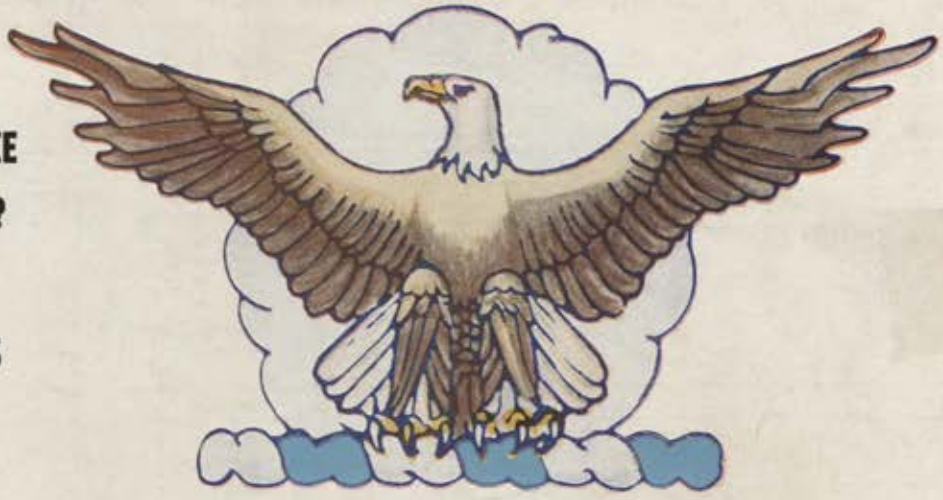
ANNIVERSARY ISSUE

AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER



Special Report:
ARE WE WINNING THE RACE FOR FANTASTIC WEAPONS?

•

"WHO'S WHO" OF JET ACES

•

AIR BASE MAP AND HOUSING GUIDE

•

KOREA'S TOP AIRMEN

•

ANNUAL PHOTO-CHART OF AIR FORCE LEADERS

•

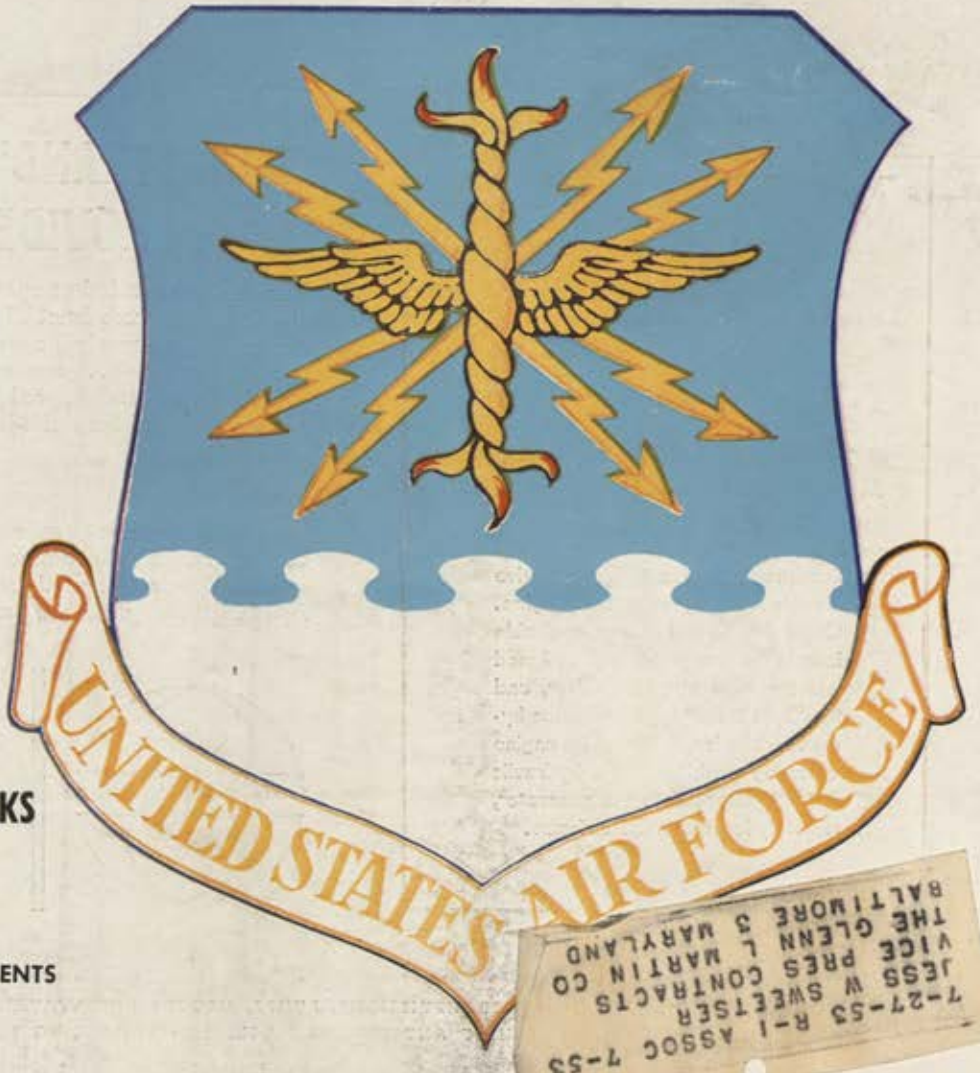
THE EARLY BIRDS

•

REPORT TO THE RESERVES

•

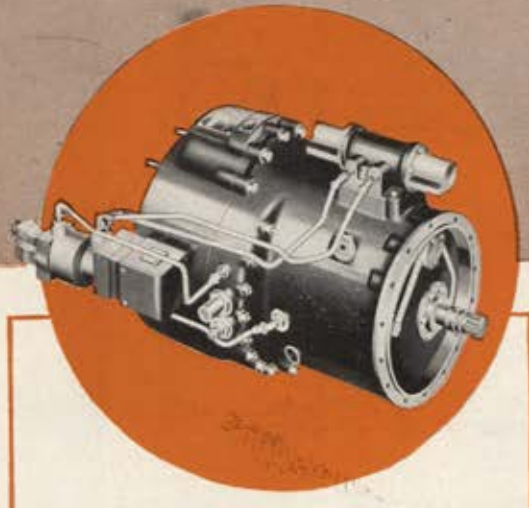
WORLD WAR II FLASHBACKS



SEPTEMBER 1952 • THIRTY-FIVE CENTS

"EYES" of the SCORPION

demand constant frequency AC Power*



"PACKAGE-TYPE" CONSTANT SPEED DRIVE MOUNTS DIRECTLY TO ENGINE

On the Northrop "Scorpion," the Sundstrand Constant Speed Drive mounts directly onto the engine. Other Sundstrand drives available include the "Integral-type," designed into the main aircraft engines, and the "Split Drive" type where the hydraulic drive is mounted on the engine accessory pad, while the hydraulic motor is attached to the generator, remotely located in the airframe.

*SUNDSTRAND'S constant speed drive PROVIDES it!

Hundreds of electrical components in the elaborate radar search gear of the U. S. Air Force's latest all weather interceptor-fighter—the Northrop Scorpion F-89—greatly increased the demand for a dependable source of power. The answer . . . constant frequency AC power made possible by Sundstrand's Constant Speed Drive. Sundstrand's Drive transforms the varying speed of the turbo-jets to constant speed for driving the AC generators.

The result is a dependable source for constant frequency AC power and a decided saving of both weight and space in the aircraft . . . extremely important in the long-range "Scorpion," which travels at speeds in the 600 MPH class and at altitudes over 45,000 feet.

If you have an electrical problem, call on Sundstrand's *reliable* research, *expert* engineering, *precision* production for help.

SUNDSTRAND

SUNDSTRAND AIRCRAFT HYDRAULICS

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

AIRCRAFT AND INDUSTRIAL HYDRAULIC TRANSMISSIONS, PUMPS, MOTORS AND VALVES • OIL BURNER PUMPS • AIR SANDERS
LATHES • MILLING, BROACHING AND SPECIAL MACHINES • BROACHING TOOLS • MAGNETIC CHUCKS

THEN and NOW

Dependability Comes First!

SINCE the Navy began flying wheeled aircraft in 1911 with the Wright Brothers B-1, they've always been sticklers for dependability —just as they are today with the "Skyshark," first Turbo-Prop shipboard fighter to join the fleet. And ever since Goodyear built the first Wing Airplane tire for the early Wright ships, dependability has been the watchword here, too.

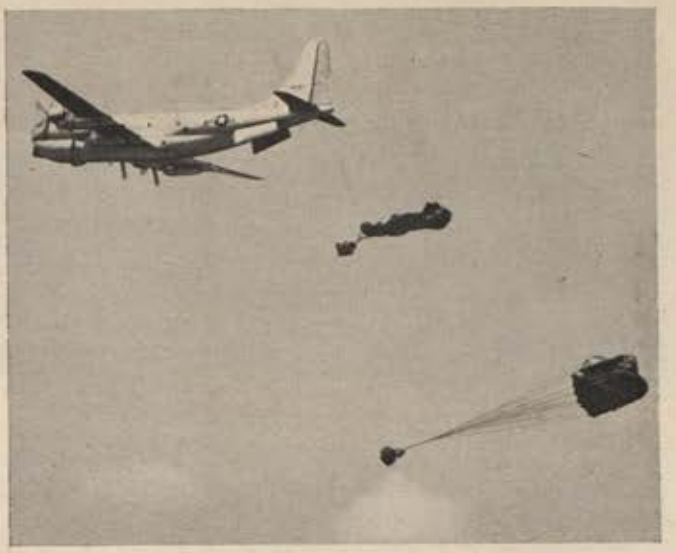
The Douglas A2D "Skyshark" is the latest in a long line of Navy planes 100%-equipped with Goodyear Tires, Tubes, Wheels and Brakes—selected again for their proved ability to withstand the strains of carrier deck landings and take-offs.

Wherever greater safety and dependability are concerned, Goodyear equipment gets first call—in military and naval service as well as on commercial and private craft. For further details on any Goodyear product for aviation — tires, tubes, wheels, brakes, bullet-sealing tanks, Iceguard equipment and Airfoam Super-Cushioning—write:

Goodyear, Aviation Products Division
Akron 16, Ohio or Los Angeles 54, California

GOODYEAR
AVIATION
PRODUCTS

The C-97, as tanker, refuels the B-47; also jet fighters.



Here, it paradrops vital supplies "up front."

Flies bulldozers, road rollers, howitzers 300 mph.

Flying hospital speeds wounded to U. S.

Quick-change star of the Air Force

The Boeing C-97—already the most versatile transport in service—has qualified for another job: the supplying of forward areas. Recent Air Force tests have proved that the big Boeing can handle such heavy forward-area equipment as 155-mm. howitzers, bulldozers, road rollers—even helicopters! Lighter equipment can be paradropped to the same areas.

This unique versatility makes the Stratofreighter virtually a one-plane aerial transport force. It is convertible from one type to another in a matter of hours, so that a single fleet of C-97's equals in usefulness several fleets of less versatile craft.

Suppose vital cargo is needed in a hurry, half a globe away: each C-97 can rush up to 68,500 pounds of freight there at over 300 miles an hour. Next comes a call for aerial refueling. Huge tanks are raised into the plane, a flying boom is attached, and presto, the only cargo-tanker capable of refueling jet fighters and bombers is on its way—adding strategic range to air power!

These same tankers convert readily into transports that carry 130 combat soldiers. Another quick conversion and the giant Boeing becomes the best hospital ship in the air—unique for its speed, capacity and pressurized cabins.

Other advantages of the C-97's versatility: maintenance and crew training are simplified; and it pays its way in *both* directions. As a freighter, the C-97 flies cargo from the United States to Japan and to Europe, makes the return trip as a hospital ship or personnel carrier.

Boeing design made the C-97's the most versatile, most useful transports in service. Boeing production facilities turn them out in volume. This is the same design-and-manufacturing teamwork that produced great fleets of rugged B-17 Flying Fortresses and B-29 Superforts during the last war and, later, the B-50 and the six-jet B-47 Stratojet bomber.

For the Air Force, Boeing builds the

B-47 STRATOJETS B-50 SUPERFORTRESSES C-97 STRATOFREIGHTERS

and is now starting production on the B-52 Stratofortress 8-jet heavy bomber.

BOEING

STRATOFREIGHTER

AIR FORCE
THE MAGAZINE OF AMERICAN AIRPOWER

ANNIVERSARY ISSUE VOL. 35, No. 9

SEPTEMBER 1952

Shooting the Breeze

"On September 18, 1947 . . . the US Army Air Forces became the United States Air Force in the newly-created Department of Defense.

"We called it 'the day Billy Mitchell dreamed of' in our issue of that month. And to his name we should add those of Andrews, Arnold, Spaatz, and all the others who pioneered the cause of autonomy for our air arm.

"Yes, and we should add the names of all the men and women of the Air Force who, over the years in war and peace, have proved by their deeds the compelling needs for recognition of the Air Force as our first line of defense and offense and for establishing a true airpower concept for the security and peace of the United States and all the free world.

"And so it prompts us, on this occasion, to step back in salute to these men and women of the Air Force and then, for our own better understanding, to step up and take a close look at some of them in their jobs of today.

"To them this issue is dedicated."

To old readers of AIR FORCE Magazine the paragraphs above will have a familiar ring. And well they might for they are lifted, in their entirety and without apology, from our Anniversary Issue of last year. We are not much newer, as an independent institution, than the Air Force itself. And like the Air Force we find ourselves a little shy on tradition in comparison with older and more staid companions in the field.

But we do say we know a tradition in the making when we see one and a yearly issue — fittingly built around the Air Force Association convention, and the anniversaries of both the Air Force itself and the Association — seems to us to be a darned good idea. Especially when it is dedicated to and filled from cover to cover with material concerning the men and women without whom the USAF's masses of war machinery would be lifeless lumps of metal.

We quote again: "With these thoughts in mind, we can . . . begin, not by examining the past, but by looking ahead at our hope for security in the future." See "Airpower at the Crossroads," page 33.

FEATURES

DEPARTMENTS

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AIR MAIL

From Headquarters

Gentlemen: You and your editorial staff are to be congratulated on the splendid presentation of "The Human Element in Airpower" which appears in the July issue.

Emphasis on the man rather than the machine is one which for long was minimized in the United States Air Force, but now is gaining greater recognition every day. Your July issue, so superbly organized and written, will contribute immeasurably to the furtherance of our realization that human beings are still the basic substance and most vital element of the Air Force, and that their effectiveness—more so than the speed of airplanes or any other factor—will be the ultimate determiner of how much power there is in American airpower.

In addition to giving articulate expression to this thesis, with which all members of my staff are fully in accord, the special report on the Air Training Command is a most accurate, illuminating and interesting story of its vital responsibility for matching "US quality against Red quantity in the manpower field." I feel sure that General Harper must be as deeply gratified as I am by the comprehensive understanding shown by your staff of the organization, size and complexity of the Air Training Command as well as of its uncompromising emphasis on superior quality in all of its many training programs.

The July issue of your magazine is a credit not only to the Air Force Association and the United States Air Force but to every member of your staff as well. You have my warmest congratulations on the outstanding job you are doing.

Lt. Gen. Laurence S. Kuter, USAF
Deputy Chief of Staff, Personnel
Hq., USAF
Washington 25, D. C.

Red Tape Gripe

Gentlemen: In the July issue a very interesting and honest appraisal of the pilot training situation appeared under "The Case Against Flying." Dr. Carp can now add another variable to his list of possible discouraging factors—Red Tape.

On April 8 of this year I completed my physical exam for flight training applicants and applied for immediate active duty. Being a college graduate and a commissioned officer, and assured by the publicized demand for trainees, I was certain my application would receive prompt consideration. So now, after three months of sweating out the mailman, turning down job opportunities, and wondering what will happen next, I've accepted a civilian job. That should insure my being accepted by the Air Force in the next day or two!

Seriously, if the Air Force needs pilots so badly and there is a lack of applicants, why can't they at least take care of those who do apply?

Lt. Wm. H. Lewis, AFRes
Evansville, Ind.

• *USAF still needs and wants applicants for flight training even though current classes may be filled. The larger the pool of applicants the higher the percentage of top-notch cadets in each class and the lower the percentage of washouts. Qualified applicants are placed on a stand-by list to be called when a vacancy exists. This is what happened to Lieutenant Lewis, who has been accepted for Class 53-G, to report Oct. 6.—The Editors*

Hold-Up Men

Gentlemen: I read with interest in the July issue a letter objecting to the $5 fee for membership in AFA. The writer makes the observation that you at headquarters are ". . . hold-up men." After five years with AFA, I am forced to agree with him. You are, beyond all doubt, "hold-up men." You "hold up" the principles of airpower and adequate air strength. I feel certain that if we had no Air Force Association, our Air Force would be smaller and weaker.

As I see it, the $5 is an investment in airpower, and not merely for the magazine. The magazine, then, is primarily a report to the AFA "stockholders." Because of you "hold-up men," my hands are raised—raised in a vote of confidence in all of you and your tireless efforts for airpower.

Larry G. Hastings
Toledo, Ohio

P.S. By the way, he DID make a two-bit bet. Did you collect?

• *No. But we got such a charge out of the letter that the score is more than even.—The Editors*

Lunch, Beer, and $30

Gentlemen: For the attention of Major Marriott ("Air Mail" June '52) who lives in fear of Congress cutting his ridiculous flight pay to $30 per month. Could he please tell how the Chairborne Aviators are risking their lives and maintaining the ultimate in flying proficiency at four hours a month, or our more industrious pilots complying with their 60-2 minimums? Why not flying pay for "Flying Personnel and Flight Leaders" and the free lunch and beer for those in their respective departments?

Capt. S. W. Isaacs, USAFR
Salt Lake City, Utah

Gentlemen: Reference Maj. Paul Marriott's letter in your June '52 issue which states, "This ridiculous amount (of flight pay) won't stand up under any examination when one considers an airman's required technical qualifications, time spent directly and indirectly in maintaining proficiency, risk, etc." For the major's information, flying pay is only based on risk, not knowledge of job. Rank is the determining factor for knowledge pay.

R. Zabel
Chicago, Ill.

Strike Analysis

Gentlemen: This letter is being written as a result of your editorial "The 'Sit-Down' Strike" in the June issue.

There must be some reason why eighty-six percent of those sit-down strikers were not pilots. Psychological averages state that in a mixed group of people (pilots, navigators, bombardiers, for example) there should be an equal distribution of reaction to a certain problem. When, however, the balance is offset by a particular depressing factor on one group, that group will destroy the average and tend to react as a unit.

