the 'very heavies,' the B-29s. We are still flying the B-29, and they carry full loads nightly against targets in North Korea. We appreciate the excellent support you have given us, and we are counting on you to continue it."
—Maj. Gen. Ralph F. Stearley

New Resolutions Passed

Resolutions passed by delegates to the Detroit convention were:

Resolution Number One: That AFA adopt as official, the Air Force Association National Ladies Auxiliary Constitution and by-laws in form submitted by the Constitution Committee, and, subject to approval of AFA President, authorize members of existing wings and local auxiliaries to appoint a committee among themselves for purpose of establishing the Auxiliary.

Resolution Number Two: That AFA adopt a suitable brassard-type badge.

Resolution Number Four: That AFA demand immediate investigation on the treatment of paraplegic veterans.

Resolution Number Five: That AFA President appoint committee to consider opening membership to former Navy and Marine Air Force personnel.

Resolution Number Six: That AFA direct its efforts, on a national basis, toward goal of having preserved by communities involved, the local airports, which are being overgrown by housing and industrial developments.

Resolution Number Seven: That AFA request USAF to give detailed consideration to displacement of Fixed Base Operators in setting up military operations at municipal airports.

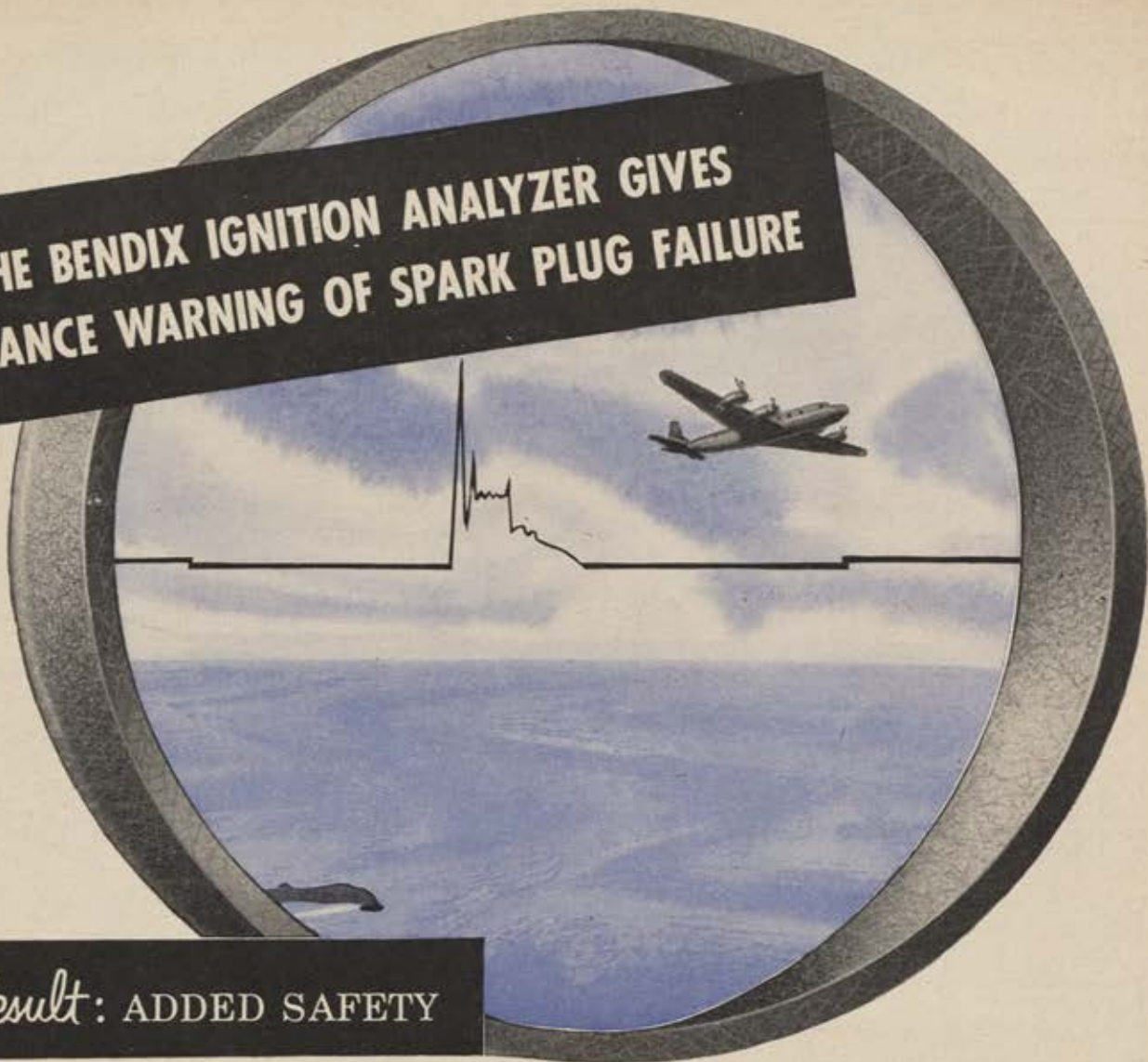
Resolution Number Eight: That AFA adopt as its "official headgear" a cap similar to the ones worn by crew chiefs during World War II, in suitable shade of blue trimmed with gold, with purchase and use of the hat optional.