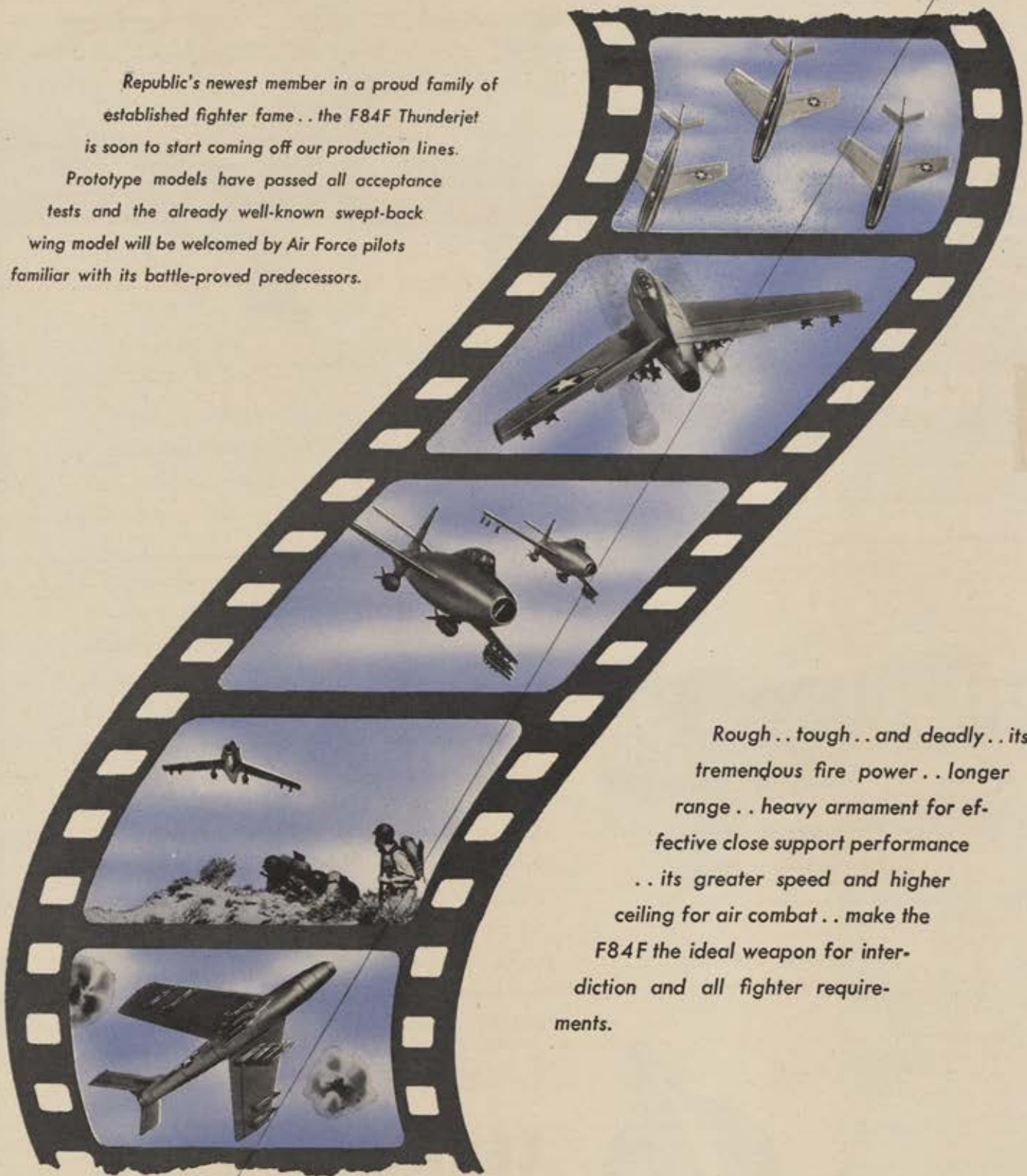
Again, why were there more non-pilots refusing to fly than pilots? Perhaps one of the answers is the Air Force-wide inequality existing between rated pilots and rated observers. According to regulations, only rated pilots may command tactical organizations and all other officers, rated or non-rated, are qualified to command other types of Air Force organizations. But there are very few rated observers who are in command of anything. Their opportunity for advancement in any field other than strict combat crew duty is strictly limited.

I am afraid you, too, are a victim of the short-sighted policy of building a huge pilot Air Force. How were the bombers, the long-range transports, the weather reconnaissance, and the air-sea rescue going to perform their missions with just pilots in the cockpit? Where was your advocation of a re-institution of an observer training program which had been closed down completely in 1945?

Have you looked into the type of Reserve officer who was among the first to be recalled to active duty? I am sure you will find that the observers were among the very first. Let's analyze the Reserve training, pre-Korea, program. What type of training was provided the Reserve observer (navigator-bombardier)? Practically none. They flew in the back seat of a C-45 or sandbagged in a C-46 while pilots shot their touch and goes. Equipment was non-existent and

COMING SOON ! . . . .

Republic's newest member in a proud family of established fighter fame . . the F84F Thunderjet is soon to start coming off our production lines. Prototype models have passed all acceptance tests and the already well-known swept-back wing model will be welcomed by Air Force pilots familiar with its battle-proved predecessors.



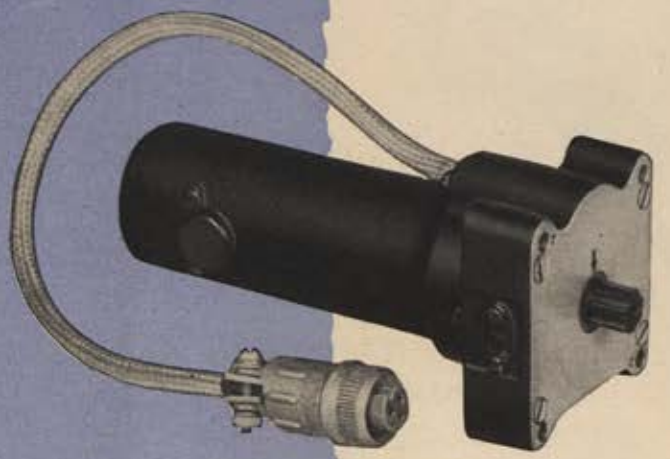
Rough . . tough . . and deadly . . its tremendous fire power . . longer range . . heavy armament for effective close support performance . . its greater speed and higher ceiling for air combat . . make the F84F the ideal weapon for interdiction and all fighter requirements.

REPUBLIC AVIATION

FARMINGDALE, LONG ISLAND, N. Y.

Makers of the Mighty Thunderbolt · Thunderjet · XF-91 · F84F

Selected
For the
BOEING B-47



Lear Model 188AK
Rotary Actuator

THE LEAR MODEL 188AK, a small but powerful rotary actuator, is but one of the Lear electro-mechanical products selected for the giant B-47 jet bomber. Small enough to fit into a hand (1.8 pounds), the Lear Model 188AK Rotary Actuator produces up to 50 pound-inches torque and will hold against 750 pound-inches under severe vibration without creeping. It will withstand stalling and jamming. Used as a Trim Co-ordination Actuator in setting the initial trim of the B-47, its operational characteristics make it ideal for countless other applications.

Lear engineering and production skills are combined to meet rigid customer requirements in the manufacture of vital aircraft accessories. Lear rotary and linear actuators, power units, screw-jacks, servo mechanisms, electronic controls, and gyro instrument products are serving the aviation industry through precision performance.

LEAR INC., GRAND RAPIDS, MICHIGAN

Lear-Romec Div., Elyria, Ohio

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Electro-mechanical actuators, electronic temperature and positioning controls, servo systems • Pumps and radar pressurization equipment • Autopilots and gyro instruments • Electric motors • Aircraft radio

AIR MAIL—CONTINUED

Regular observers assigned as instructors were unheard of. So there you might have one answer, to the effect, "Stick around. We may need you but we can't be bothered with your training."

Because of poor personnel management, the Air Force is now in a terrific bind for qualified observers. The feeling of not wanting to belong has even permeated the training schools. Aren't we, presently, having difficulty in getting personnel to apply for or even complete observer training? There must be an answer to this. I think one of the greatest steps in the right direction would be the establishment of equal opportunity to the observer and the pilot.

At the present time, there is another great move on within the Air Force to pull all rated observers off of every kind of job and place them back on crew flying status. This happens periodically. There never has been such a move affecting pilots. Out of the hundreds of rated pilots holding down staff and command duties, how many are qualified first pilots current in any type of aircraft? I believe you will be amazed at the answer you receive. Service equality — an opportunity to advance — and a chance, once in a while, at command, I think will do a great deal towards solving this problem. Remember one of your closing sentences, "With this in mind, Air Force Association will continue to attack these mistakes." How impartial are you? How good is your editorial word? In what other branch of the military services does a captain take orders from a first lieutenant or a major from a captain?

To get back to your editorial, I firmly believe that those officers were entirely wrong and acted in contradiction to the established military code. Each and every officer has the right under AFR 36-12 to resign his commission. If those men felt they were so persecuted they could have resigned and the Air Force would have been well rid of them. What I have been trying to point out are some of the basic mistakes that have been made and in the interest of a better all-around Air Force have tried to offer some solutions to the problem.

Major Rudolph C. Koller, Jr.
APO 925, San Francisco, Calif.

More Power, Less Thrill

Gentlemen: I liked "The Case Against Flying." We have the same trouble with young fellows on the railroad. New power—no excitement. The Diesel takes all the thrill out of running an engine. I hate them myself. After thirty years on the railroad, I still get a big kick out of running a steam engine. I have a plane, but one with a prop, and love the hum of the P&W engine. I'd like to own a P-51, and will if they ever sell them. Those jet jobs are fast, and a fellow with the least defect won't make it—a slow thinker, a dreamer, poor sight. We are progressing faster than our youngsters can think.

Lee Nelms
Los Angeles, Calif.

Aeroprop—

Ruggedness Starts with....

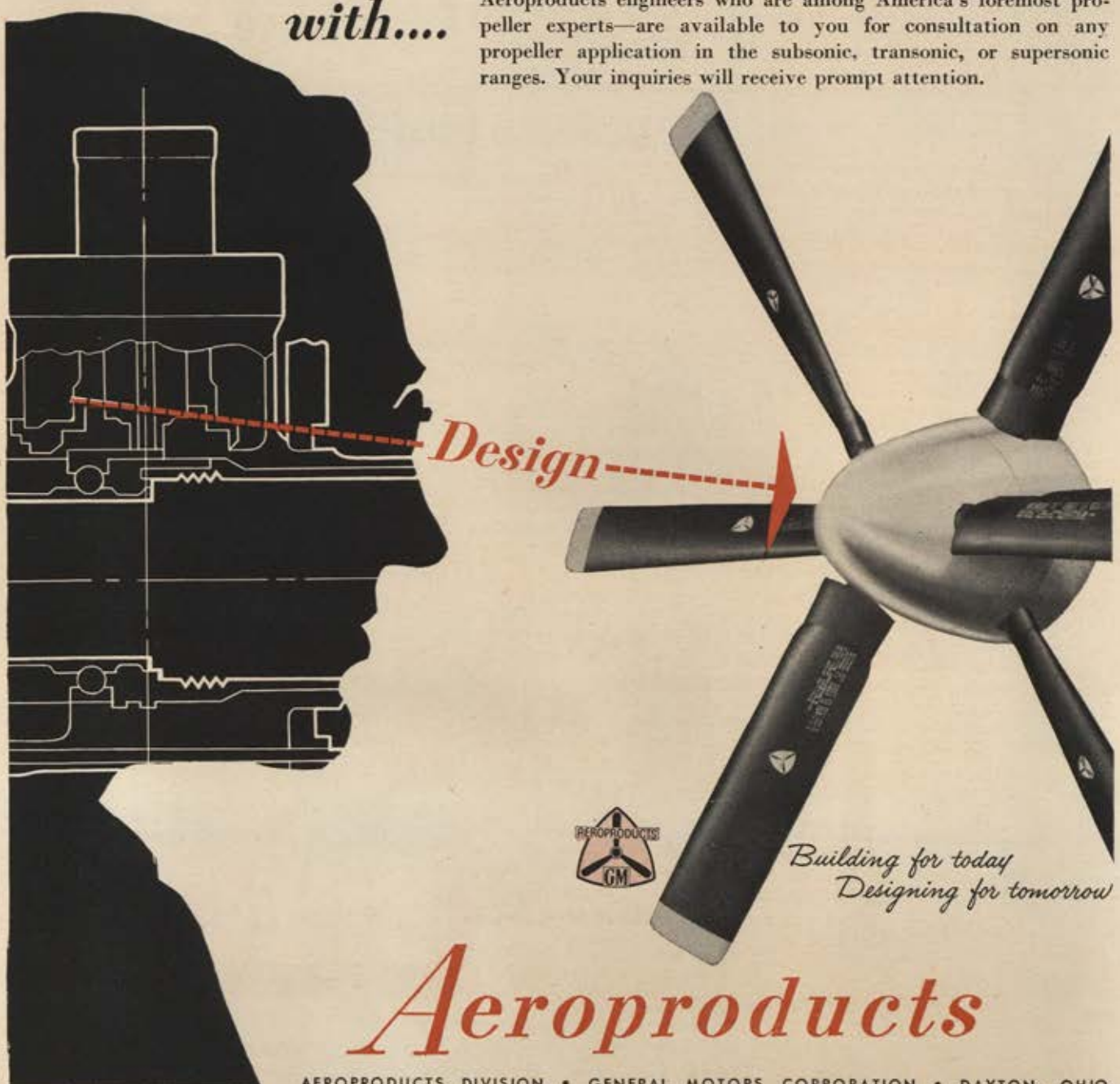
Ruggedness comes straight off a drawing board, as the engineers at Aeroproducts will tell you.

For an idea, drawn in all its details, was the beginning of a great new Aeroprop—the first propeller to successfully handle the enormous power of turbo-prop engines. Yes, from this drawing, from this design, came the ruggedness of the dual-rotation Aeroprop for planes of near-sonic speed.

But the design produced much more than ruggedness. It produced the reliability and precise control which resulted in having the Aeroprop specified for the U. S. Navy's XP5Y, R3Y, A2D, and the A2J.

This great turbine propeller is reversible—cuts landing runs safely and smoothly. Electronic governing and synchronizing circuits control turbine speeds automatically. And Aeroprop's self-contained hydraulic system makes installation and maintenance a simple matter.

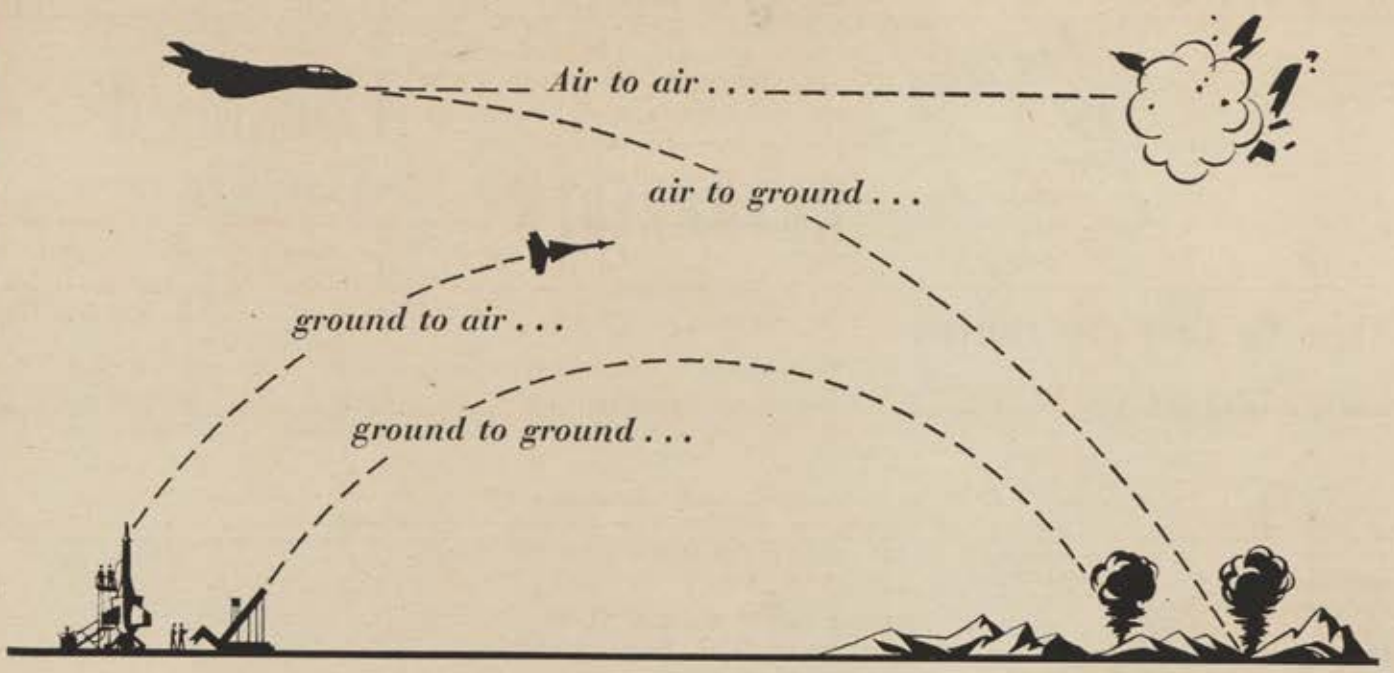
Aeroproducts engineers who are among America's foremost propeller experts—are available to you for consultation on any propeller application in the subsonic, transonic, or supersonic ranges. Your inquiries will receive prompt attention.



Building for today
Designing for tomorrow

Aeroproducts

AEROPRODUCTS DIVISION • GENERAL MOTORS CORPORATION • DAYTON, OHIO



Douglas Guided Missiles

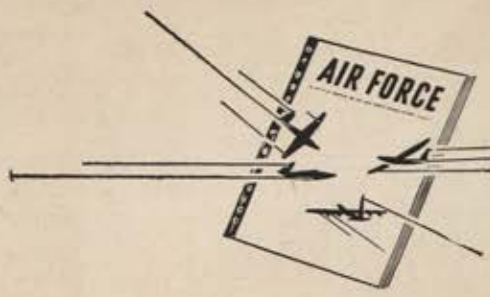
Increasingly important to the nation's defense, guided missile research and development has been a vital project at Douglas for more than ten years.

During this time, Douglas engineers have helped develop missiles for both Army Ordnance and Navy—for all basic uses. Some to be fired from planes *at* planes . . . some from planes at surface targets . . . from the ground at aircraft . . . and from the ground at surface targets. Douglas has contributed to the science of automatic control, guidance, propulsion, and supersonic aerodynamics—and has developed automatic computers needed in guided missile design.

Development of new guided missiles is further evidence of Douglas leadership, and now that the time to produce missiles *in quantity* has come, Douglas manufacturing skill is ready for the job.

PRODUCTION FOR FREEDOM
Week of September 7-13

Depend on *DOUGLAS* First in Aviation



RENDEZVOUS

Where the Gang gets together

COMÈTE EVASION LINE: Many airmen who bailed out in Belgium or Holland during the Nazi occupation years would probably like to have news of those who helped them escape. If they will give me the date and place, as near as possible, when they bailed out, and any other information they have, I will try and get the names and addresses of their rescuers. I, myself, worked in the Comète Line of Evasion during the whole war and sheltered 176 members of the Air Force. *Anne Brusselmans, Secretary of the Comète Evasion Line, 127 Chaussie d'Ixelles, Brussels, Belgium.*

LOOKING FOR CAPT. JAMES MARTIN: Certainly would like to know where Capt. James Martin is. He was a supply officer at Liberal AFB, Kan., in 1945. His home is somewhere in Texas. *Robert Kinzie, 1627 S. L St., Elwood, Ind.*

WHERE'S LT. RYDELL? I'd like to find Lt. Robert Rydell, who was called to active duty last year with the 62d Wing of the California Air National Guard. *John E. McCuaig, B.O.Q., Rm. 123, Cabaniss Field, NAAS, Corpus Christi, Tex.*

JOHN H. GRIFFIN, JR.: I would appreciate hearing from anyone knowing the whereabouts of 2d Lt. John H. Griffin, Jr., whose home is Boston or vicinity. He graduated with Cadet Class 45-A. I last saw him in March of '46 when he transferred from Williams AFB, Ariz. *2d Lt. Glenn L. Hamilton, USAF, 80th Air Depot Wing, APO 30, c/o PM, New York, N. Y.*

M/SGT. JOHN P. CLANTON: When I last heard from John he was in Alaska. Anyone know where he is now? Also, I'd like to hear from anyone who was in the 322d Air Supply Sqdn. stationed in Alaska from 1948 to 1950. *Scott S. Clayton, 3 Beakes St., Apt. H-1, Trenton, N. J.*

NELLINGEN SCHOOL: Where can I get a copy of the school history of the Crew Chief School at Nellingen, Germany? Would also like to get a history of the 422d Bomb Sqdn. (H) of the 305th Bomb Grp., stationed at Lechfeld, Germany. *S/Sgt. R. L. McRoberts, 3538th Maint. Sqdn., Mather AFB, Sacramento, Calif.*

352D BOMB SQUADRON GET-TOGETHER: The second annual reunion of the 352d Bomb Sqdn., 301st Bomb Grp., will be held in Chicago September 26-28, 1952, at the Hotel Sherman. Members interested in attending should get in touch with *Peter P. Martyniak, 4 Swan Pl., Arlington 74, Mass.*

18TH AD GROUP REUNION: The sixth annual reunion of Hq. Sqdn., 18th AD Grp., 15th AF, will be held in Muncie, Ind., on October 11 and 12. For reservations and/or particulars write *Roger M. Porter, 406 Gas-Electric Bldg., Rockford, Ill.*

PIX OF WORLD WAR II PLANES: I would like to have old negatives or snapshots of all types of World War II aircraft as well as barracks scenes, hangars, control towers, etc. *Stephen J. Zabrecky, 821 Jennings St., Bethlehem, Pa.*

BACK ISSUES: Does anyone know where I can obtain out-of-print issues of AIR FORCE Magazine which were published prior to September 1947? Would also like a copy of the May '49 number. *John M. Sanders, 100 Oakman Blvd., Highland Park 3, Mich.*

FRIENDS OF "PAPPY" GUNN: I want to write up Maj. Paul I. "Pappy" Gunn, but need more information. He was a combination engineering officer, combat pilot and Baron Munchausen in a B-25 outfit of the 5th AF, I'm told. I'd appreciate hearing from anyone who can tell me more about him. *Capt. John L. Watkins, Box 1126, Randolph AFB, Tex.*

SQUADRON MARKINGS: I would like to have details of squadron markings carried by AAF aircraft in the ETO during World War II. I'm particularly interested in the respective squadron letters and colors. All letters answered. *R. A. Freeman, USAF Historian, "Air-Britain," Stud Farm, Dedham, Nr. Colchester, Essex, England, U. K.*

98TH BOMB GROUP: Those interested in obtaining a list of former members of the 98th Bomb Grp. should write *Robert Hopper, 45-31 Utopia Pkwy., Flushing, 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 November issue should be in our hands by September 15.—The Editors

Faster
than a cup of coffee

Lockheed Starfires

destroy an air invader

Incredible—but in less time than the few minutes it takes to drink a cup of hot coffee a Lockheed *Starfire* (F-94C) can

Take off from a cold start—
Climb 7 miles up in any weather—
Locate enemy bomber automatically—
Destroy the invader, without ever seeing it.