Resolution Number Eleven: That AFA, while commending efforts of ConAC, numbered air forces, AFRTC, and liaison personnel for improvements in Reserve program, urge further efforts to correct deficiencies in the program, protest low priority given Reserve needs in appropriation and allocation of defense funds, and press for immediate provision of funds for Reserve Act.

Resolution Number Twelve: That AFA revamp the Wing Financial Assistance Plan giving each certified Wing minimum sum of \$20, or \$10 per month per active squadron within Wing, with maximum total fixed at \$50.

Resolution Number Thirteen: That AFA recommend: (1) amendment to AF regulations to give Reserve AF-ROTC students credits for such work for retention, promotion and retirement, and (2) an AF study to determine feasibility of contracting with AF-ROTC colleges and secondary schools to give basic training to recruits of the Reserve Forces.—END

THE BENDIX IGNITION ANALYZER GIVES ADVANCE WARNING OF SPARK PLUG FAILURE



Result: ADDED SAFETY

THE POINT OF NO RETURN BECOMES A POINT OF ASSURANCE

The Bendix Ignition Analyzer actually *foresees the future* by predicting the remaining life of spark plugs. With the Ignition Voltage Control the operator can determine the present efficiency of all spark plugs and put the finger on any weakness in the system—even though it has not yet affected the operation. If the control reveals impending trouble, corrective action may be taken *before* material harm takes place. With an airborne installation of the Ignition Analyzer, the test can be made before an over-water flight reaches the point of no return. By viewing the wave forms on the face of the 'scope and comparing with known patterns, the operator can quickly make the *right* choice . . . to return without mishap, to operate at reduced power and prevent complete engine failure or to continue safely at cruising speed.

So, for maximum safety and operating efficiency it pays to make provisions for installation of a Bendix Ignition Analyzer on all your aircraft.

Detailed information available on request.



Costs Less—Does More

The Bendix Ignition Analyzer is available for either airborne or portable-airborne installations. It can be used with either high or low tension magneto or battery ignition. It is the ignition analyzer that can predict spark plug failure before it occurs . . . make an efficient check of more than one spark plug at a time and do so on a large, easy to read screen . . . yet it costs less than comparable analyzers.

Bendix

**SCINTILLA MAGNETO DIVISION OF
SIDNEY, NEW YORK**



Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

FACTORY BRANCH OFFICES: 117 E. Providencia Avenue, Burbank, California • Stephenson Building, 6560 Cass Avenue, Detroit 2, Michigan
Brouwer Building, 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California



HISTORY IN THE MAKING—When two big Sikorsky H-19s landed at Wiesbaden, Germany, on August 4, following a multi-stage flight across the Atlantic Ocean, a new chapter was added to aviation history.

To the Air Rescue Service, which conducted the flight this was an important proof of the ability of helicopters to operate on long-range missions. The test was made under severe weather conditions where the skill of pilots

and the performance of both of the aircraft were heavily taxed.

The successful completion of this historic flight was a major step in the evolution of the helicopter . . . already a craft of unparalleled usefulness and versatility. And it hastened the day when big helicopters of the future will be available to fly anywhere in the world, to perform their multitude of useful services.

SIKORSKY AIRCRAFT

BRIDGEPORT, CONNECTICUT

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION



Maj. Donald Adams



Maj. Winton Marshall



Maj. William Whisner



Maj. James Jabara

JET ACES TALK SHOP IN CONVENTION FORUM

*Sabres vs MIGs, pilots, tactics, and the lessons of
Korea are described by the men who know*



Col. Francis Gabreski

DETROIT WAS a real busman's holiday for the fourteen jet aces who got together there during the AFA convention. No crew ever talked shop faster, longer, or more earnestly than these veterans of the Korean air war. And they didn't have to hunt far for appreciative audiences.

At the time of the convention USAF rosters listed eighteen jet aces. AFA brought together all who could be spared from combat. Of the others, three were still in Korea and Maj. George Davis was listed as missing in action. Maj. Donald Adams was killed August 30 in Detroit when his F-89 crashed at the air show being held in conjunction with the convention. (For news of jet aces nineteen and twenty, see "People in the Air News," page 15.)

Straight answers to questions on many phases of the air war marked the sessions with the aces. Their replies are worth passing along.

Discussing the performance of the Sabrejet, Maj. Bill Whisner said, "We have the best airframe in the world in the F-86, and we have others coming up, but we need some engines to go with them. The airplane does fine going straight down, but we like to go straight up too. . . . The MIG-15 does have the performance advantages that count above 30,000 feet. The only way we compete with them

is in tactical utilization of airplanes and individual pilot ability."

Maj. Jim Jabara talked about pilots. "The thing that is paying off in Korea right now," he said, "is the guy flying the airplane. . . . To shoot another jet down, it takes two people. We could fight the MIG man versus man, but in shooting down maybe two or three, we might lose two or three of our own pilots and we don't want those odds. We would like to shoot four or five down and bring all our boys home. Because of this, we need leadership and we need discipline and we need pilot ability."

Maj. Dick Creighton told how the F-86's machine guns stack up against the MIG's cannon, which are "effective weapons, fighter against bomber," he said. "However, with the rate of fire we have, the number of rounds we are putting into the MIG-15, we feel that they are suffering just as severely as we are."

Maj. Donald Adams said that in the MIG Russia seemed to have "put its eggs all in one basket," by building an interceptor for just one job. "Even though today at high altitude we do not have an advantage in aircraft and numbers," he went on, "in the future we shall have aircraft that will be able to outfly the MIG and still maintain the same advantages the 86 has today. In a projected view the United States

should come out well ahead."

Maj. Winton "Bones" Marshall talked about tactics. "Very seldom today do we think of actually killing the enemy pilot," he said. "It is merely one aircraft, the weapon you have in your hand, versus the weapon the Commie has in his hand, and when we are desperately trying to outmaneuver each other, we use the tactics that have come down through the ages. . . . One of the best tactics we had was the good old American fight. Regardless of how many 86s we had, we would pile into any number of Communist MIGs which usually resulted in confusion in their ranks, and many times they turned around and went back across the river again even though they had us badly outnumbered."

Col. Francis "Gabby" Gabreski, the dean of aces, said, "Both parties are gaining a great deal of experience and training. However, up until the time I left, we didn't gain the same amount of experience as the Commies for one reason: The Commies have GCI control. They control their fighters into the target area, and with the aid of GCI as well as mass formation, they deploy their fighters. We, in turn, go into the area with one purpose. That is maintaining air superiority so that the fighter-bombers can perform their mission."—END

Allison jets power first mass refueling flight

Confidence in the dependability of Allison jet engines is again demonstrated by history's biggest transoceanic jet plane flight. Three squadrons of Republic F-84G Thunderjets completed the 10,895-mile movement, across vast expanses of the Pacific, from Turner Air Force Base, Georgia, to Tokyo. En route, pilots of the Thirty-First Fighter Escort Wing successfully completed air-to-air refuelings—first ever attempted on a mass flight.

This history-making flight, including 2,400 miles nonstop from California to Honolulu, demonstrates the mobility of American air power—and adds new laurels to the battle-proved record of the famed Allison J35 engine.

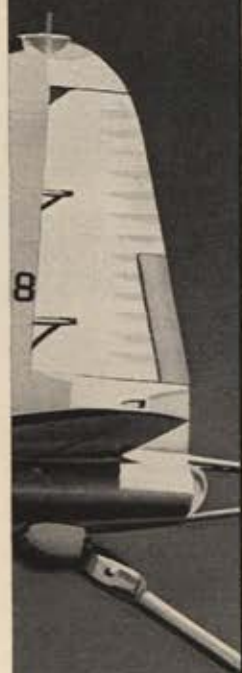
**Another
Allison First!**

*Designers and Builders of J35 and J71 Axial,
J33 Centrifugal Turbo-Jet Engines,
T38 and T40 Turbo-Prop Engines*



Allison

DIVISION OF GENERAL MOTORS
INDIANAPOLIS, INDIANA





AN HARDWARE anytime... anywhere...

...from your nearest Air Associates Aviation Supplies Division—

216 Union Street, Hackensack, New Jersey

5315 West 63rd Street, Chicago 38, Illinois

3214 Love Field Drive, Dallas 9, Texas

1231 Airway, Glendale 1, California

International Airport, Miami 48, Florida

Manufacturers and Distributors of Aviation Materials and Equipment.



AIR ASSOCIATES

Aircraft Products Division: Teterboro, New Jersey

Electronic Equipment Division: Orange, New Jersey



Engineering DESIGN DEVELOPMENT and MANUFACTURING

- High speed, semi-automatic and special purpose devices
- Special purpose devices
- Tooling
- Aircraft Structures
- Stress Analysis
- Instrumentation
- Jigs and fixtures
- Electronics

THE
PARCO
COMPANY, INC.,
82 Beaver St., New York 5, N. Y.

CREDITS:

Front cover — Vernon Nye; pages 23, 24, and 25—Eastfoto; page 27—Wide World Photos, Inc.; map on page 29—Watson Holley; pages 31, 32, 33, 34, 35, 49, and 50—articles by Robert Raymond and Hilde Marchant condensed with permission from "Picture Post" magazine; pages 31, 32, 33, 34, and 49 — pictures by Haywood Magee for "Picture Post" magazine, courtesy of "Picture Post"; pages 54 (top), 56 (lower left), and 65—Lt. Frank Stevens and A/IC Robert Murray.