Furthermore, the 2-man crew need never have seen the bomber they destroyed.

Today these all-weather jet interceptors are being delivered to the U.S. Air Force for 24-hour duty guarding U.S. borders and key cities. It gives the Air Force a fast-climbing jet fighter that is almost automatic—forerunner of planes that may actually fly and fight by themselves.

The *Starfire's* brain center can locate invading bombers on the darkest, stormiest night. Its unique all-rocket armament can destroy the biggest bomber built.

The *Starfire* is another example of Lockheed design "stretch"—an engineering achievement of creating a more advanced model out of an existing airplane. This speeds development and production, also cuts cost. Forerunner of the *Starfire* is the Lockheed F-80 *Shooting Star* of Korean fame. Lockheed is the world's leading builder of jet aircraft.

Lockheed

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From the design boards to finished product Canadair has the experienced know-how: designers of the highest caliber backed by the finest production facilities — a combination able to meet any demand in the manufacture of aircraft.

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CA52-17UST

AIRPOWER IN THE NEWS

AIRCRAFT INDUSTRY has produced 9,000 to 9,500 military planes since Korea. This is double production for '48 and '49 but is about half of what could have been produced under full mobilization, in opinion of AIA.

THE BASES: San Marcos AFB, Tex., became part of expanding AF cadet program beginning early in August. Base T-6 program has been changed to a basic phase one flying program for cadets. . . . AF has assigned eight F-80 Shooting Stars to Randolph AFB, Tex., to be used as aids in training B-29 combat crews. . . . Castle AFB, Calif., has captured two trophies in SAC's "Safe-Wheels" campaign. . . . Haneda AFB, Japan, which was first US air base to be returned to Japan under Security Treaty, has been returned to control of Japanese government and renamed Tokyo International Airport.

CHANNELS: Far East AMC has been redesignated as Far East Air Logistic Force. . . . Technical Advisory Group has been established for AF Armament Center at Eglin AFB, Fla. . . . One-stop processing of entrants into WAF will speed up their reception at WAF Indoctrination Center, Lackland AFB, Tex. . . . Jurisdiction of Andrews AFB, Md., has been transferred from Headquarters Command to MATS. . . . Indian Springs AFB, Nev., has been transferred from ATRC to ARDC's special Weapons Center. . . . Col. J. C. Bailey, formerly director of Air Rescue Service operations, has taken over command of ARS. . . . 3d Air Rescue Squadron has saved 5,323 UN personnel in Korea since start of hostilities. Of total, 903 were from behind enemy lines.

LOGGING TIME: AF indoctrination training was expanded from eight to twelve weeks last month. . . . Army and AF Exchange Service took time out recently to honor the 57th anniversary of establishment of PX as integral part of Armed Forces. . . . Life expectancy in military has been quadrupled in last 130 years, thanks largely to preventive medicine, says AF Surgeon Gen. Armstrong. . . . Number of flying hours, basic index to AF activity, will be doubled by end of FY '53, according to recent AF testimony on Capitol Hill.

ADMINISTRATION: Samuel A. Kemp of Atlanta has been named assistant administrator for administration of CAA. . . . Seven Germans were in US this summer to inspect American airports and observe functions of CAA. . . . List of 169 airport construction or development projects to be undertaken under Federal Aid Airport Program during FY '53. . . . A plan which will permit the maximum civilian and military flying consistent with national defense requirements during a military emergency has been adopted by JCS working with representatives of civil aviation groups. . . . J. D. Durand has been elected secretary of Air Transport Ass'n., succeeding the late Merrill F. Redfern.

RESEARCH: Search for simple yet effective way to compensate for color blindness — and so increase manpower pool from which AF may draw its flyers — continues at School of Aviation Medicine. . . . How hot or cold it is from 55 to 75 miles above earth may be determined by Army Signal Corps through new method of gathering facts about weather. . . . Two-year flight research program, aimed at improved flight safety during instrument weather approaches to nation's air terminals has been initiated by Air Navigation Development Board.

AIRPOWER IN THE NEWS

AVIATION FIRSTS: Another first flight in aviation history was completed several weeks ago when two AF helicopters landed in Scotland after a transatlantic crossing. . . . 120 "students" started classes at University of Colorado recently in unique educational experiment — first National Aviation Education Workshop; jointly sponsored by CAP and the University. . . . First 1952 class of ARDC Indoctrination School is now in progress at Wright-Patterson AFB, Ohio. . . . Facilities to test first atomic-powered airplane engine will be built at the national reactor testing station in eastern Idaho, AEC has revealed.

PLANES: Latest version of famed AF Sabrejet fighter, F-86H, will go into production late this year. . . . F-89 all-weather interceptors are now operating at Griffis AFB, N. Y., and Presque Isle AFB, Me.

THE CREW: AF combat crew gunners will be able to advance to ranks of tech sergeant and master sergeant as result of SAC recommendation. . . . Airmen who haven't reached their 18th birthday will be excluded both from duty in Korea and from assignments as crew members of aircraft flying over Korea. . . . B-29 commanders average more than 1,500 flying hours; B-36 pilots, 3,000 hours. . . . Robert J. Love, Korean jet ace, has joined Northrop Aircraft as an F-89 test pilot and member of military relations staff. As an F-86 pilot with the 4th F-I Wing earlier this year, he shot down six MIGs in six weeks.

KNOTS: Mme. Jacqueline Auriol of France, who set an international speed record for women of 509 mph around 100-kilometer (62.1-mile) closed course at Istres, France, in modified French-built jet fighter, was 1952 Harmon International Air Trophy Award winner for aviatrix. . . . Britain has a high-flying guided rocket that can chase enemy bombers at "well over" 2,000 mph and is up to five times as maneuverable as a fighter plane, Supply Minister Duncan Sandys has disclosed.

MATS maintenance-engineering program, planned in 1949, resulted in estimated savings for more than $4 million for calendar year '51, according to MATS commander Gen. Smith. . . . A twin-engine, pressurized, medium-type transport will be delivered to MATS early next year. . . . Airmen on every combat crew selected as SAC Crew of Month during rest of Flying Safety Year campaign will be awarded metal chevrons denoting rank to wear on flying caps.

POOP: A Signal Corps Aviation Center was established at Fort Monmouth, N. J., recently. . . . 18th Airborne Corps and 18th AF will collaborate in special field exercise involving airborne and troop carrier techniques, at Fort Bragg, from August to December. . . . Number of WW II veterans training under GI Bill has dropped below million mark for first time in six years. . . . Almost 120,000 blind, crippled, and tubercular veterans of all wars and peacetime service received increases in their compensation checks due Sept. 1, 1952, under recently signed Public Law 427. . . . During WW II, AF trained 280,000 flying officers and 310,000 aerial gunners. . . . Sikorsky S-55 helicopter (civilian model of H-19) has been approved by CAA for commercial operation and will be first transport helicopter in scheduled airline passenger service on American continent. . . . The government will save about $200,000 a year through an AF arrangement to make monthly lump sum payments to 38 insurance companies instead of issuing 117,000 individual checks each month.

Grumman

NEW "CAT" IN THE SKY

Now the COUGAR, a sleek, swept-wing successor to the battle proved PANTHER, takes its place in a long line of famous Grumman fighters. Ruggedness and reliability are inherent in this newest turbo-jet. These are traditional Grumman characteristics that Navy and Marine pilots have used to advantage since early World War II days when WILDCATS were clawing Jap Zeros.

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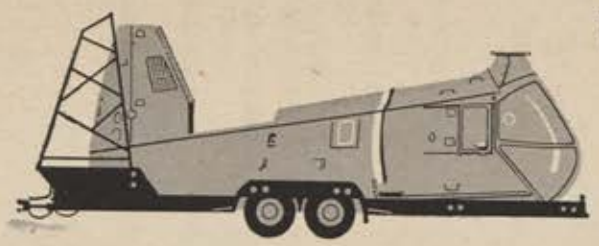

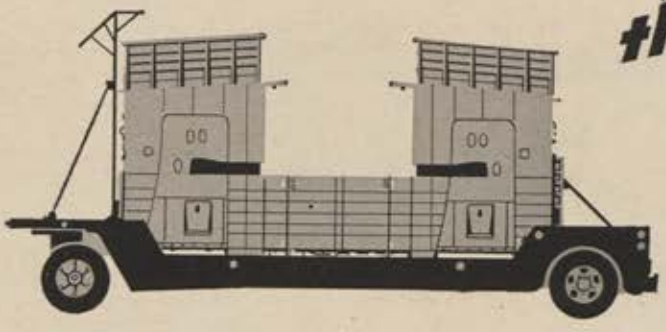

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John Cudmore, traffic manager, has been shipping aircraft assemblies since the days of wood and fabric construction. He is a veteran of 26 years in the aircraft industry.

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PEOPLE

In The Air News

Col. David C. Schilling, CO of the 31st Fighter-Escort Wing, who led Operation Fox Peter One, mass flight of 58 F-84 Thunderjets 10,895 miles from Georgia to Japan in 11 days. Aerial refueling techniques Schilling pioneered were used over the Pacific. In 1950, Schilling won the Harmon Trophy for flying an F-84 non-stop from England to Limestone, Me., in 10 hours.

Capt. Charles F. Blair, Jr., Pan Am World Airways pilot who has won the 1952 Harmon Trophy for his non-stop solo flight across the North Pole, from Norway to Alaska in a F-51. He worked out new long range navigation techniques and studied the "jet stream," high velocity winds at altitude. Blair became the first person to fly a single-engine fighter plane across the Pole.

Miss Shirley A. Blocki, 26, flying instructor in Long Beach, Calif., who won this year's Powder Puff Derby, women's air race from California to New Jersey. She completed the 2,700-mile trip, her first race, in 22 hours, 38 minutes, flying a Cessna. Her co-pilot was Miss Martha Baechle, 31-year-old high school history teacher.

James T. Hill, Jr., General Counsel to the Sec'y of the AF since July 1950, has taken over as Asst. Sec'y, filling the slot left vacant last January when Eugene Zuckert was appointed to the Atomic Energy Commission. Hill now supervises AF management programs and personnel procedures, including the long range plan for reserves. He was in the Navy General Counsel's office during World War II.

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De Havilland Canada is justly proud

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OF its production efficiency — which has proved capable of organizing for substantial L.20 production, and meeting deliveries *on time!*

OF its wartime production achievement . . . 1220 Mosquitos . . . 375 Anson Overhauls . . . 1747 Tiger Moths.

OF its impressive post-war record of overhaul and conversion of multi-engine transports, bombers, jet fighters and training aircraft — as well as engines, both piston and gas turbine types.

"THE" ENGINE OVERHAUL SECTION

"VAMPIRE" JET FIGHTERS BEING OVERHAULED

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TELEGRAM "MOTH"

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.

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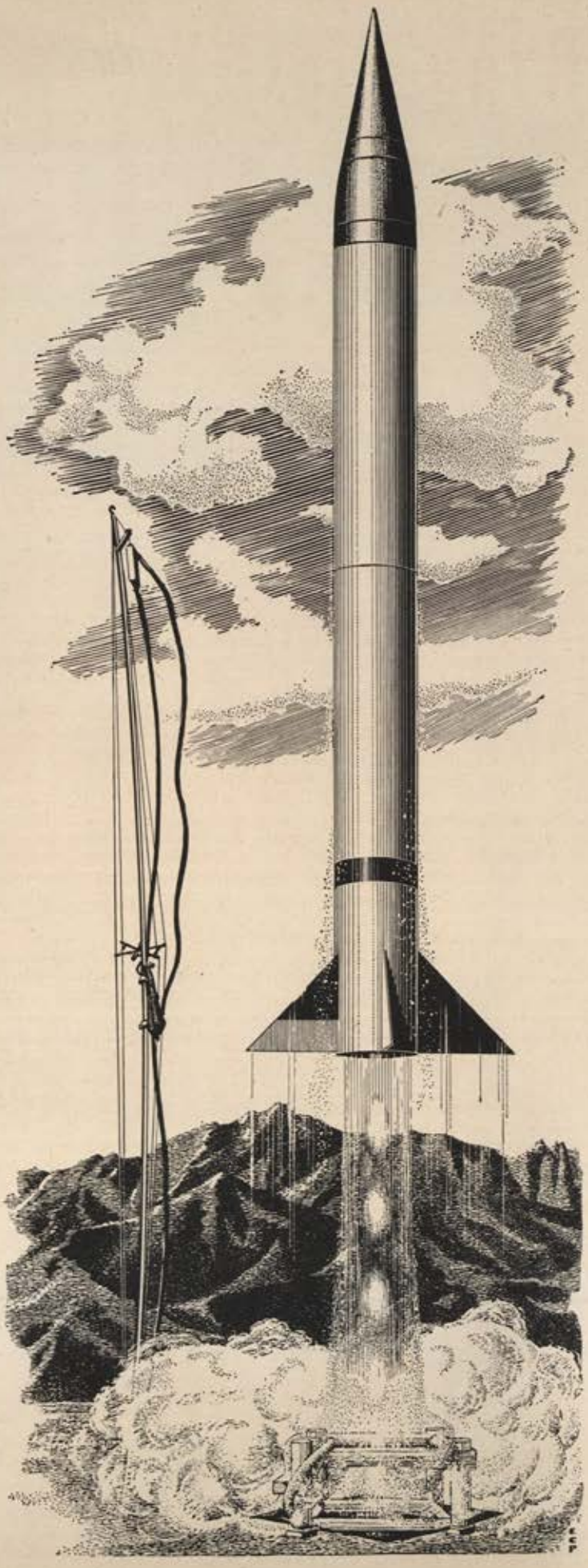

Wing Tips

The jet transport COMET, which carries passengers between London and Johannesburg, South Africa, for BOAC, makes the 6,724-mile trip in 23 hours, 40 minutes. It's in the air only 18 hours and 40 minutes.

° ° °

Yet only forty years have passed since the first transcontinental flight in the US was completed in fifty days, and when the speed record established in the national air races was "an amazing 47 mph."

° ° °

And when the War Department requested $25,000 from Congress to purchase its first plane, it was content to specify that the craft should be able to carry two persons, stay up for an hour, and hit a top speed of 40 mph.

° ° °

Today high-speed air service is provided on 1,186,000 miles of airline routes girding the globe. America's airlines fly along 184,000 miles of domestic and international routes, while most of the other nations of the world share in the more than a million miles of additional routes.

° ° °

Flying into New York today are Air France, British Overseas Airways, Italian Airlines, El Al Israel, Swissair, KLM Royal Dutch Airlines, Belgian Sabena Airlines, Avianca of Colombia, and the airlines of Argentina, Venezuela, and Iceland.

° ° °

Of the 60,000 active aircraft in the US civilian fleet, about 1,500 are the big multi-engine aircraft owned by the commercial airlines. Of the others, mostly small planes, 18,000 are used directly in connection with a business or profession, and farmers or ranchers own 11,000 more. Many have joined the government on forest fire patrol, mosquito abatement projects, fish and game law enforcement, and highway traffic control work.

° ° °

The scheduled airlines of the US account for three out of every ten planes in the world's airline fleet, not counting the Soviet Union.

° ° °

Second to the US in number of airline aircraft is Australia, with 201 planes, followed by Brazil with 186. Only three other countries have more than 100 airline aircraft: France, Canada and India.

° ° °

California has more civil aircraft than any state, with a total of 5,811, followed by Texas with 4,062. The only other states with more than 2,000 aircraft are Illinois, New York, Ohio, Pennsylvania, and Michigan. Vermont has only ninety civil aircraft.

° ° °

The US leads the world in number of civilian pilots, with more than half a million aircraft operators licensed. Italy is in second place, with Switzerland, Denmark, the Netherlands and England the runners-up.

° ° °

Last year forest fire fighters trained as parachutists were dropped at the scene of 158 fires. These "smoke jumpers" have brought some 1,500 forest fires under control during the past decade.

° ° °

When you travel from New York to Los Angeles by air, you cover 2,475 miles. But the railroad traveler between the same two points has to ride an additional 700 miles. From New York to Detroit, you save 176 miles by air.

—By Wilfred Owen

Buttoned-up and navigating blind

Operating tanks with full effectiveness in featureless arctic or desert terrain presents a new problem in "blind" navigation.

Dead reckoning and navigating under such conditions requires electronic and electromechanical systems that are highly complex yet simple to operate and maintain.

This growing field of vehicular navigation is another place where Arma is a leader in basic research, design, development and production. Over 34 years of close cooperation with the Armed Forces—and more recently the Atomic Energy Commission—stand behind Arma's reputation. *Arma Corporation, Brooklyn, N. Y.; Mineola, N. Y.; Subsidiary of American Bosch Corporation.*

ARMA ADVANCED ELECTRONICS FOR CONTROL

'Flying Carry-All' for the Army Field Forces — Increasing numbers of Sikorsky H-19's are coming off production lines in the traditional olive-drab colors of the U. S. Army. They will be vital components of the Army's newly organized Helicopter Transport Companies which have the important assignment of giving logistic and tactical support for the ground forces.

In Army service, helicopters will be used for personnel and cargo transport, observation and reconnaissance, wire laying, courier service, evacuation of the wounded and all the other duties for which they have proved so indispensable in Korea.

Adoption of the Sikorsky H-19 by the Army has made its use unanimous with America's military services. Other modifications of this basic type helicopter have already been established as standard and important items of equipment with the Air Force, the Navy, the Marine Corps and the Coast Guard.

SIKORSKY AIRCRAFT

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ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

A Salute to Our Combat Leaders

Air Force leaders in Korea
prove it's leadership that counts

By Harold C. Stuart, PRESIDENT, AIR FORCE ASSOCIATION

HUMAN beings are still the basic substance and most vital element of the Air Force," says Gen. Larry Kuter, Chief of Air Force Personnel. "Their effectiveness, more so than the speed of airplanes or any other factor, will be the ultimate determiner of how much power there is in American airpower."

This simple truth is too often overlooked. In our enthusiasm for the electronic gadgets which take the thrill out of aerial gunnery and grab the controls from the pilot, we are inclined to forget that science has yet to produce leadership by remote control.

"The greatest mystery on earth is human nature," explains Gen. Nate Twining, Air Force Vice Chief of Staff, "and leadership ability is one of the most complex manifestations of human nature. We can learn to recognize it, perhaps even to measure it, and even how to improve it. But when we try to analyze it and divide it up into various elements and percentages we are mostly just play-

Two Air Force combat leaders missing in action in Korea, who typify the AF brand of personal leadership, are Col. Bud Mahurin (top) and Maj. George Davis, FEAF's leading MIG ace.