AERONAUTICAL ENGINEERING

Design Aircraft & Components — Study with Jets & Rockets — Great Future — Advanced Aeronautical Subjects — World-Wide Enrollment — Fully Accredited — Est. 1929 — Approved for Vets — CAL-AERO grads in heavy demand.

WRITE TODAY for Special Information

CAL-AERO TECHNICAL INSTITUTE

GRAND CENTRAL AIR TERMINAL
GLENDALE 1, CALIFORNIA

Dept. AF

- ☐ Aeronautical Engineering ☐ Master Aviation Mechanics
☐ JET ENGINE Maintenance & Overhaul

Name _____ Age _____

Address _____

City _____ Zone _____ State _____

A RESERVIST SOUNDS OFF

A very unhappy guy airs his gripes and suggests a six-point program for improving the Reserve

I AM BROWNED OFF with the USAF in general, and, in particular with the way they have handled the reserve program.

If mine were an isolated case, I would accept it as "just one of those things," but there were at least a dozen men in my reserve squadron who had as good or better reasons for staying out than I, and the whole squadron got several raw deals. Multiply this by all of the activated reserve squadrons, and you'll get some idea of how the whole program was mismanaged from start to finish.

I am telling my story, not because it is the worst case I know of, but because I am naturally most familiar with it. As I said before, mine is not an isolated case, but is typical of the whole reserve program.

I joined the Air Force Reserve in 1944 at the age of seventeen, with the understanding that I would be activated when I became eighteen, and sent to Aviation Cadet training. I was called in in the spring of 1945, simultaneously with the collapse of the AC program. I knocked around in the states for a few months, spent a year on occupation duty, and was discharged as a PFC in December of 1946. I had had my fill of the Air Force, and wanted no part of the Reserve—a very typical attitude.

I took advantage of the GI Bill, and enrolled in one of the country's leading engineering schools. In 1948 the draft opened up again. I was young and single. If veterans became draft eligible, I would be among the first to go. Just on suspicion, I joined the AF Reserve. It sounded like a good deal — we wouldn't be called short of all out war, in which case we would have to go anyhow, and this way we would be in the Air Force.

There was a reserve squadron located on campus, so I joined it. From the start the enlisted Reservists were treated as poor cousins. In the summer of 1949 the program was reorganized, and it looked as if something good might come of it. We were soon set up and operating. Our squadron was one of the first to receive its "class A" rating. All of the officers, and about eighty percent of the men were veterans. We were a Troop Carrier outfit, equipped with C-46s.

I graduated from college in Jan-

uary 1951, and was employed by the Air Materiel Command at Wright Field. (Incidentally, because of my reserve status, I could not get employment elsewhere.)

My supervisors at Wright Field suggested that I apply for a reserve commission under the provisions of AFR 36-5. They felt that if I had a commission, even if I were called up, they could keep me there. I applied, and was still awaiting action from it when I was notified that we were being activated.