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the *Cessna L-19* BIRD DOG

Up front, where the ground fighting rages, you'll find these sturdy L-19 Army observation planes on combat duty 6 to 10 hours a day . . . spotting enemy strongholds, directing air and artillery fire, locating cut-off GI units,  hopping officers, information and equipment from post to post. It's a tough job . . . in some cases "worse than World War II" say experienced recon pilots. *Yet, their praise of the L-19s is unanimous!* Army and Marine aviators alike praise the Bird Dog's powerful 213 HP engine and *all-metal* construction, its  patented landing gear and high-lift flaps, its visibility, easy maintenance and multiple radio installations (for air and ground contact). Just as proud of our growing fleet of L-19 Bird Dogs is the average infantryman. He has learned that L-19s give him more battle information, make his job easier and safer. And so, the  word from combat is "we like the L-19s!" At Cessna, we're proud of this approval from the toughest testing ground in the world.

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Another First for Allison

1,000,000 hours in the air for J33 Turbo-Jet engines

Allison jet engines were the first to accumulate a million hours in the air. Now Allison J33 jets *alone* have surpassed this figure. In addition, Allison J35 engines are fast approaching the million-hour mark.

Records like these are further proof that Allison leads the world in experience—where it counts most—*in the air!*

Thousands of hours on the Allison J33 are being accumulated in Lockheed Shooting Stars on tank-busting sorties behind enemy lines in Korea.

GM GENERAL MOTORS

Allison

DIVISION OF GENERAL MOTORS
INDIANAPOLIS, INDIANA

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

ing with definitions. At times I am inclined to think that some people have leadership and some people do not, and that there isn't much you can do about it."

The grand old motto of the US Army's Infantry School—"Follow Me!"—is the ringing challenge of combat leadership. No group in history has met this challenge with greater valor than the officers and men of our Army who, over the years, have gone "over the top" for victory and for freedom. In this motto we find the very essence of military leadership—personal demonstration.

A good leader always looks out for his men. He becomes relatively unconcerned about himself. The combat leader frequently takes action at the expense of his own well-being.

This element of leadership is inherent in the unwritten law of the high seas. As demonstrated over the years by the brave men of our Navy, it is traditional that the captain is the last to leave his ship.

The Air Force, compared to the older services, may be somewhat lacking in tradition. However, "Follow Me!" as a course of action is the motivating factor in aerial combat leadership. The Air Force commander personally leads the formation into combat, makes the first contact with the enemy, drops the first bomb and fires the first shots, and is in the most vulnerable position for enemy attack. The record books are filled with the names of top Air Force commanders who have personally led the most important missions—the Doolittles, LeMays, O'Donnells, Gabreskis, and all the others. These same records reveal the many air commanders who have gone down with their ships.

No field of activity offers more opportunity for individual leadership than does aerial combat, and no service offers more of a challenge to potential leaders than does the Air Force. War in Korea is again pointing up these facts.

Capt. Tom Shields, on October 23, 1951, was leading a flight of B-29s toward an important airfield target at Namsi in North Korea. Twenty miles from target the formation was attacked by 150 enemy jets. The ensuing battle, as officially described by the Air Force, was "one of the most savage on record during the entire Korean campaign." Enemy jets raked the plane flown by Captain Shields. Whole sections of the wings were blown away, the number three engine was in flames, the aircraft rolled violently under the blows. Captain Shields, fighting the controls, led his flight of B-29s to target. That responsibility of leadership had been fulfilled. Next came his crew. Bailout over enemy territory was risky, although it offered him his own best chance to survive. Captain Shields refused this opportunity. Instead, he flew the burning bomber to the coast where the rescue of his crew would be more likely. Acting on his orders, the crew safely bailed out. Captain Shields was last seen at the controls of the plane.

Like other aircraft commanders and flight leaders, Capt. Tom Shields met the challenge of combat leadership. The list was long in World War II: Maj. Horace Carswell, who ordered his crew to bail out, then crashed his flak-ridden bomber into the China Sea; Brig. Gen. Freddie Castle, who took over the controls so his B-17 crew could bail out, then went down in flames over Belgium; Lt. David Kingsley, who gave up his own parachute for a wounded crew member and helped him bail out, then crashed with his plane over Ploesti; dozens and dozens of examples, from World War II and now from Korea.

A pair of Silver Star winners in the Korean air war are Col. Karl L. Polifka, one of the AF's top photo recon men, and Maj. Walter S. King, who both died in action.

In the Korean war, twenty-seven Air Force flight leaders had been killed in action and thirty-four more were missing in action as of June 15.

Col. Albert C. Prendergast was in command of the 136th Fighter-Bomber Wing when I visited the unit in Korea last year. Not long after that visit Colonel Prendergast was leading a formation of F-84s back from a combat mission. Finding his home field socked in and planes stacked up for landings, he led his formation to to another field. Circling the area, he watched his men, one by one, land safely. In this time-consuming effort he ran out of fuel and was forced to jump at low altitude. His men found his body in a partially opened parachute.

Col. Karl L. Polifka was perhaps the leading combat photo officer in the Air Force. As Commander of the 67th Tactical Reconnaissance Wing, he was responsible for the constant surveillance of the enemy within Korea, one of the most difficult assignments of the war. When intelligence reports indicated a large buildup of enemy supplies and troops in the vicinity of Kaesong, Colonel Polifka determined that a low-level visual inspection of the area was necessary to confirm these reports. Well aware of the danger involved, he chose to fly the mission himself rather than ask one of his men to do it. Colonel Polifka was killed after his F-51 had been riddled by enemy ground fire.

Col. Walker H. (Bud) Mahurin, an ace in World War II and an outstanding Air Force combat leader, has been missing in action since his F-86 was hit by ground fire while he was leading an important combat mission over North Korea.

The Air Force calls on its senior officers – men like Al Prendergast, Karl Polifka, and Bud Mahurin—to come to grips with the enemy to a degree unknown in the surface forces. In the Army, for example, battalion and regimental commanders – colonels and lieutenant colonels, respectively – under normal conditions are not called upon to physically lead assaults against the enemy. To do so would mean, in most instances, that they were not fulfilling their own type of leadership responsibilities back at their command posts.

In the Air Force, on the other hand, officers of these ranks—serving as wing or group commanders—normally lead the combat assaults. While true leadership knows no rank, air warfare places unique demands upon senior officers.

"The most dependable leader," says General Twining, "is the man who wants responsibility so that he can make sure the job will be done properly, who wants to lead not just to get himself out in front, but to get people started in the right direction."

In this 45th anniversary month of the US Air Force, we can throw a salute to the Air Force combat leaders in Korea who, like their predecessors all over the world, are helping to keep the Air Force going in the right direction, and who represent the best in that human element which puts the power into American airpower.—END

"BTO"

-but every hit direct!

using RCA SHORAN

"BOMBING THROUGH OVERCAST"! Yet RCA SHORAN can determine your position "over target" to an accuracy of better than 50 feet in 100 miles or more—*and do it in less time than it takes to tell it.*

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Here's how it works. Two widely separated SHORAN stations on the ground or aboard ship form the base line of a triangle. Your plane is the apex. Pulsed radar signals from your SHORAN are picked up by both ground stations and re-transmitted back to you. On your radar screen you see one "pip" for each station signal. Using calibrated dials, you triangulate these "pips" for your "fix." The operation is done in seconds.

SHORAN development is just one example of the way RCA works in close co-operation with the military services to guarantee U. S. supremacy in electronics. Meet the RCA Engineers and Field Technicians in *your* branch of service.

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Scramble!

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ELECTRO-MECHANICAL DESIGNERS...
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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,
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Skilled and alert are the men of the 83rd Squadron, at Hamilton Air Force Base, in the Western Air Defense Command. They fly the U.S. Air Force's new all-weather interceptors—fast, deadly Northrop F-89 Scorpions.

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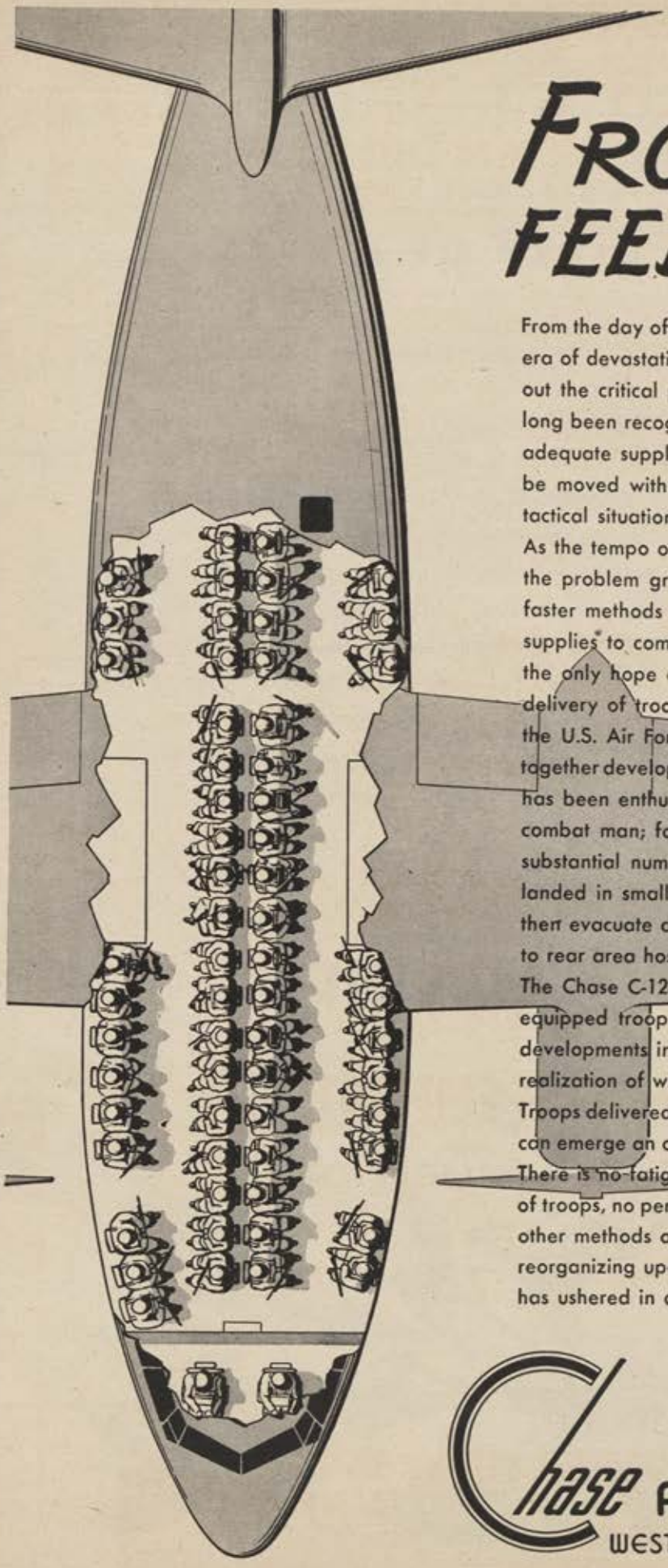


FRONT LINE FEEDER LINE

From the day of spear and shield combat to the present era of devastating weapons, military men have sweated out the critical problem of logistics. It has long been recognized that wars can only be won when adequate supplies of manpower and materiel can be moved with sufficient speed to meet any tactical situation.

As the tempo of warfare increased through the years, the problem grew more critical demanding newer and faster methods of delivering troops, weapons and supplies to combat areas. Firm in their belief that the only hope of solving this problem lay in the delivery of troops and equipment by air, the U.S. Air Force, Army and Chase Aircraft working together developed the assault transport. Its development has been enthusiastically received by the combat man; for today, fresh troops can be rushed in substantial numbers to forward combat areas and landed in small unimproved fields. The planes can then evacuate casualties direct from front lines to rear area hospitals.

The Chase C-123, capable of carrying sixty-one fully equipped troops, is one of the most significant developments in the history of aircraft and is a realization of what was but a dream a short time ago. Troops delivered into combat areas by assault transports can emerge an organized unit, fresh and battle-primed. There is no fatigue so common in overland movement of troops, no personal hazard as may be encountered by other methods of delivery by air and no time lost in reorganizing upon landing. The Chase assault transport has ushered in a new era in the history of aviation.

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

STROUKOFF AVITRUC

BIRTH OF A BIRD

In the case of guided missiles, the "Birth of a Bird" is not something which happens in a few spring weeks. Creation of a new guided missile is a long and intricate project, one calling for a team of engineers, like that at Fairchild's Guided Missiles Division, which is skilled in many phases of engineering—one which knows how to weld electronics, aerodynamics, rocketry and a host of other specialties into missile systems that tomorrow will be front line defenders of freedom. With experience dating back into World War II, Fairchild's team of missile engineers today is designing and developing not only guided missiles but also complete missile systems including ground and support components.

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

AIRPOWER at the CROSSROADS

Sound long-range planning for defense against atomic blackmail—or attack—must be based on the proper interaction between science and technology on one hand and strategy and tactics on the other

An AIR FORCE Staff Study

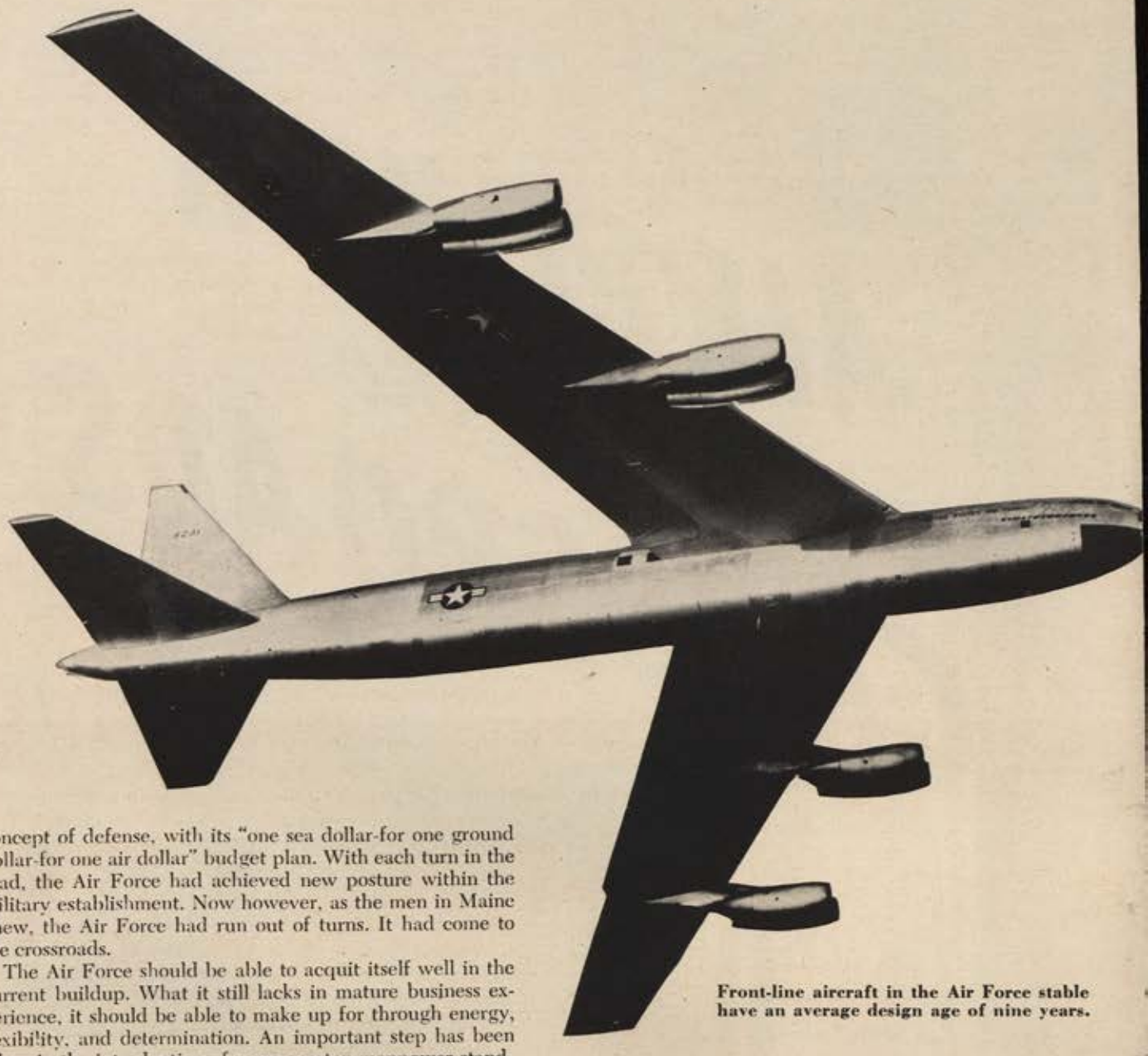
ONCE the smoke of battle had settled over the new defense budget, Air Secretary Finletter and a selected few of his top military leaders left the confusions of the Pentagon and gathered at a remote spot in Maine to do some serious talking about the future of the United States Air Force.

There was good cause for this meeting. In the months just past, the Joint Chiefs of Staff and the Congress had supported, without admitting it in so many words, the heretofore controversial theory that airpower is our first line of both defense and offense and the primary instrument of national policy. Of course, Air Force requirements—as approved unanimously by the Joint Chiefs—had been modified by both the President and the Congress, and a stretchout of aircraft production had prevailed. But the Air Force had been granted forty-five percent of the defense dollar for the next fiscal year, and the 143 wing program had been put into motion.

Ahead of the Air Force, as the men at the Maine hideway well knew, was the job of achieving a stature consistent with its new responsibilities. Ahead too were the brickbats which would come the way of those shouldering major responsibilities in any field of activity.

The Air Force had successfully negotiated many a turn in the road. From the time of Billy Mitchell through the end of World War II, it had been an underdog struggling for recognition. During the uneasy months after August 1945, amidst the shambles of reckless demobilization, it had built a strategic striking force capable of deterring Soviet aspirations, and had been freed from the shackles of Army tradition. And it also had been forced to live and expand within the restrictions of a "balanced force"

AIRPOWER AT THE CROSSROADS



Front-line aircraft in the Air Force stable have an average design age of nine years.

concept of defense, with its "one sea dollar-for one ground dollar-for one air dollar" budget plan. With each turn in the road, the Air Force had achieved new posture within the military establishment. Now however, as the men in Maine knew, the Air Force had run out of turns. It had come to the crossroads.

The Air Force should be able to acquit itself well in the current buildup. What it still lacks in mature business experience, it should be able to make up for through energy, flexibility, and determination. An important step has been taken in the introduction of more spartan manpower standards for the 143 wing buildup. Inefficiencies in procurement activities and in base construction programs should be reduced as the high inertia of a huge public organization slowly responds to the call for more steam pressure after running for a few years on insufficient fuel. Certainly there will be additional charges of waste, and again some of these charges will be justified as the Air Force occasionally "fumbles the ball." All in all, however, the digestion of the buildup—giving the nation a more adequate "Air Force-in-being"—should pose no real problems.

The Air Force's real problems will occur in the area of providing for tomorrow, a job which it has not been able to accomplish with outstanding success in the past, judging from some of today's problems. However, there was good reason for this. When it was created as an independent service in 1947, the immediate and pressing obligation of the Air Force was to organize promptly a combat force which could maintain the peace, and could insure our survival if war should break out. Perhaps it is understandable that abstract future requirements should have been given lower priority than solution of the more current problems. Certain it is that many military deficiencies stemmed in large part from explosive demobilization, and subsequently from a stringent government economy program. Then came Korea, a nation shocked momentarily out of complacency, and funds for an expanded military program. With this has also come a clearer understanding of the long-term nature of the Soviet threat, an increasing awareness of the fact that full scale war—if it ever comes—might come tomorrow or next year or ten years from now, and the realization that we must be ready for it whenever it comes—now or then. It is this uncertain future, facing a potential adversary who is continuously improving his armaments qualitatively as well as quantitatively, which confronts the Air Force with its real challenge. Not only must it build a "force-in-being," but it must simultaneously provide for the "Air Force-of-tomorrow." The era of fantastic weapons is at hand, but will we win the race for decisive, qualitative air superiority?

In this respect, at least, airpower and the Air Force stand today at the crossroads.