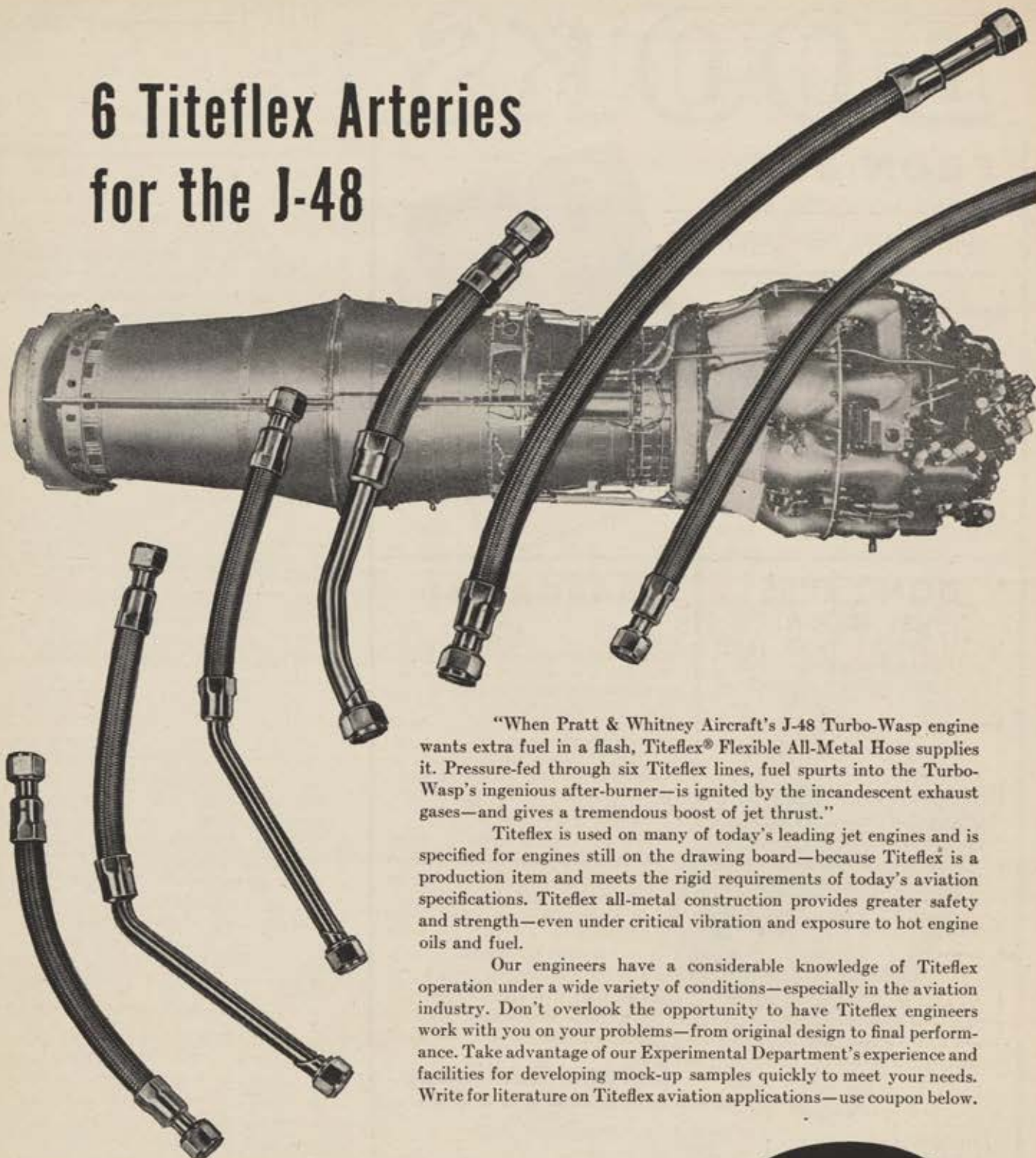
We had the usual three day processing period six weeks prior to our active duty date. The delay board was a farce. I later read the regulation covering these boards. Said regulation stipulated that the board should consist of at least one field grade officer, and such other personnel as might be deemed necessary. Our delay board met the minimum requirements — it consisted of one each bird colonel—period. The good colonel did not bother to read the letter requesting a delay which my employers had written.

To make a long story short, my commission did not come through in the ensuing six weeks, and on May 1, 1951, I left my research work at Wright Field and was once again a PFC in Uncle Sam's Air Force. The years of schooling, the experience, and the work at Wright Field didn't mean a damn thing — I was back where I had been five years before.

When we entered on active duty we received the barbed wire cluster supreme to our purple shaft. In our reserve days we had been issued an outfit of ODs, one of khakis, and a fatigue outfit. We had to buy those cast-off articles out of our clothing allowance. Not only did we have to buy them but we had to pay for brand new, not used equipment. Not only did we pay for new equipment, we paid, not the 1942-1944 prices, but 1951 prices.

We soon received another shafting. When we were activated, due to occupational deferments and transfers to supporting units (Food Service, etc.), we were at about seventy-five percent strength. The difference was made up by Regulars. Shortly after activation, ratings were frozen for Reservists so the Regulars not

6 Titeflex Arteries for the J-48



"When Pratt & Whitney Aircraft's J-48 Turbo-Wasp engine wants extra fuel in a flash, Titeflex® Flexible All-Metal Hose supplies it. Pressure-fed through six Titeflex lines, fuel spurts into the Turbo-Wasp's ingenious after-burner—is ignited by the incandescent exhaust gases—and gives a tremendous boost of jet thrust."

Titeflex is used on many of today's leading jet engines and is specified for engines still on the drawing board—because Titeflex is a production item and meets the rigid requirements of today's aviation specifications. Titeflex all-metal construction provides greater safety and strength—even under critical vibration and exposure to hot engine oils and fuel.

Our engineers have a considerable knowledge of Titeflex operation under a wide variety of conditions—especially in the aviation industry. Don't overlook the opportunity to have Titeflex engineers work with you on your problems—from original design to final performance. Take advantage of our Experimental Department's experience and facilities for developing mock-up samples quickly to meet your needs. Write for literature on Titeflex aviation applications—use coupon below.

Let Our Family of Products Help Yours

Titeflex

✓ Check products you are interested in.



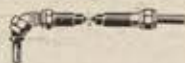
☐ SEAMED AND SEAMLESS METAL HOSE



☐ PRECISION BELLWS



☐ IGNITION HARNESS



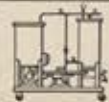
☐ IGNITION SHIELDING



☐ ELECTRICAL CONNECTORS



☐ RIGID AND FLEXIBLE WAVE GUIDES



☐ FILTERS



☐ FUSES

TITEFLEX, INC.