R&D Budget Still Inadequate, But . . .

The quality of our Air Force repeatedly came up for Congressional discussion during the recent debate over the defense budget. These discussions revealed, on the one hand, widespread interest in the research and development program of the Air Force and, on the other, considerable lack of knowledge regarding the inadequacies of this program since the end of World War II. Only Senator Hubert Humphrey (D-Minn.), during an address to the Senate, seemed to answer the question which was raised so often during the debates, namely: "Why isn't our Air Force equipment, particularly fighter aircraft, superior to that of Russia?"

"Russia has proceeded with an uninterrupted and accelerated postwar airpower research and development program," said Senator Humphrey, "ever since she acquired a number of German aeronautical experts, some of the world's finest, as war booty in 1945. Our own Air Force research and development program, on the other hand, has been spotty. For example, during the period from 1947 to 1949, for lack of money, not one new aircraft or guided missile project was undertaken. And those were the years which determined the quality of the air weapons with which we fight today."

During the hectic closing hours of Senate debate, Senator Humphrey's words helped to clarify the basic issues and prevent Congressional cuts in Air Force research and development funds beyond those already imposed by the Department of Defense and the President. But developing a future Air Force requires more than an adequate budget. The Air Force can meet future requirements only by shelving seat-of-the-pants thinking along with seat-of-the-pants flying.

Sound, long range planning for defense against atomic blackmail—or attack—must be based on the proper interaction between science and technology on the one hand, and strategy and tactics on the other. In the past, except for piecemeal and unorganized efforts, Air Force research and development has exerted little or no influence on strategic concepts and war plans. In turn, the research and development program has been formulated without the full benefit of strategic guidance. Almost everyone in the Air Force has been too busy working on current problems or short term requirements to worry – let alone think profoundly—about the future. As one officer puts it, "The Air Force has been so busy sewing up cuts to keep from bleeding to death, it hasn't taken time enough to figure out ways to keep from getting cut."

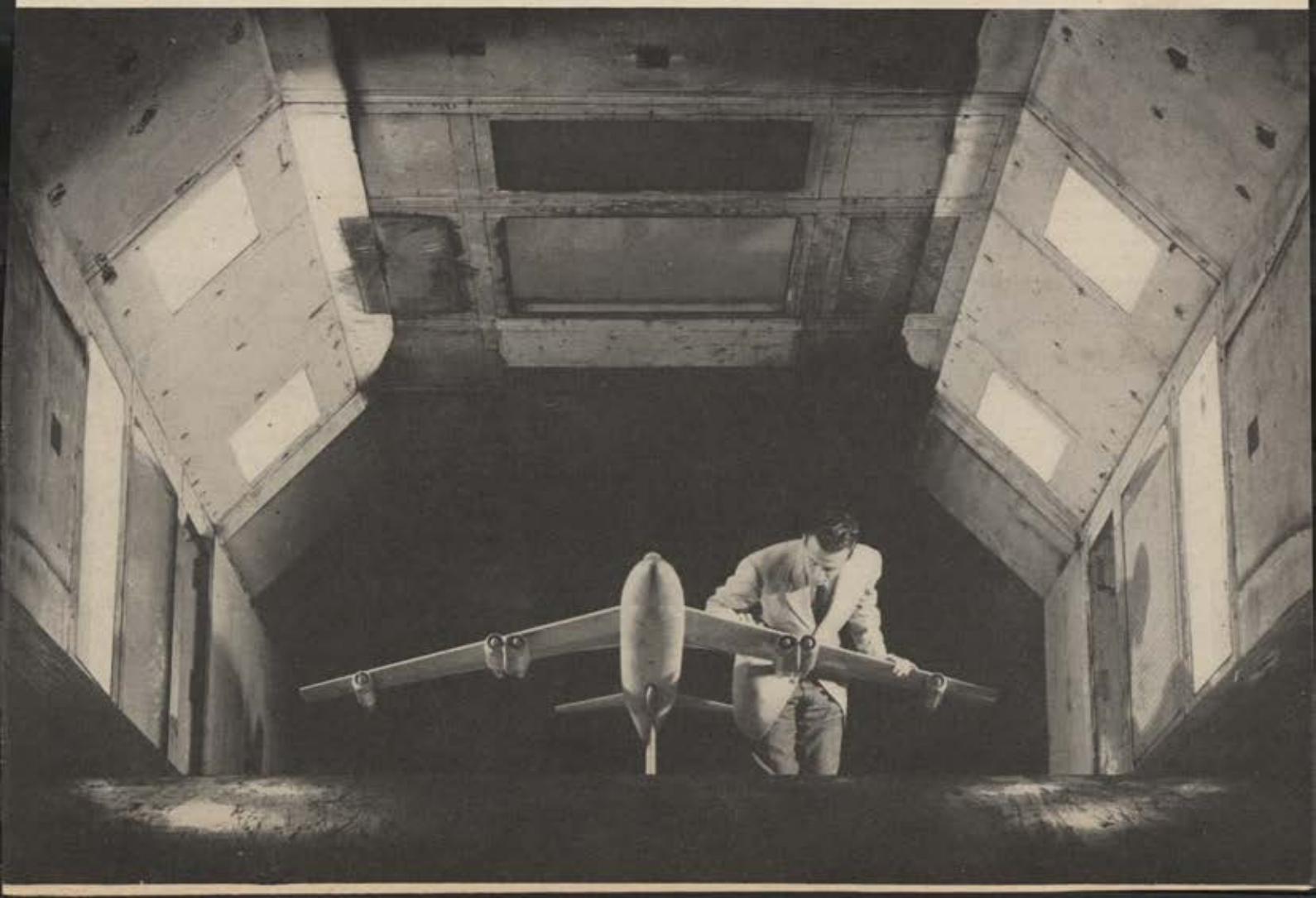
Air Force Development Planning

Concentrating largely on current tactical and technical deficiencies, the Air Force has "changed the signals" too often on new weapons during the development and procurement cycle. The B-47, for example, has undergone some five changes in bomb load capability, three major changes in armament configuration, and several changes in aerodynamic performance requirements while still in the development phase. Similarly, the F-89 was conceived to fill the gap in the Air Force's all-weather tactical capability. Now, after constant modification, it is an all-weather interceptor for the air defense mission.

Many of these changes were inevitable during the assimilation of the jet propulsion and electronic revolutions, but some could certainly have been eliminated by sounder advance planning prior to the initiation of a new development.

Sound development planning can indicate not only "what

The B-47 had several changes in bomb load, armament and aerodynamic performance requirements while in development.



kind" of a new weapon is needed, but it can also show "when" prototype development should be initiated. In the absence of adequate R&D budgets for new prototypes which would replace old designs being overtaken by the state of the aeronautical art, the Air Force has continually modified its airplanes in an effort to maintain tactical suitability.

A glance at the record reveals that the front-line airplane types in the Air Force stable, upon which we will have to depend at least through 1954, have an average design age of nine years. In every instance new life has been injected into these aircraft to keep them in the race with technical progress, through major modification programs. Yet, in the modification programs, each type has been compromised in various ways by aerodynamic, structural, and propulsion limitations inherent in the old design. (This does not necessarily mean, however, that they have become tactically unsuitable; this depends on the enemy's capabilities.)

Sound economics demand that each weapon be used to its utmost. Current weapons cannot be discarded, as long as they remain effective, merely by the lure of something new. Modification will be always with us and can be justified as a modernizing process. But modification, while often providing a satisfactory short-term answer, cannot keep pace with changes in military strategy, with large-scale changes in enemy capability, or with important advances in the aeronautical sciences. The Air Force, any more than the taxpayer, cannot continually resole old shoes.

Since the reorganization of its research and development activities a few years ago, the Air Force has given constant attention to the development planning problem. Development planning consists of analytical studies which outline, in broad terms, techniques and weapons systems which may enable the Air Force to accomplish most effectively its mission under probable future combat conditions. It is the responsibility of an Assistant (for Development Planning) to the Deputy Chief of Staff for Development to initiate these studies, so that the results can be reflected in general operational requirements, in development programs, and in war plans.

This is a big job, dependent upon the orderly and objective assessment of strategic factors, the technological potential, and enemy capabilities. It attacks each problem from an analytical viewpoint, as far as possible, rather than from the operational pressures of the moment. It results in the establishment of development planning objectives in each of the major Air Force mission areas—intelligence and reconnaissance, strategic, tactical, air defense, logistical, etc. Development planning projects the weapons and techniques for each of these areas some years into the future.

Science Poses the Problems

We would hesitate to fight a 1957 war based on a 1952 idea of strategy. Fortunately, we do not have to do so, since operational plans are relatively easy to revise in the light of the changing world situation. Yet, 1957 technology is being largely committed today and relatively little can be done to change rapidly the output of production lines in response to unanticipated turns in the wheels of scientific progress. Since science—by its very nature—is synonymous with discovery, this problem can never be completely eliminated. But during the long and tortuous evolution of a new idea from vagueness to preciseness, there comes a time when men with mature scientific judgment and experience – with the help of quantitative analysis where possible—can begin to assess the impact of new discoveries. This is true in all areas of Air Force activity today, as science poses the problems upon whose sound solution may depend nothing less than the survival of tomorrow's freedom. Let us state those problems in broad terms.

Intelligence and Reconnaissance Activities

1. Can science help pierce the iron curtain of Soviet secrecy, so that we are fully prepared to destroy the armed forces and war-making supplies and industrial capacity of aggressive communism, should it decide to strike?

2. Considering the potentially catastrophic implications of a surprise attack against us, can we build a warning net which will surprise the Soviet aggressor instead?

Air Defense of the United States

1. How can we build an adequate air defense system, without prodigious expenses which might cripple our retaliatory strength and without being lured by the elusive dream of a jet-propelled Maginot Line complete with wings?

2. Can we "mechanize" our radar fence to eliminate human errors and to handle saturation attacks?

3. Is it feasible to reach out over the northern approaches with an atomic air defense and destroy enemy bombers long before they reach friendly shores?

4. How soon will the ground-to-air missile replace anti-aircraft artillery in the local defense of vital targets?

Tactical Warfare

1. What techniques hold greatest promise of providing a reliable, all-weather tactical capability?

2. To what extent will the era of "atomic plenty" force great dispersion of ground tactical warfare?

3. Is there a role for the Air Task Group in the widely-dispersed "little Koreas" which the Soviets may try next?

Strategic Air Operations

1. What will be the combined effects of the development of air refueling and fusion weapons on the nature and composition of the strategic bombing force? Is the B-52 type bomber here to stay, and will it have an even larger successor? Or will the mounting Soviet defense capability and tactical versions of the H-bomb reverse this trend?

2. What bomber defenses can be devised against today's modern jet interceptor and tomorrow's guided missile?

3. When will guidance accuracy and reliability permit the guided missile, and even the ballistic or glide rocket, to replace the manned bomber effectively and economically?

Air Logistics

1. Can we "mechanize" our entire stock control system, thereby drastically reducing the investment of men and money in large inventories for our aircraft and equipment?

2. Is there a place for the nuclear-powered transport for moving premium cargo such as jet engines and electronic gear from factory to battlefield?

These are some of the problems which the progress of science has placed before the Air Force. These are some of the questions which various development planning task forces are trying to help answer.

It will take bold and imaginative action on the part of the Air Force leaders to see that this effort is given the support it needs to help insure the full impact of scientific progress on our weapons, our operational effectiveness, and our strategy. Until a relatively short time ago, research and development too often has been considered apart from the over-all Air Force mission, an "incomprehensible appendage" that would either run along on its own steam or, perhaps, could be given some attention after the "daily fire drills" had been looked after. Now, Air Force leadership has at last begun to integrate the research and development function into the framework of other major Air Force functions. There is now some understanding of the fact that research and development is fighting tomorrow's wars today.

Given adequate Air Force development planning, however, still other problems lie ahead. Operational commanders are notably – and sometimes understandably – unenthusiastic about new weapons. Already in Korea we have seen the conflict arise with the introduction of the new radar-tracking gunsight in our F-86s over MIG Alley. We have seen the gunsight shunned by some of the pilot veterans of World War II, and accepted—with significant success—by new pilots who had no war behind them and hence nothing to unlearn.

Key to Air Force Success

There is only one sure key to Air Force success in making sound decisions on all of the major issues which face it during this historic and challenging age. This key is made up of competent people, with a full understanding of the implications of scientific progress in modern warfare, sitting in the proper jobs. The thousandfold expansion of airpower, beginning about 1940, brought into the Air Force scores of the most outstanding combat and operational officers of modern times. Yet, it is a paradox that many of these officers have failed to understand that yesterday's glory finds its well deserved place in history, but it can never win tomorrow's war.

When will the Air Force have adequate numbers of outstanding officers in technical activities? Further, judging from the letters reaching this magazine, when will the Air Force utilize those technical officers which it has with maximum effectiveness, and when will it make technical work sufficiently rewarding to attract technical officers in more adequate numbers?

For a long time, the Air Force debated whether or not these problems really existed. Only recently has the debate ceased and the job of assessing Air Force officer resources and providing for their optimum utilization been tackled aggressively and effectively. A sound beginning has been made, but the results are yet to come. In this area, which holds the key to success, the Air Force has just begun to face up to the task.

The fantastic weapons which currently are still conversation pieces will come into being over the years ahead. Much depends on the decisions which are being made today. There is increasingly less room for intuition in making a decision on the characteristics of weapons which will be needed to fight successfully the air wars of tomorrow. These decisions have to be made by technically competent men today, and they have to be re-examined by more technically competent men on each tomorrow, as the frontiers of science slowly are rolled back.

Dr. Theodore von Karman, Chairman of the Air Force Scientific Advisory Board, once advised the late General of the Air Force "Hap" Arnold in these words: "The men in charge of the future Air Force should always remember that problems never have final or universal solutions, and only a constant inquisitive attitude toward science and a ceaseless and swift adaptation to new developments can maintain the security of this nation through world air supremacy." Here is the real challenge to the Air Force as airpower stands at the crossroads.—END

B-36 was changed 6,000 times. F-89 was conceived as all-weather fighter-bomber, wound up as all-weather intereceptor.

During early tests, when the Wright brothers were still trying to sell their Flyer to the Army, a brisk wind was enough to ground it.

1st Prov. Aero Sqdn., under Captain Chandler, was formed in Texas City, March 1913. It flew seven Wright B airplanes.

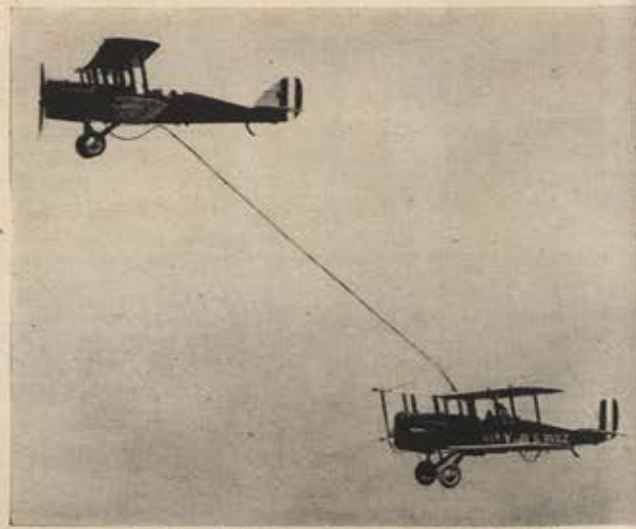
Army aviation's first casualty, Lt. Thomas E. Selfridge, died in the crash of the Wright plane at Ft. Myer, Va., in 1908.

Early Birds' Family Album

A look at some of the machines and men to whom today's Air Force owes much

THE WRIGHT Brothers had been flying their airplane successfully for almost two years when they offered it to the Army. They were told that "... the Board does not care to . . . take any further action until a machine is produced which by actual operation is shown to be able to produce horizontal flight and to carry an operator." A little later, when pioneer pilots spoke of a misty future when whole battles might be fought in the air, the War Department primly pointed out that the Army's airplanes were intended only for reconnaissance. This is the kind of skepticism that these early birds helped fight and lick, from Kitty Hawk to MIG alley.—END

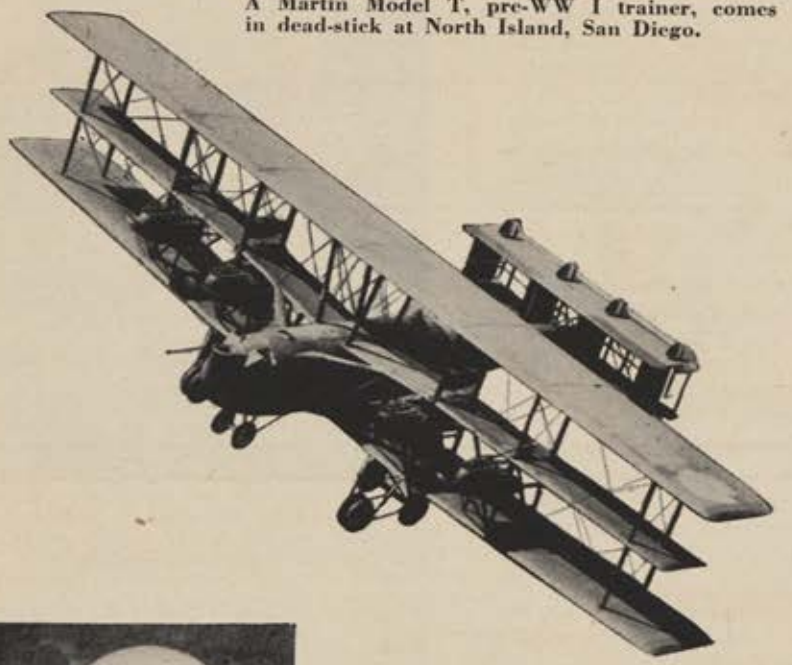
American pilots flying French Nieuports return from patrol in the Toul sector where US squadrons operated, April-May, 1918.



Smith and Richter kept aloft for 37¼ hours in 1923 and pioneered aerial refueling.

In 1925 Jimmy Doolittle won the Schneider trophy with a world record speed of 232.6 mph.

A Martin Model T, pre-WW I trainer, comes in dead-stick at North Island, San Diego.



A formation of Boeing P-12s, powered by Pratt & Whitney radial engines, the Army Air Corps' standard pursuit plane during the early 1930s.

The Barling triplane was an early attempt at a super-bomber which could undertake strategic missions. Stevens and Anderson explored the stratosphere in largest balloon ever built, November 1935 (left).

Fairchild and Eaker flew one of five Loening Amphibs on good-will, Pan American tour, 1926-1927.

On Sept. 28, 1921, Lt. J. S. Macready soared to record height of 34,508 feet in this turbo-supercharged La Pere.

AIRMEN ON THE JOB IN KOREA

Medals don't go to all the airmen who keep them flying and who rescue downed pilots, but the ones decorated earn their awards the hard way

DECORATIONS for valor have not been plentiful for airmen in Korea. There have been actual combat requirements for only a handful of enlisted crew members, since Korean air operations have been predominately fighter, a situation which accounts for the greater portion of the top awards going to officers.

The highest decoration awarded an airman since the beginning of the Korean war is the Distinguished Service Cross, presented posthumously to *Airman Third Class Desmond R. Wilkerson*. While serving as medical technician with the Third Air Rescue Squadron, Airman Wilkerson voluntarily participated on November 28, 1950, in the helicopter rescue of a Navy pilot downed more than ninety miles behind enemy lines. After the aircraft had landed, Wilkerson leaped from the plane and helped the pilot aboard, despite the possibility of enemy sniper fire. Because of darkness, poor visibility, and a rapidly diminishing fuel supply, the helicopter crashed behind friendly lines while attempting an emergency landing and Wilkerson was killed.

Airman Third Class Rollo D. Hibbs was posthumously awarded the Silver Star for action near Taechen, Korea, on November 26, 1950. A member of a tactical air control party attached to the 1st Republic of Korea Division, Hibbs volunteered to accompany his party at night to a forward position to direct night bombing strikes against the enemy. When the enemy, supported by heavy automatic weapons and mortar fire, attacked in overwhelming force, Airman Hibbs stayed with the party in an attempt to direct additional strikes to cover the withdrawal of friendly forces. In the ensuing fight, after his position was overrun by the enemy, he was killed.