510 Frelinghuysen Ave.
Newark 5, N.J.

Please send me without cost
information about the products
checked at the left

NAME _____

TITLE _____

FIRM _____

ADDRESS _____

CITY _____

ZONE _____ STATE _____

MAIL
COUPON
TODAY

BOOKS

FROM AFA

THERE'S NO BETTER BUY
THAN BOOKS FOR CHRISTMAS

1. NOW... WE CAN AGAIN OFFER THE ARMY AIR FORCE IN WORLD WAR II

VOLUME III

EUROPE—ARGUMENT TO V-E DAY
JANUARY 1944 to MAY 1945

Edited by W. F. Craven and J. L. Cate
University of Chicago Press \$8.50

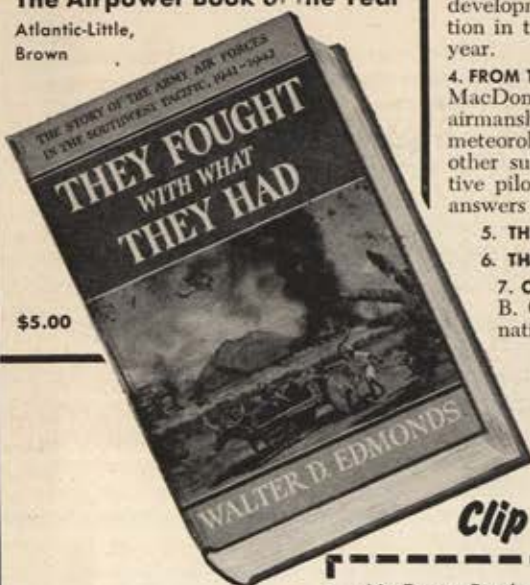


2. DON'T MISS THEY FOUGHT WITH WHAT THEY HAD

By Walter D. Edmonds

The Airpower Book of the Year

Atlantic-Little,
Brown



\$5.00

BARGAINS!

3. THE AIRCRAFT YEAR BOOK, 1951. Official publication of the Aircraft Industries Association of America, Inc., it gives a complete review of events and developments in military and civil aviation in the nation during the calendar year. \$6.00

4. FROM THE GROUND UP, by Sandy A. F. MacDonald. An interesting book on airmanship, includes theory of flight, meteorology, air navigation, and many other subjects of help to the prospective pilot. Gives sample questions and answers of CAA pilot exams. \$2.75

5. THE AIR OFFICER'S GUIDE \$3.50

6. THE AIRMAN'S GUIDE \$2.50

7. OUR FIGHTING "JETS," by Maj. C. B. Colby. Illustrations and explanation of jet power. \$1.00

8. GLOBAL MISSION, by Gen. H. H. Arnold. "Hap's" own story and the inside on the growth of American airpower from the Wright Brothers through World War II. \$2.50

Clip and Mail Today!

9. THE GERMAN AIR FORCE, by Asher Lee. \$1.50

10. AIR TRANSPORT AT WAR, by Reginald M. Cleveland. \$1.50

11. AIR VICTORY, The Men and the Machines, by Harold B. Hinton. \$1.50

12. AIR POWER: KEY TO SURVIVAL, by Alexander P. de Seversky. \$1.00

13. THE AAF AGAINST JAPAN, by Vern Haugland. \$1.50

Air Force Book Department, BD-11

c/o AIR FORCE Magazine

1424 K Street N. W., Washington 5, D. C.

Please send me the books I have circled below:

1 2 3 4 5 6 7 8 9 10 11 12 13

Name _____

Street _____

City _____ Zone _____ State _____

I enclose check or money order for _____

SORRY, NO CODs

RESERVE ———— CONTINUED

only got the best jobs, but also got the promotions.

Probably the worst of all was the mismanagement of manpower. In my squadron we had six graduate engineers, as well as several others with college degrees in other fields. The other squadrons in the wing had about the same number.

To sum it up, we were called for a period of twenty-one months. Some of the guys turned Regular, some are in Europe, some in Japan and Korea, but the bulk of them are now in Georgia, sweating out discharge in January. My commission came through, and I now spend my days knocking down easy money and biting my tongue about a dozen times a day, to keep from reading some officer's pedigree when he runs down the Reservists or enlisted men.

The twenty-one months will soon be up, and I fail to see where the Air Force accomplished much by their indiscriminate activation of the Reserve. Soon the Reservists will be returning to the families and jobs they left twenty-one months ago, but, and this is important, they *will not* return to the Reserve. They've had it.

You know as well as I that a strong, ready Reserve is imperative to our strength and security. The new reserve program must act on the basic fact that you cannot have a strong, capable Reserve made up of officers alone. The new Reserve must have a place for the enlisted man. Following are a few points:

● Training periods: The 1949 idea of one week-end a month, with a summer camp, was a big step forward over the old set-up, and had much to be said in its favor.

● Promotions: This is a must. In the 31 months I spent in the Reserve prior to recall, officers seemed to get their promotions, but I knew only five enlisted men who got one stripe apiece during that period.