Airman Second Class Richard F. Webb, another member of the control party in which Airman Hibbs gave his life, also remained at his post. When the enemy overran his position, Webb was wounded and became unconscious. After the enemy had left him for dead, Airman Webb made his way back to friendly lines and later received the Silver Star.

Staff Sergeant James K. Bryson, assigned as medical technician crew member of a rescue helicopter, received the Silver Star for voluntarily assisting in the rescue of an injured American fighter pilot deep in enemy territory, five miles south of Kanggye, Korea, on November 23, 1950. After flying eighty miles behind enemy lines, the helicopter landed near the injured pilot. Enemy troops immediately opened fire. Sergeant Bryson jumped from the helicopter and ran to the aid of the pilot, assisting him to the rescue craft. While taking off, the helicopter was hit in the tail cone, but was able to return to Sinanju.

Airman 3d Class Desmond R. Wilkerson, who lost his life in a helicopter rescue mission which won him the DSC.

For his efforts in the helicopter rescue of two downed airmen thirty miles behind enemy lines on February 2, 1951, *Technical Sergeant Robert J. Burns*, medical technician, received the Silver Star. Despite heavy enemy fire, he left the aircraft to shift ballast and assist the injured airmen into the helicopter where he administered first aid.

On March 20, 1951, *Airman First Class Harry H. Okamoto*, medical technician and combat air crewman, volunteered for a mission in an unarmed helicopter to rescue a UN pilot forced down thirty miles behind enemy lines. Repeated attempts to land were met by enemy fire but the helicopter was able to land and Airman Okamoto helped the pilot into the aircraft. For this action, he was awarded the Silver Star.

Technical Sergeant Edward H. Boggs, an aero-medical crew member

Lt. David McDaniel, helicopter pilot, and Silver Star winner T/Sgt. Robert Burns check blood transfusion equipment before taking off on a mission.

More enlisted medal winners are S/Sgt. Edward Boggs, Silver Star, (left), S/Sgt. James K. Bryson, Silver Star (center) and M/Sgt. LeRoy L. Henderson, who was one of several maintenance men awarded the Legion of Merit in Korea.

on a rescue helicopter with the Third Air Rescue Squadron, flew to an area near Munsan, Korea, where critically wounded UN troops were cut off by enemy forces on March 31, 1951. The 'copter landed amidst enemy small arms, automatic weapons, and mortar fire. When he realized there were too many wounded men to evacuate before dark, Sergeant Boggs volunteered to remain on the ground with the trapped men so that one more could be evacuated on each flight. He directed the gathering of wounded to a place of shelter, dispersed the survivors to defensive positions, and established a system of priority for evacuation. Not until the last wounded man was evacuated did he consider leaving the area. This earned Sergeant Boggs the Silver Star.

The Silver Star also was awarded *Airman Third Class Frankie L. Epperley,* aero-medical crew member with the Third Air Rescue Squadron, after he assisted in the helicopter rescue of an injured South African Air Force pilot who had bailed out near Simak, Korea, on April 30, 1951. While Airman Epperley helped the wounded pilot into the aircraft, two enemy soldiers moved toward the helicopter but were killed by strafing from friendly fighters flying cover. Epperley gave first aid to the pilot during the return flight.

Airman Third Class Ralph L. Davis, aero-medical specialist, Third Air Rescue Squadron, voluntarily made a flight fifty miles into enemy-held territory to rescue a UN pilot downed near Korang-pori, Korea, on May 19, 1951. While friendly aircraft strafed enemy positions, Airman Davis returned fire from the helicopter, which had been struck by small arms fire, until a landing had been made, when he helped the injured pilot aboard the aircraft. Airman Davis was awarded the Silver Star.

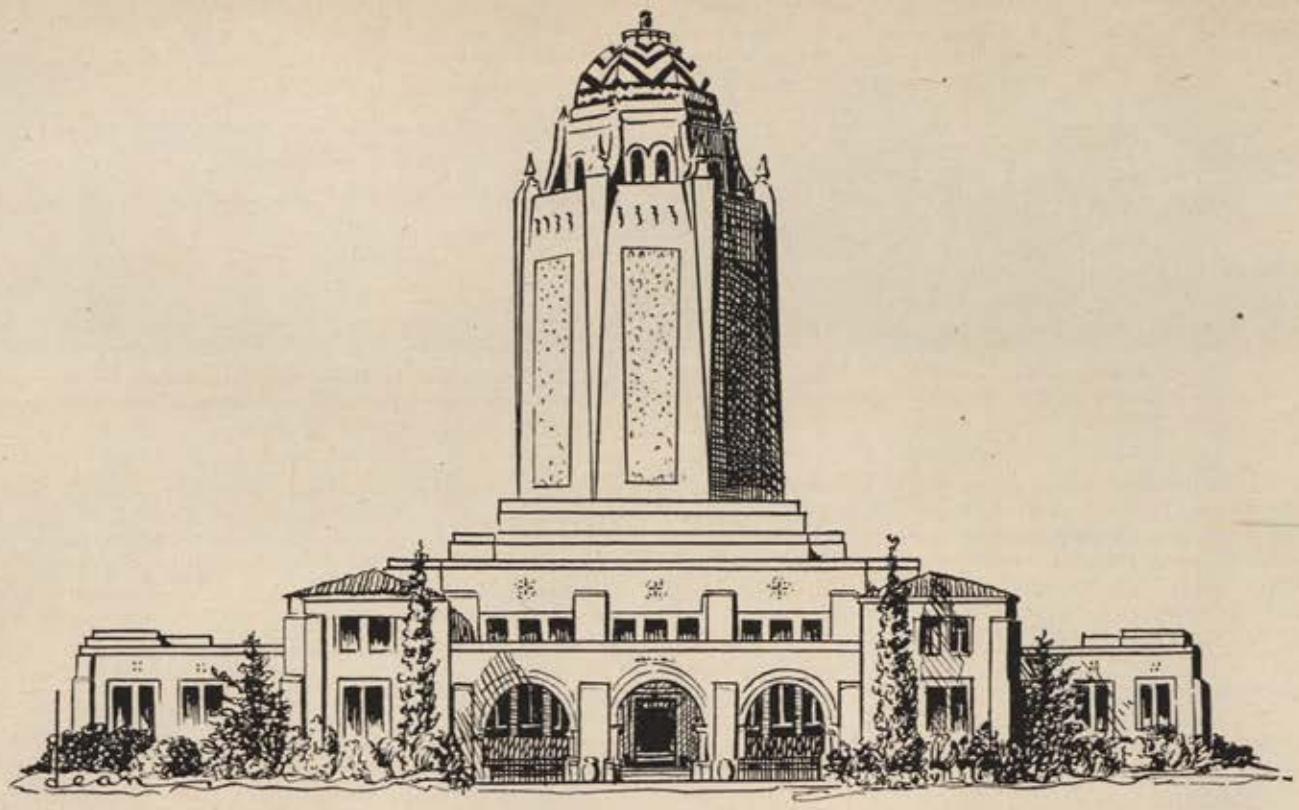
Airman Second Class William P. Price, an aero-medical specialist, Third Air Rescue Squadron, accompanied an unarmed helicopter on a flight into enemy territory on June 2, 1951, to aid in the rescue of a downed UN pilot who had parachuted from his battle-damaged aircraft. Although enemy troops were entrenched only seventy-five yards away, Airman Price managed to reach the pilot and help him back to the plane, which was flown back to safety. Price was presented the Silver Star.

The Silver Star was awarded to *Airman First Class Jack T. Boling,* who distinguished himself as an aero-medical crew member, Third Air Rescue Squadron, on July 3, 1951. Airman Boling flew in a helicopter ten miles into enemy-held territory to rescue a Marine fighter pilot who had parachuted from his stricken plane near Sangyong, Korea. Airman Boling leaped out of the helicopter and ran through a hail of enemy small arms fire to the badly injured victim and dragged him toward the rescue plane. He signaled the helicopter pilot for assistance, and together, they helped the Marine inside, where Airman Boling gave first aid during the flight to the nearest mobile Army surgical hospital.

The Silver Star was also presented to *Master Sergeant George Morar* who, as a special equipment operator aboard a B-26 attack bomber, 8th Bomb Squadron, helped destroy an enemy train on September 14, 1951. He flew a mission that night over North Korea to develop tactics using an airplane-mounted searchlight for detecting the enemy's lines of communication, troop concentrations, and supply dumps. After aiding a friendly aircraft in locating its position, the searchlight glare directed by Sergeant Morar revealed the location of a train, crippled earlier by the B-26's initial run. This action, performed under heavy ground fire opposition, afforded circling aircraft above ample opportunity to attack and destroy vital enemy rolling stock.

Besides these awards for valor since the start of the Korean war, Legion of Merit awards for outstanding service have been presented to these airmen: Staff Sergeant Julian M. Huntley, Master Sergeant LeRoy L. Henderson, and Master Sergeant Henry C. Solly.—END

Col. William A. Schulgren, commanding officer of Johnson AFB, Japan, congratulates Airman 2d Class Frankie L. Epperley on his brand new Silver Star.



GUIDE TO AIR FORCE BASES

Here's a run-down on the major, active AFBs in the country — where they are, what they do, and the latest tally on the housing situation you'll find if transferred

ALEXANDRIA AFB, Alexandria, La. Fighter-bomber base, 9th AF, TAC; named for city. Housing: officers, good; airmen, good.

AMARILLO AFB, Amarillo, Tex. Tech school, ATRC; named for city. Housing: officers, good; airmen, good.

ANDREWS AFB, Camp Springs, Md., near Washington, D. C. Hq., MATS; formerly known as Pyles Field; renamed for Lt. Gen. Frank M. Andrews, pioneer exponent of airpower, CG of US forces in Europe, killed in Iceland, 1943. Housing: officers, good; airmen, fair.

ATTERBURY AFB, Camp Atterbury, near Columbus, Ind. Troop carrier base, 10th AF, CONAC; originally known as Columbus Army Air Field, renamed for Camp Atterbury. Housing: officers, poor; airmen, poor.

BARKSDALE AFB, Shreveport, La. Hq., 2d AF, SAC. Medium bomber and strategic recon base; named for Lt. Eugene H. Barksdale, test pilot, killed in US, 1926. Housing: officers, excellent; airmen, excellent.

BEALE AFB, Marysville, Calif. Aviation Engineers base, 4th AF, CONAC. Named for Camp Beale, after Brig. Gen. Edward F. Beale, a California Indian agent before the Civil War. Housing: officers, good airmen, good.

BERGSTROM AFB, Del Valle, Tex., near Austin. Fighter base, 8th AF, SAC; originally known as Austin Army Air Field, renamed for Capt. John A. E. Bergstrom, who was killed in Philippines, 1942, first Texan in the Army Air Forces to lose his life in World War II. Housing: officers, excellent; airmen, excellent.

BIGGS AFB, El Paso, Tex. Medium bomber and tow-target base, 8th AF, SAC; named for Lt. James B. Biggs, World War I fighter pilot, killed in France, 1918. Housing: officers, good; airmen, excellent.

BOLLING AFB, Washington, D. C. Hq. Command,, USAF; named for Col. Raymond C. Bolling, Ass't Chief Air Service, killed in France, 1918. Housing: officers, good; airmen, fair.

BROOKLEY AFB, Mobile, Ala. Hq., Air Materiel Area, AMC; foreign clearing station, MATS; originally known as Bates Field, renamed for Capt. Wendell H. Brookley, test pilot, killed in US, 1934. Housing: officers, good; airmen, good.

BROOKS AFB, San Antonio, Tex. Hq., USAF Security Service; security training school; named for Lt. Sidney J. Brooks, killed in US, 1917, during cadet training and awarded commission posthumously. Housing: officers, good; airmen, good.

BRYAN AFB, Bryan, Tex. Pilot training school, ATRC; named for city. Housing: officers, fair; airmen, fair.

BURLINGTON MUNICIPAL AIRPORT, Burlington, Vt. Fighter base, EADF, ADC; named for city. Housing: officers, fair; airmen, excellent.

CAMPBELL AFB, Hopkinsville, Ky. Special activities center, 2d AF, SAC; named for nearby Camp Campbell. Housing: officers, good; airmen, fair.

CARSWELL AFB, Fort Worth, Tex. Hq., 8th AF, SAC; heavy bomber base; originally known as Fort Worth Army Air Field, renamed for Maj. Horace S. Carswell, bomber pilot, Medal of Honor holder, killed in China, 1944. Housing: officers, good; airmen, good.

CASTLE AFB, Merced, Calif. Medium bomber base, 15th AF, SAC; once Merced Field, renamed for Brig. Gen. Frederick W. Castle, bomber pilot, Medal of Honor holder, killed in ETO, 1944. Housing: officers, good; airmen, good.

CHANUTE AFB, Rantoul, Ill. Aircraft maintenance, weather, and administrative schools, ATRC; named for Octave Chanute, pioneer navigation engineer, died in US, 1910. Housing: officers, fair; airmen, fair.

CLINTON COUNTY AFB, Wilmington, Ohio. Reserve ground training, CONAC; named geographically. Housing: officers, fair; airmen, fair.

CLOVIS AFB, Clovis, N. Mex. Advanced single engine school, ATRC; named for city. Housing: officers, good; airmen, good.

COLUMBUS AFB, Columbus, Miss. Contract pilot training school, ATRC; named for city. Housing: officers, good; airmen, fair.

CRAIG AFB, Selma, Ala. Aircraft pilot and instructor school, ATRC; named for Lt. Bruce K. Craig, test pilot, killed in US, 1941. Housing: officers, good; airmen, good.

DAVIS-MONTHAN AFB, Tucson, Ariz. Medium bomber base, 15th AF, SAC; named for Lt. Samuel H. Davis, killed in US, 1921, and Lt. Oscar Monthan, bomber pilot, killed in Hawaii, 1924. Housing: officers, good; airmen, good.

DOBBINS AFB, Marietta, Ga. Fighter base, EADF, ADC; formerly known as Marietta AFB, renamed for Capt. Charles M. Dobbins, killed transporting paratroopers over Sicily, 1944. Housing: officers, fair; airmen, fair.

DONALDSON AFB, Greenville, S. C. Hq., 18th AF, TAC, troop carrier base; formerly Greenville AFB, renamed for Capt. John O. Donaldson, fourth ranking ace in World War I, killed in US, 1930. Housing: officers, good; airmen, good.

DOVER AFB, Dover, Del. Fighter and transport base, MATS; named for city. Housing: officers, poor; airmen, poor.

DOW AFB, Bangor, Me. Fighter base, SAC; named for Lt. James F. Dow, killed in US, in 1940. Housing: officers, fair; airmen, fair.

EDWARDS AFB, Muroc, Calif. AF flight test center, ARDC; originally Muroc AFB, renamed for Capt. Glen W. Edwards, test pilot, killed in US, 1948. Housing: officers, fair; airmen, fair.

EGLIN AFB, Valpariso, Fla. Hq., Air Proving Ground; named for Lt. Col. Frederick J. Eglin, killed in US, 1937. Housing: officers, excellent; airmen, excellent.

ELLINGTON AFB, Houston, Tex. Bombardier school, ATRC; named for Lt. Eric L. Ellington, killed while on a training flight in US, 1913. Housing: officers, excellent; airmen, excellent.

ENT AFB, Colorado Springs, Colo. Hq., ADC; named for Brig. Gen. Uzal G. Ent, CG, 2d AF, recipient of DSC, died in 1948. Housing: officers, good; airmen, good.

FAIRCHILD AFB, Spokane, Wash. Medium and heavy bomber base, 15th AF, SAC; Spokane Air Depot, AMC; named for Gen. Muir S. Fairchild, World War I bomber pilot, Vice Chief of Staff, USAF, died in US, 1950. Housing: officers, good; airmen, good.

FLOYD BENNETT NAS, Brooklyn, N. Y. Reserve training center, 1st AF, CONAC, joint use with Navy. Named for Admiral Byrd's pilot on first flight over North Pole, 1926. Housing: officers, fair; airmen, fair.

FORBES AFB, Topeka, Kan. Medium bomber base, 8th AF, SAC; originally Topeka Army Air Field, renamed for Maj. Daniel H. Forbes, killed in US, 1948. Housing: officers, fair; airmen, fair.

FRANCIS E. WARREN AFB, Cheyenne, Wyo. Engineer, weather and administrative schools, ATRC; formerly Fort Francis E. Warren Field, named for US Senator, first elected Governor of Wyoming, Civil War holder of Medal of Honor, died in US, 1929. Housing: officers, good; airmen, good.

GEIGER FIELD, Spokane, Wash. Fighter base, WADF, ADC; named for Maj. Harold Geiger, World War I dirigible expert, killed in aircraft accident in US, 1927. Housing: officers, good; airmen, good.

GEORGE AFB, Victorville, Calif. Fighter base, 15th AF, SAC; originally Victorville AFB, renamed for Brig. Gen. Harold H. George, World War I ace, commander of US Air Forces in Australia in World War II, killed in Australia, 1942. Housing: officers, good; airmen, good.

GEORGE WRIGHT AFB, Spokane, Wash. Housekeeping installation for Fairchild AFB, 15th AF, SAC; originally Fort George Wright, named for Brig. Gen. George Wright, US Army, CG, Dep't of the Pacific, died in 1865.

GODMAN AFB, Fort Knox, Ky., near Louisville. Fighter base, 9th AF, TAC; originally Fort Knox Army Air Field, renamed for Lt. Kirkwood Godman, killed in US, 1918. Housing: officers, poor; airmen, poor.

GOODFELLOW AFB, San Angelo, Tex. Basic pilot training school, ATRC; named for Lt. John J. Goodfellow, Jr., killed in fighter combat, France, 1918. Housing: officers, good; airmen, excellent.

GRAY AFB, Killeen, Tex. Special activities center, 8th AF, SAC; formerly Camp Hood Army Air Field, renamed for Capt. Robert M. Gray, pilot on first Tokyo bombing mission of World War II, killed in India, 1942. Housing: officers, good; airmen, good.

GREAT FALLS AFB, Great Falls, Mont. Foreign clearing station, MATS; named for city. Housing: officers, fair; airmen, fair.

GREATER PITTSBURGH AIRPORT, Coraopolis, Pa. Fighter base, EADF, ADC; named for city of Pittsburgh. Housing: officers, good; airmen, good.

GREENVILLE AFB, Greenville, Miss. Basic contract pilot training school, ATRC; named for city. Housing: officers, good; airmen, good.

GRENIER AFB, Manchester, N. H. Fighter base, EADF, ADC; named for Lt. Jean D. Grenier, killed in US, 1934. Housing: officers, good; airmen, fair.

GRIFFISS AFB, Rome, N. Y. Electronics development center, ARDC; formerly Rome Army Air Field, renamed for Lt. Col. Townsend E. Griffiss, recipient of DSC, killed on flight from Russia to England, 1942. Housing: officers, good; airmen, fair.

GUNTER AFB, Montgomery, Ala. Air Command and Staff School, Air University; named for William A. Gunter, former mayor of Montgomery, ardent exponent of airpower, died in 1940. Housing: officers, fair; airmen, fair.

HAMILTON AFB, San Rafael, Calif. Hq., WADF, ADC; Hq., 4th AF, CONAC; air rescue base, MATS; named for Lt. Lloyd A. Hamilton, recipient of DSC, killed in fighter combat, France, 1918. Housing: officers, excellent; airmen, good.