● Uniforms: If you are going to sell them uniforms, for God's sake, give them their money's worth.

● Equipment: Give them the same thing the regular Air Force uses.

● Eligibility: Be choosy — don't accept a man who wants to dodge the draft, or just wants the money.

● The Reservist and his job: Convince him, and prospective employers, that he will not be called short of all-out war.

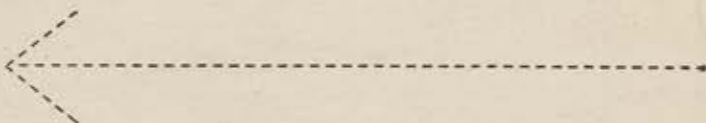
Give the Reservist a square deal, and you'll never regret it, but pull one more deal like this last one, and you won't have a Reserve.

Name withheld on request

to the **E. E. or PHYSICS GRADUATE**
with military experience
in **RADAR OR ELECTRONICS**

*Here's a good way to capitalize on your military experience
upon your return to civilian life.*

*Hughes Research and Development Laboratories,
one of the nation's more prominent electronics organizations,
is now creating a number of new openings
in an important phase of its operation.*



Here is what one of these positions offers you:

1. THE COMPANY

Hughes Research and Development Laboratories is located in Southern California. We are currently engaged in the development of advanced detection devices, electronic computers, and guided missiles. You are probably familiar with some of the equipment we are supplying the services.

2. YOUR POSITION

You will serve as a technical advisor to those using Hughes equipment. In this capacity you would help insure the successful operation of our equipment in the field.

3. YOUR TRAINING

Upon joining our organization, you would work in our Laboratories in Southern California for several months—until you are thoroughly familiar with the equipment.

4. WHERE YOU WORK

After your period of training (at full pay), you may (1) remain at the company Laboratories in Southern California in an instruction or administrative capacity, (2) become the Hughes representative at a company where our equipment is being installed, or (3) be the Hughes representative at a military

base in this country—or overseas (single men only).

Compensation is made for traveling and for moving household effects. Married men keep their families with them at all times.

5. YOUR FUTURE

You will gain broad experience that will increase your value to us as we further expand in the field of electronics. Furthermore, the large-scale commercial employment of electronic systems in the next few years is inevitable . . . and your training and experience in the most advanced electronic techniques with our company now will qualify you for even more important positions then.

HOW TO APPLY

If you are under thirty-five years of age, and if you have an E. E. or Physics degree, with some experience in radar or electronics,

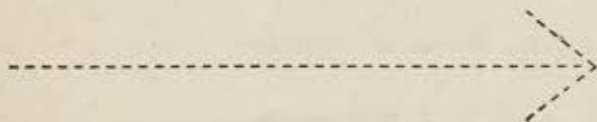
write to:

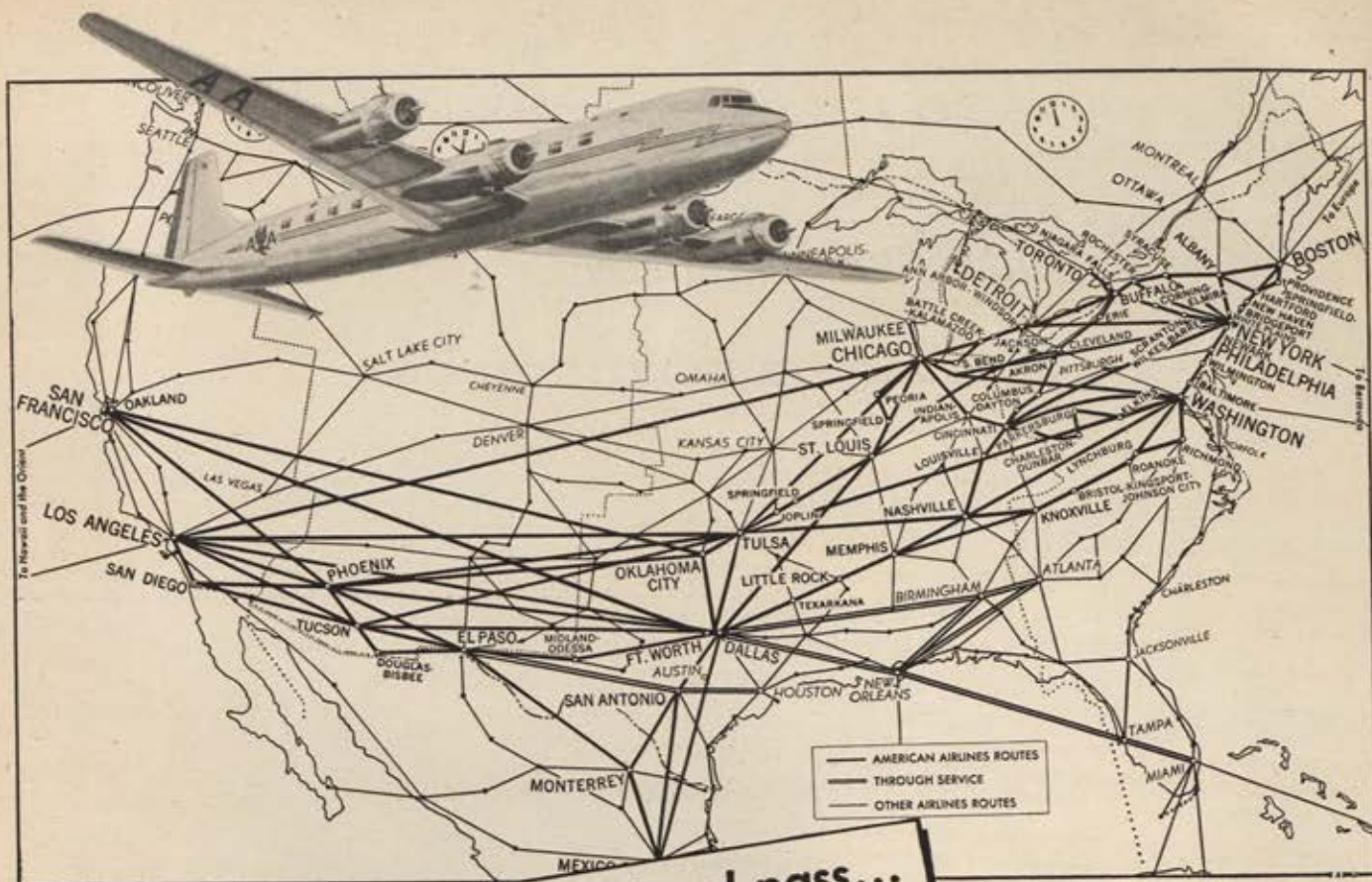
HUGHES

RESEARCH AND DEVELOPMENT LABORATORIES

Engineering Personnel Department

CULVER CITY, LOS ANGELES COUNTY, CALIFORNIA





Furlough or weekend pass...

ARRIVE SOONER STAY LONGER ... GO AMERICAN

• WHEN A LEAVE calls for travel, be sure to call American! Gain extra days for pleasure ordinarily lost to slow-moving surface transports. In addition, when you travel American Airlines, you go by famous DC-6 or Convair Flagships with comfortable pressurized cabins. Make your reservations now. You'll be surprised how little Flagship travel can cost... how much more time you can enjoy at your destination.

Serving the Leading Cities of the United States, Mexico and Canada

AMERICAN AIRLINES INC.

AMERICA'S LEADING AIRLINE

Bendix Products Division

FIRST IN

FUEL METERING



Helping American Aviation Lead the World

Aviation's remarkable progress during the past quarter of a century, together with the growing complexity of aircraft design, have created innumerable new problems in fuel metering and landing gear—many so challenging that only the great creative skill of Bendix Products has been equal to the task.

In meeting these many problems as they arise, Bendix Products has assembled the finest engineering talents and the most modern and comprehensive machinery in the industry—a fact reflected in the recognition of Bendix today as the nation's outstanding source for these vital flight components.

Engine builders and airframe manufacturers are urged to let this proven combination of skill and experience solve their fuel metering and landing gear problems.

BENDIX • PRODUCTS • DIVISION • SOUTH BEND



Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

LEADER IN LANDING GEAR



Fuel Metering Unit
for jet engines



Stromberg® Injection
Carburetors



Speed-Density
Fuel Metering Unit



Landing Gear Wheels
for all types of airplanes



Pneumatic®
Shock Absorbing Struts



Segmented
Rotor Brakes

PHIL. W. S. PAT. OFF.

29 airlines
invite you to fly the Convair

More airlines have chosen the Convair than any other modern passenger plane:

Now Flying

Aerolineas
Argentinas
American
Broniff
C. A. T. C.
Continental
Ethiopian
Garuda Indonesian
K. L. M. Royal Dutch
Mid-Continent
Northeast
Orient

Pan American
Sabena-Belgian
Swissair (Switzerland)
Trans-Australia
United
Western
Soon to Fly
Aero O/Y (Finland)
Aeronaves de Mexico

Aerovias Venezolanas
(Venezuela)
Canadian Pacific
Chicago & Southern
C. M. A. (Mexico)
Cruzeiro do Sul (Brazil)
Delta
Hawaiian
National
Philippine
Pioneer



As a transport-trainer for the U. S. Air Force, the Convair is setting new records for versatility and performance... another evidence of Convair's **ENGINEERING TO THE Nth POWER**

WELCOME ABOARD THE CONVAIR!

Twenty-nine leading airlines at home and abroad proudly invite you to fly the Convair... the world's most popular passenger plane. Ask your favorite airline or travel agent to make *your* next flight a Convair.

CONVAIR

San Diego & Pomona, California • Fort Worth & Daingerfield, Texas