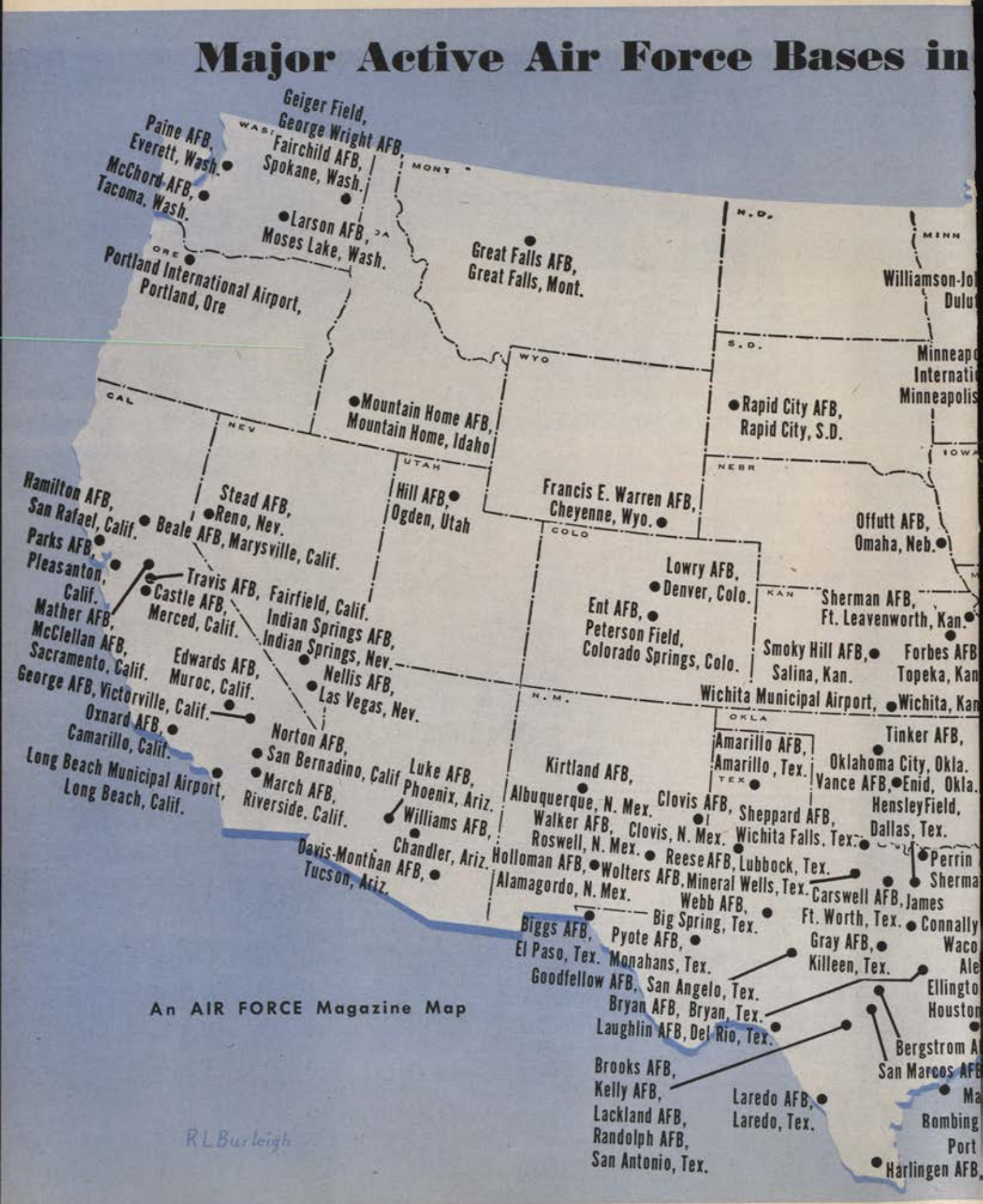
HARLINGEN AFB, Harlingen, Tex. Aircraft observer training base, ATRC; named for city. Housing: officers, fair; airmen, fair.

HENSLEY FIELD (Dallas NAS), Dallas, Tex. Troop carrier base; named for Maj. William N. Hensley, airpower pioneer, died in US, 1929. Housing: officers, good; airmen, good.

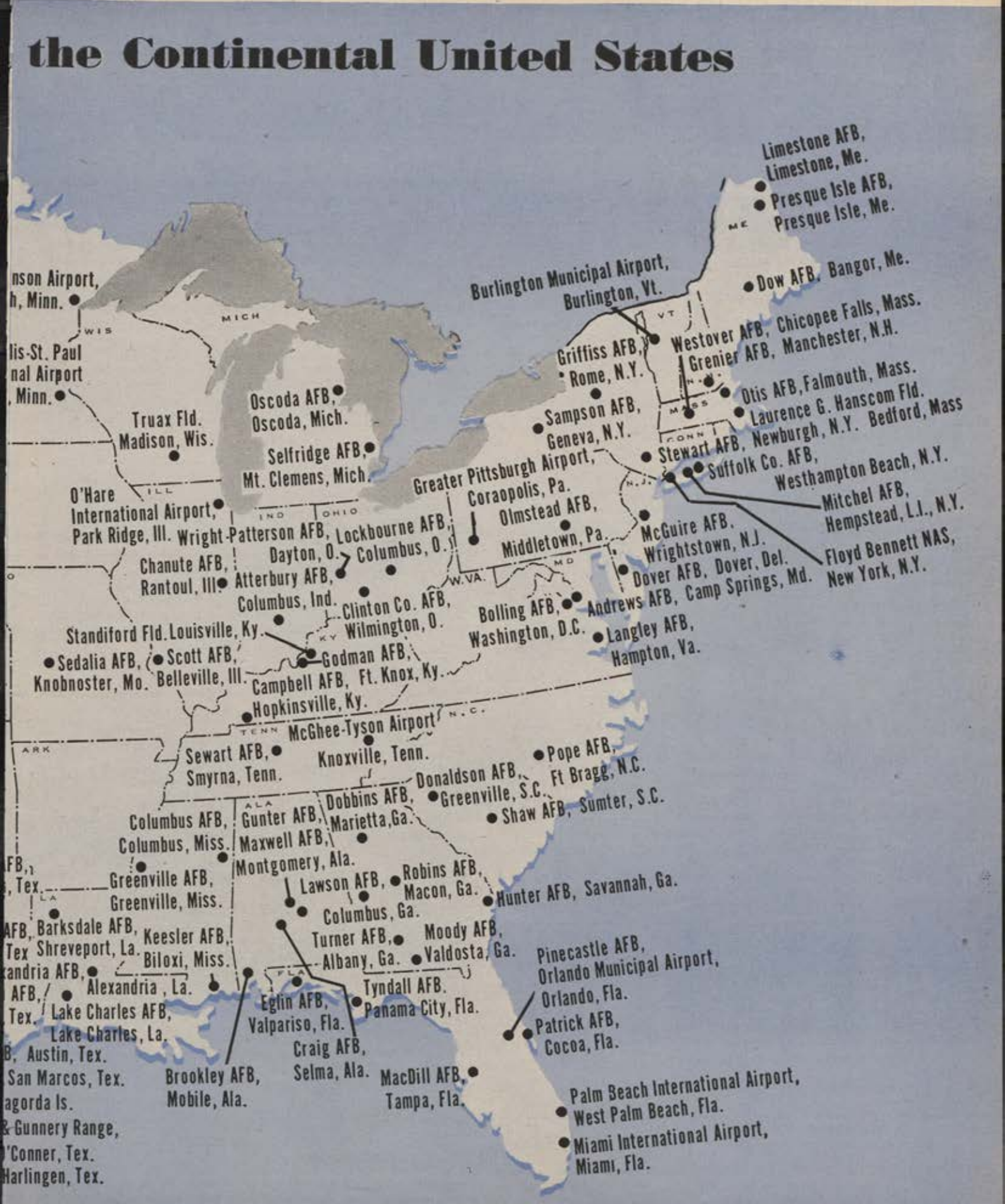
HILL AFB, Ogden, Utah. Hq., Air Materiel Area, AMC; named for Maj. Ployer P. Hill, killed in US, 1935. Housing: officers, fair; airmen, fair.

(Continued on page 46)

Major Active Air Force Bases in



the Continental United States



AIR BASES AND HOUSING——CONTINUED

HOLLOMAN AFB, Almagordo, N. Mex. Guided missile test base, ARDC; formerly Almagordo Army Air Field, renamed in honor of Col. George B. Holloman, guided missile pioneer, killed in US, 1946. Housing: officers, fair; airmen, fair.

HUNTER AFB, Savannah, Ga. Medium bomber base, 2d AF, SAC; named for Maj. Gen. Frank O'D. Hunter, World War I ace, recipient of DSC, four clusters; AFA Director. Housing: officers, fair; airmen, fair.

INDIAN SPRINGS AFB, Indian Springs, Nev. Special weapons center, ARDC; named for city.

JAMES CONNALLY AFB, Waco, Tex. Pilot training school, ATRC; originally Waco AFB, renamed for Col. James T. Connally, killed on bombing mission over Yokohama, 1945. Housing: officers, excellent; airmen, good.

KEESLER, AFB, Biloxi, Miss. Electronics, communications, radar, and administrative schools, ATRC; named for Lt. Samuel R. Keesler, killed on special bomb mission, France, 1918. Housing: officers, excellent; airmen, good.

KELLY AFB, San Antonio, Tex. Hq., Air Materiel Area, AMC; foreign clearing station, MATS; named for Lt. George E. M. Kelly, pioneer Army pilot, killed in US, 1911. Housing: officers, good; airmen, good.

KIRTLAND AFB, Albuquerque, N. Mex. Special weapons, ARDC; named for Col. Roy C. Kirtland, former CO of Langley Field, died in 1941. Housing: officers, good; airmen, good.

LACKLAND AFB, San Antonio, Tex. Processing center, basic training school, OCS, WAF training school, ATRC; named for Maj. Gen. Frank D. Lackland, former Commandant of Advanced Flying School, Kelly Field, died in 1943. Housing: officers, excellent; airmen, good.

LAKE CHARLES AFB, Lake Charles, La. Medium bomber and recon base, SAC; named for city. Housing: officers, fair; airmen, fair.

LANGLEY AFB, Hampton, Va. Hq., TAC; air crew school; fighter and light bomber base; named in honor of Samuel P. Langley, pioneer aeronautical scientist, died in 1906. Housing: officers, good; airmen, good.

LAREDO AFB, Laredo, Tex. Pilot training base, ATRC; named for city. Housing: officers, poor; airmen, poor.

LARSON AFB, Moses Lake, Wash. Fighter base, WADF, ADC; originally Moses Lake AFB, renamed for Maj. Donald A. Larson, killed on mission over Germany, 1944. Housing: officers, poor; airmen, poor.

LAUGHLIN AFB, Del Rio, Tex. Air services base, ATRC; named for Lt. Jack T. Laughlin, pilot killed in action in the Far East, 1942. Housing: officers, fair; airmen, fair.

LAURENCE G. HANSCOM FIELD, Bedford, Mass., near Boston. Electronics research center, ARDC; fighter base, EADF, ADC; formerly Bedford AFB, renamed for Laurence G. Hanscom, Boston and Worcester newspaperman, Army reserve pilot, killed near base, 1941.

LAWSON AFB, Fort Benning, Ga., near Columbus. Fighter base; ATRC base; named for Capt. Walter R. Lawson, killed in US, 1923. Housing: officers, good; airmen, fair.

LIMESTONE AFB, Limestone, Me. Heavy bomber base, 8th AF, SAC; named for city. Housing: officers, poor; airmen, poor.

LOCKBOURNE AFB, Columbus, Ohio. Fighter recon base, 2d AF, SAC; named for city. Housing: officers, fair; airmen, fair.

LONG BEACH MUNICIPAL AIRPORT, Long Beach, Calif. Fighter base, 4th AF, CONAC; named for city. Housing: officers, excellent; airmen, excellent.

LOWRY AFB, Denver, Colo. Flexible gunnery, armament and ordnance, photographic, supply, and administrative schools, ATRC; named for Lt. Francis B. Lowry, recipient of DSC, killed on photographic mission over France, 1918. Housing: officers, good; airmen, good.

LUKE AFB, Chandler, Ariz., near Phoenix. Fighter-bomber base; air crew school, ATRC; named for Lt. Frank Luke, Jr., World War I ace, Medal of Honor holder, and recipient of DSC, killed in France, 1918. Housing: officers, excellent; airmen, excellent.

MacDILL AFB, Tampa, Fla. Medium bomber and air rescue base, 2d AF, SAC; named for Col. Leslie MacDill, fighter pilot, killed in U.S., 1938. Housing: officers, excellent; airmen, excellent.

MARCH AFB, Riverside, Calif. Hq., 15th AF, SAC; medium bomber and air rescue base; formerly Riverside Drive Aviation Field, renamed for Lt. Peyton C. March, killed in US, 1918. Housing: officers, good; airmen, good.

MATAGORDA ISLAND BOMBING AND GUNNERY RANGE, Port O'Conner, Tex., near Brownsville. Training installation, SAC; named for island in Gulf of Mexico.

MATHER AFB, Sacramento, Calif. Bombardier school, ATRC; air rescue base; named for Lt. Carl S. Mather, killed in US, 1918, five days after receiving commission. Housing: officers, excellent; airmen, excellent.

MAXWELL AFB, Montgomery, Ala. Hq., Air University; Air War College; tactical school; air rescue base; named for Lt. William C. Maxwell, killed in Philippines, on routine flight, 1920. Housing: officers, fair; airmen, fair.

McCHORD AFB, Tacoma, Wash. Fighter and troop carrier base, ADC; air rescue base, foreign clearing station, MATS; named for Col. William C. McChord, killed in US, 1937. Housing: officers, excellent; airmen, excellent.

McCLELLAN AFB, Sacramento, Calif. Hq., Air Materiel Area, AMC; named for Maj. Hezekiah McClellan, pioneer in arctic aeronautical experiments, killed in US, 1936. Housing: officers, excellent; airmen, excellent.

McGHEE-TYSON AIRPORT, Knoxville, Tenn. Fighter base, CADF, ADC; named locally. Housing: officers, good; airmen, good.

McGUIRE AFB, Fort Dix, Wrightstown, N. J. Fighter base, EADF, ADC; formerly Fort Dix Army Air Field, renamed for Maj. Thomas B. McGuire, World War II ace, Medal of Honor holder, and recipient of DSC, killed over Leyte, P. I., 1945. Housing: officers, fair; airmen, fair.

MIAMI INTERNAT'L AIRPORT, Miami, Fla. Reserve training center; troop carrier base, 18th AF, TAC; named for city. Housing: officers, excellent; airmen, excellent.

MINNEAPOLIS-ST. PAUL INTERNAT'L AIRPORT, Minneapolis, Minn. Fighter and air service base, CADF, ADC; named for city. Housing: officers, good; airmen, fair.

MITCHEL AFB, Hempstead, L. I., N. Y. Hq., CONAC; Hq., 1st AF; named for Maj. John P. Mitchel, Mayor of New York, fighter pilot, killed in US, 1918. Housing: officers, good; airmen, good.

MOODY AFB, Valdosta, Ga. Fighter base, SAC; named for Maj. George P. Moody, fighter pilot, killed in US, 1941. Housing: officers, fair; airmen, fair.

MOUNTAIN HOME AFB, Mountain Home, Idaho. Fighter range, WADF, ADC; Air Resupply and Communications training, MATS; named for city. Housing: officers, fair; aimen, fair.

NELLIS AFB, Las Vegas, Nev. Air crew school, gunnery school, ATRC; originally Las Vegas AFB, renamed for Lt. William H. Nellis, fighter pilot, killed over Germany, 1944. Housing: officers, excellent; airmen, excellent.

NORTON AFB, San Bernardino, Calif. Hq., Air Materiel Area, AMC; formerly San Bernardino AFB, renamed for Capt. Leland

The Medal, 90 years old this summer, is given for extraordinary heroism, at the risk of life above the call of duty.

AIR FORCE

Medal of Honor Awards

Here are the men of the Air Force who have won the Medal of Honor. In three wars, only forty-three have qualified for the nation's highest award for bravery. And more than half lost their lives doing so.

WORLD WAR I

Photograph not available

1st Lt. Harold E. Goettler, 50th Aero Sqdn. pilot, was shot down while airlifting supplies to an infantry battalion cut off in the Argonne Forest, and was killed instantly.

2d Lt. Frank Luke, Jr., 27th Aero Sqdn. pilot, downed by enemy fire after destroying German balloons, was killed on the ground while fighting to avoid capture.

1st Lt. Edward V. Rickenbacker, 94th Aero Sqdn. pilot, attacked seven German planes while on voluntary patrol over enemy lines and, despite the odds, shot down two.

BETWEEN WORLD WARS I AND II

Capt. Charles A. Lindbergh, flying a single-engine plane from New York to Paris, made the first non-stop, solo flight across the Atlantic, May 20 and 21, 1927.

WORLD WAR II

Lt. Col. Addison E. Baker, 93rd Bomb Gp., whose plane was hit by flak over Ploesti, Aug. 1, 1943, stayed in formation for the bomb run and then crashed in flames.

Maj. Richard I. Bong, 5th AF pilot instructor, destroyed 8 Jap planes between Oct. 10 and Nov. 15, 1944, on voluntary flights in the Southwest Pacific area.

Maj. Horace S. Carswell, Jr., 308th Bomb Gp., whose plane was crippled by flak from a convoy he attacked in the South China Sea, crashed after his crew had bailed out.

Brig. Gen. Frederick W. Castle, 8th AF, crashed to his death in Belgium after his B-17 caught fire. He took the controls himself, giving the crew time to jump safely.

Maj. Ralph Cheli, 5th AF, leading a formation of bombers, crashed his own flaming plane into the ocean, near New Guinea, rather than disrupt the formation.

Col. Demas T. Craw was killed by machine gun fire, Nov. 8, 1942, near Port Lyautey, N. Africa, while trying to pass through the lines to negotiate an armistice with the French.

Brig. Gen. James H. Doolittle carried the air war to the Japanese, leading a squadron of carrier-based B-25s, manned by volunteers, against Tokyo, April 18, 1942.

S/Sgt. Henry E. Erwin, 20th AF, carried a burning phosphorus bomb that had ignited prematurely to the co-pilot's window and threw it out. He was badly burned but saved his B-29.

2d Lt. Robert E. Femoyer, 711th Bomb Sqdn. navigator, though badly wounded by flak, continued directing his bomber back to its English base. He died shortly afterward.

1st Lt. Donald J. Gott, 8th AF, unsuccessfully tried to fly his B-17 to friendly territory, with a wounded man aboard. The rest of the crew had been ordered to jump.

Lt. Col. Pierpont M. Hamilton, though captured near Port Lyautey, N. Africa, Nov. 8, 1942, escaped and managed to locate the French commander to negotiate an armistice.

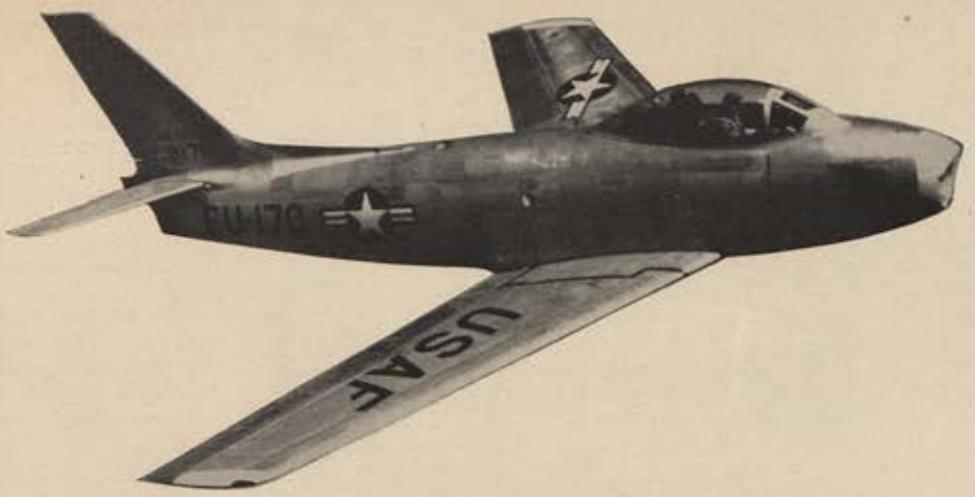
Lt. Col. James H. Howard, P-51 pilot, attacked single-handed more than 30 German planes harassing American bombers over Oschersleben, Germany, in January 1944.

2d Lt. Lloyd H. Hughes, 9th AF, though realizing his B-24 was leaking gas, nevertheless flew in low over Ploesti, Aug. 1, 1943, and bombed the flaming target.

Maj. John L. Jerstad, 9th AF, volunteered to lead his group against Ploesti. His plane was badly damaged, but he kept on course and dropped his bombs before crashing.

Col. Leon W. Johnson, 9th AF, elected to make the low-level attack on Ploesti despite having lost the element of surprise when separated from others in formation.

(all ranks as of time of awards)



MORE ABOUT SWEEPBACK

Our Department of Amplification is running in high gear this month as an author takes issue with an author who took issue with him

By Lt. Col. T. F. Walkowicz

THE article "Function . . . Not Fashion" by John K. Northrop in the August issue of AIR FORCE was extremely interesting. Jack Northrop has long been one of America's leading pioneers among aeronautical designers. He is directly responsible for most of the progress which has been made so far in the development of flying wing aircraft. Even though the flying wing type still has to prove itself practicable as a military or commercial aircraft, Mr. Northrop's flying wing designs were a direct stepping stone to Northrop Aircraft's work on boundary layer control. Long the dream of the "impractical" aerodynamicist, boundary layer control has been pushed closer to full-scale application by Jack Northrop's vision and pioneering.

In his August article, Mr. Northrop does an extremely good job of describing the complexities of arriving at a particular configuration during the preliminary design of an airplane. He points out, quite properly, that measures other than sweepback alone can reduce the high speed drag of modern airplanes; also, he shows clearly that for certain functions over-all considerations may dictate a straightwing design. For example, for the all-weather interceptor job, over-all considerations resulted in a straightwing design for the Northrop F-89 Scorpion. Mr. Northrop is justifiably enthusiastic about the potential promise of the F-89. However, several statements call for comment.

First, Mr. Northrop takes issue with statements that only sweptwing aircraft can survive in MIG Alley, which statements imply that warfare at the speed of sound would not be possible had it not been for the development of the swept wing. Presumably, he is referring to Bob Hotz's article in the April issue of AIR FORCE. Mr. Northrop's quick rebuttal, "It ain't necessarily so!" can be answered by saying: "Prove that it ain't." Certainly Hotz was not saying or implying that transonic warfare was possible only with swept wings. He was merely pointing out that at the present juncture in aeronautical development, the only operational transonic fighters which can survive in MIG Alley have sweptback wings. If this is not so, where is the operational straightwing fighter which would not be at a serious disadvantage against the MIG today, and why does the new version of the F-84 Thunderjet employ sweepback?

Mr. Northrop further states that "the benefits of sweep have long been recognized by aircraft designers." This statement should certainly be modified to point out that the drag-reducing benefits of sweepback were not recognized until about the end of World War II, and only then primarily because convincing German research data became available on this point. With regard to the actual magnitude of the drag reduction resulting from sweep, the statements made in my April article certainly are not different from those made by Mr. Northrop. At any rate, upon rereading the article, I do not find any claim that the theoretical reduction in drag is realized as a result of sweepback. Consequently, the basis for Mr. Northrop's comments on the "oversimplification of the theory of sweep" and "false conclusions that there are not other methods of achieving low wing drag" is not apparent.

Mr. Northrop's most important observation is that catch-all phrases like "It's a sweptwing air war" create a "fashion" consciousness that rejects other configurations as outmoded, regardless of function. Certainly this is a valid observation, and perhaps both Hotz and I should have pointed out that there are other methods of reducing drag, and that over-all considerations may dictate a straightwing design even in a modern interceptor. However, this is a complex subject and, speaking for myself, I felt that others might tackle it. Certainly Jack Northrop is eminently qualified. He has done an excellent job of discussing this problem, and more power to him and the Scorpion.
—END

This article actually showed up in the mail as a letter to the editor, but we thought it too interesting to justify routine handling.—The Editors

An Open Letter

To Major Louis B. Sebille

(Who was mortally wounded on August 5, 1950, in Korea and posthumously awarded the Medal of Honor. This letter was received from his buddies of the 18th Fighter-Bomber Wing.)

Dear Lou:

It's been a long time since you and a gang of the boys in the 18th Fighter-Bomber Wing down in the Philippines volunteered to fight the commies in Korea. And it was two years ago on July 15th when you flew your first combat mission out of Taegu. Since you didn't get to see much of the show, we thought maybe you'd like a reading on what has happened since you flew your last mission.

Well, we're still here. You may remember when the whole UN damned near got shoved into the drink down around Pusan. This outfit moved fast and often in those days—in fact six times in six months, lock, stock and comic books, and only lost seven days of combat time doing it.

But since that time, we've piled up some other records. We've flown more than 45,000 sorties over the bomb line, and at the present time that's a record for any unit in Korea.

Of course you know the 18th always had its share of heroes. Maj. Gen. Claire Chennault of China fame used to be a member of the Fighter Group. And then you're something of a hero yourself! But there've been some other lads who have done right well by themselves. There's Jack Shepard who managed to bung up a MIG with his Fox fifty-one. And then there was Don Trautman who had such a penchant for railroads that he became known as the "Railsplitter." And, as always, there were the guys in all departments who burned the midnight elbow grease to get the birds in the air with the dawn.

Since you went away, we became the first UN air combat wing in Korea when "2 Squadron," South African Air Force joined us for operations. We were the first outfit to fly north of the 38th Parallel. We were the first to carry the tankbusting 6.5 rocket and the first to encounter the MIG in aerial combat. In addition to being known as the "Truckbusters," we were dubbed the "Flying Tigers of Korea" by Syngman Rhee.

It's a stinking shame that some of the guys were clobbered along the road, but it always happens in a war that's neither so private nor so little. There was Paul and Van and Dutch and others. We won't list them all because they'll be around and you'll probably meet them in operations when they come in to get their flying time. If you don't know some of the later ones, you'll probably recognize those magnificent mustaches and their red or yellow scarfs.

So don't worry about us, fellah. The men in the 18th still come with a lot of technical skill and big grins under those whopping cookie dusters. The pilots still have the old fine eye for the target and come wrapped around all the guts you can pour into a cockpit. So, while most of us, like everybody else over here, would rather be fat cats back in the States, we're just bull-headed enough to stick till it's over.

Maybe we sound pretty smug about the whole thing but Lou, damn it, we're proud of this flying club and we don't care who knows it. And since you're one of the boys who helped make it the way it is, we wanted you to know it.

We'll knock off for now. Wish you could tell us what it's like out there in your section of the sky, but don't try. Communications are pretty garbled from your end of the line and we'd never get the straight poop.

So—take it easy, boy, and we'll be seeing you.

(signed) The Officers and Men of the
18th Fighter-Bomber Wing.

AIR BASES AND HOUSING — CONTINUED

TRUAX FIELD, Madison, Wis. Fighter base, CADF, ADC; named for 1st Lt. Thomas L. Truax, pilot killed in US, 1941. Housing: officers, fair; airmen, fair.

TURNER AFB, Albany, Ga. Fighter base, 2d AF, SAC; named for Lt. S. Preston Turner, killed in US, 1940. Housing: officers, excellent; airmen, excellent.

TYNDALL AFB, Panama City, Fla. Instrument pilot school, Air Police school, ATRC; named for Lt. Frank B. Tyndall, World War I fighter pilot, killed in 1930. Housing: officers, good; airmen, good.

VANCE AFB, Enid, Okla. Pilot training school, advance multiple engine school, ATRC; named for Lt. Col. Leon R. Vance, Medal of Honor holder, lost in hospital aircraft when forced down at sea off Iceland, 1944. Housing: officers, excellent; airmen, excellent.

WALKER AFB, Roswell, N. Mex. Medium bomber base, 8th AF, SAC; formerly Roswell Army Air Field, renamed for Brig. Gen. Kenneth N. Walker, CG, 5th Bomber Command, Medal of Honor holder, killed in Southwest Pacific leading a bombing attack, 1943. Housing: officers, fair; airmen, fair.

WEBB AFB, Big Spring, Tex. Advance single engine pilot training school, FTAF, ATRC; formerly Big Spring AFB, renamed for 1st Lt. James L. Webb, Jr., F-51 pilot, killed in action off Japanese coast, 1949. Housing: officers, fair; airmen, fair.

WESTOVER AFB, Chicopee Falls, Mass. Hq., Atlantic Division, MATS; air rescue base; foreign clearing station; named for Maj. Gen. Oscar Westover, chief of Air Corps, killed in US, 1938. Housing: officers, fair; airmen, fair.

WICHITA MUNICIPAL AIRPORT, Wichita, Kan. B-47 combat crew training school, ATRC; named for city. Housing: officers, good; airmen, fair.

WILLIAMS AFB, Chandler, Ariz. Advance single engine pilot training school, ATRC; named for Lt. Charles L. Williams, bomber pilot, killed in Hawaii, 1927. Housing: officers, excellent; airmen, excellent.

WILLIAMSON-JOHNSON AIRPORT, Duluth, Minn. Reserve training center, CADF, ADC; named locally. Housing: officers, good; airmen, fair.

WOLTERS AFB, Mineral Wells, Tex. Division Hq., Engineer Force, CONAC; formerly Camp Wolters, named for Brig. Gen. Jacob F. Wolters. Housing: officers, fair; airmen, fair.

WRIGHT-PATTERSON AFB, Dayton, Ohio. Hq., AMC, WADC; USAF Institute of Technology; formerly two separate bases, Wright Field and Patterson Field; named for Orville and Wilbur Wright, and Lt. Frank S. Patterson, killed during first tests of synchronized machine gun firing, 1918. Housing: officers, fair; airmen, fair.

F. Norton, killed on fighter mission over France, 1944. Housing: officers, excellent; airmen, excellent.

OFFUTT AFB, Omaha, Neb. Hq., SAC; named for Lt. Jarvis J. Offutt, killed in fighter action, France, 1918. Housing: officers, good; airmen, good.

O'HARE INTERNAT'L AIRPORT, Park Ridge, Ill., near Chicago. Fighter base, EADF, ADC; Reserve training center; named for Lt. Edward H. O'Hare, Navy pilot, World War II Medal of Honor holder, killed in action in Pacific, 1943. Housing: officers, fair; airmen, fair.

OLMSTEAD AFB, Middletown, Pa. Hq., Air Materiel Area, air freight terminal, AMC; originally Middletown Air Depot, renamed for Lt. Robert S. Olmstead, balloon pilot, killed in Belgium, 1923. Housing: officers, good; airmen, good.

ORLANDO MUNICIPAL AIRPORT, Orlando, Fla. Aviation Engineers training, 14th AF, CONAC; named for city. Housing: officers, excellent; airmen, excellent.

OSCODA AFB, Oscoda, Mich. Fighter base, EADF, ADC; formerly Camp Skeel, renamed for city. Housing: officers, poor; airmen, poor.

OTIS AFB, Falmouth, Mass. Fighter base, EADF, ADC; air rescue base; named for Lt. Frank J. Otis, killed in US, 1937. Housing: officers, good; airmen, good.

OXNARD AFB, Camarillo, Calif. Special activities base, ADC; named for nearby city.

PAINE AFB, Everett, Wash. Special activities base, WADF, ADC; named for 2d Lt. Topliff O. Paine, airmail pilot, killed in US while mapping airmail routes, 1922. Housing: officers, good; airmen, good.

PALM BEACH INTERNAT'L AIRPORT, West Palm Beach, Fla. Transport base, MATS; named for city. Housing: officers, good; airmen, good.

PARKS AFB, Pleasanton, Calif. Indoctrination training base, TTAF, ATRC. Housing; officers, good; airmen, fair.

PATRICK AFB, Cocoa, Fla. Missile test center, ARDC; formerly Long Range Proving Ground AFB, renamed for Maj. Gen. Mason M. Patrick, Chief of Army Air Service, died in 1942. Housing: officers, good; airmen, fair.

PERRIN AFB, Sherman, Tex. Basic pilot training school, ATRC; named for Lt. Col. Elmer D. Perrin, test pilot, killed in US, 1941. Housing: officers, good; airmen, good.

PETERSON FIELD, Colorado Springs, Colo. Administrative flying, ADC; named for 1st Lt. Edward J. Peterson, killed in US, in airplane crash, 1942.

PINECASTLE AFB, Orlando, Fla. Medium bomber base, combat training school, FTAF, ARTC; named for nearby city of Pinecastle. Housing: officers, excellent; airmen, excellent.

POPE AFB, Fort Bragg, N. C. Hq., 9th AF, TAC; Tactical Control base; named for Lt. Harley H. Pope, killed in US, 1919. Housing: officers, fair; airmen, fair.

PORTLAND INTERNAT'L AIRPORT, Portland, Ore. Fighter base, WADF, ADC; troop carrier base; named for city. Housing: officers, excellent; airmen, good.

PRESQUE ISLE AFB, Presque Isle, Me. Fighter base, EADF, ADC; named for city. Housing: officers, fair; airmen, fair.

PYOTE AFB, Monahans, Tex. Aircraft storage base, AMC; named for nearby city of Pyote. Housing: officers, fair; airmen, fair.

RANDOLPH AFB, San Antonio, Tex. Basic pilot training school, ATRC; School of Aviation Medicine; named for Capt. William M. Randolph, fighter pilot, killed in US, 1928. Housing: officers, excellent; airmen, good.

RAPID CITY AFB, Weaver, S. D. Heavy bomber and strategic recon base, 8th AF, SAC; named for nearby city. Housing: officers, poor; airmen, poor.

REESE AFB, Lubbock, Tex. Pilot training school, advance multiple engine school, ATRC; formerly Lubbock AFB, renamed for Lt. Augustus F. Reese, killed on volunteer fighter mission over Sardinia, 1943. Housing: officers, good; airmen, good.

ROBINS AFB, Macon, Ga. Hq., 14th AF; Hq., Air Materiel Area, AMC; named for Brig. Gen. Augustine W. Robins, chief, Materiel Division, Air Corps, died in 1940. Housing: officers, fair; airmen, fair.

SAMPSON AFB, Geneva, N. Y. Processing center; basic training school, ATRC; former Navy base named for Rear Adm. William T. Sampson, died in 1902. Housing: officers, fair; airmen, fair.

SAN MARCOS AFB, San Marcos, Tex. Liaison helicopter school, ATRC; named for city. Housing: officers, good; airmen, good.

SCOTT AFB, Belleville, Ill. Hq., ATRC; communications school; named for Cpl. Frank S. Scott, first enlisted man to die in an air accident, killed in US, 1912. Housing: officers, good; airmen, good.

SEDALIA AFB, Knobnoster, Mo. Air services base, 2d AF, SAC; named for nearby city of Sedalia. Housing: officers, fair; airmen, fair.

SELFRIDGE AFB, Mt. Clemens, Mich. Hq., 10th AF, CONAC; fighter base, EADF, ADC; air rescue base; named for Lt. Thomas E. Selfridge, killed in 1908 demonstrating Wright Brothers' plane for government. Housing: officers, excellent; airmen, excellent.

SEWART AFB, Smyrna, Tenn. Troop carrier base, TAC; originally Smyrna AFB, renamed for Maj. Allan J. Sewart, bomber pilot, recipient of DSC, killed in Solomons, 1942. Housing: officers, good; airmen, excellent.

SHAW AFB, Sumter, S. C. Fighter base, 9th AF, TAC; named for Lt. Ervin D. Shaw, killed in ETO in 1918 on active duty with Royal Flying Corps. Housing: officers, fair; airmen, poor.

SHEPPARD AFB, Wichita Falls, Tex. Aircraft maintenance school, ATRC; named for US Senator Morris Sheppard, Chairman, Senate Military Affairs Committee, in recognition of long and distinguished service in cause of national defense, died in 1941. Housing: officers, fair; airmen, fair.

SHERMAN AFB, Fort Leavenworth, Kan. Air services base, 10th AF, CONAC; named for Maj. William C. Sherman, instructor, Command and Staff School, died in 1927. Housing: officers, excellent; airmen, excellent.

SMOKY HILL AFB, Salina, Kan. Bombing range, 15th AF, SAC; named for geographical area. Housing: officers, fair; airmen, fair.

STANDIFORD FIELD, Louisville, Ky. Reserve training center, 1st AF, CONAC; named locally. Housing: officers, good; airmen, good.

STEAD AFB, Reno, Nev. Special activities base, 15th AF, SAC; named locally. Housing: officers, fair; airmen, fair.

STEWART AFB, Newburgh, N. Y. Hq., EADF, ADC; fighter base; named for Lachlan Stewart whose father provided the original land for the base. Housing: officers, fair; airmen, fair.

SUFFOLK CO. AFB, Westhampton Beach, N. Y. Fighter base, EADF, ADC; named for geographical location. Housing: officers, fair; airmen, fair.

TINKER AFB, Oklahoma City, Okla. Hq., Air Materiel Area, air freight terminal, AMC; named for Maj. Gen. Clarence L. Tinker, bomber and fighter pilot, CG, 7th AF, killed over Midway, 1942. Housing: officers, good; airmen, good.

TRAVIS AFB, Fairfield, Calif. Medium bomber base, 15th AF, SAC; foreign clearing station, MATS; formerly Fairfield-Suisun AFB, renamed for Brig. Gen. Robert F. Travis, bomber pilot, recipient of DSC, killed in US, 1950. Housing: officers, good; airmen, good.

Col. John R. Kane, 9th AF, attacked Ploesti, Aug. 1, 1943, at low-level though he had lost the element of surprise when his group was separated from other attackers.

Maj. Thomas B. McGuire, Jr., 13th AF P-38 pilot, shot down seven Jap fighters in the two-day period, Dec. 25 and 26, 1944, over Luzon, P. I. He later was killed in action.

Sgt. Maynard H. Smith, on May 1, 1943, drove off German fighters that had set his B-17 afire, threw exploding ammo overboard, gave first aid, and beat out the flames by hand, saving the plane.

Col. Neel E. Kearby, P-47 pilot, led his flight of four fighters against 12 Jap bombers and 36 fighters near New Guinea. Kearby himself downed five enemy planes.

2d Lt. William E. Metzger, Jr., 8th AF co-pilot, remained with his damaged B-17 after ordering the able-bodied crew members to bail out. He died when the plane exploded.

2d Lt. Walter E. Truemper, 8th AF navigator, was killed trying to land his damaged plane in an effort to save his wounded pilot. The crew except the engineer had bailed out.

2d Lt. David R. Kingsley, 9th AF, gave up his own parachute for a wounded crew member over Ploesti, June 1944, and helped him bail out. Kingsley died when the plane crashed.

1st Lt. Edward S. Michael, though wounded, continued flying his badly damaged bomber because one crew man had no parachute. He reached England and landed without mishap.

Lt. Col. Leon R. Vance, Jr., 8th AF pilot, though wounded and his plane hit by flak, successfully ditched in the English Channel, believing a crew member was still aboard.

1st Lt. Raymond L. Knight, P-47 pilot, having accounted for 24 German aircraft destroyed April 24 and 25, 1945, in the Po Valley, Italy, crashed and was killed.

2d Lt. John C. Morgan, B-17 co-pilot, for two hours flew the bomber while restraining his pilot who had been wounded and crazed, and was attempting to snatch the controls.

T/Sgt. Forrest L. Vosler, radio operator wounded over Germany in 1943, continued sending SOS signals. When the plane was ditched, he saved the wounded tail gunner.

1st Lt. William R. Lawley, Jr., 8th AF, successfully crash-landed his badly damaged B-17 though wounded himself. His co-pilot was dead and 8 crewmen wounded.

Capt. Harl Pease, Jr., on a voluntary mission to Rabaul, having aborted earlier, bombed his target and destroyed several Jap planes before he was shot down.

Brig. Gen. Kenneth N. Walker, 5th AF, was forced down over Rabaul in 1943. He had developed a highly efficient technique for bombing when opposed by enemy fighters and flak.

Capt. Darrell R. Lindsey crashed with his burning B-26 in France, August 1944, after holding the plane in a steady glide to give his crew time to parachute to safety.

1st Lt. Donald Pucket unsuccessfully tried to crash land his badly damaged bomber after a Ploesti mission, July 1944, when three of the crew were unable to bail out.

Maj. Raymond H. Wilkins, in November 1943 destroyed two Jap vessels near Rabaul though his plane was damaged. He was hit by more flak and crashed into the ocean.

Sgt. Archibald Mathies, 8th AF engineer, with his wounded pilot unable to bail out of the damaged plane, died trying to land after helping fly the plane back to base.

2d Lt. Joseph R. Sarnoski shot down two Jap fighters before dying at his gun, on a photo mission over the Solomon Islands in 1943, when attacked by 20 enemy planes.

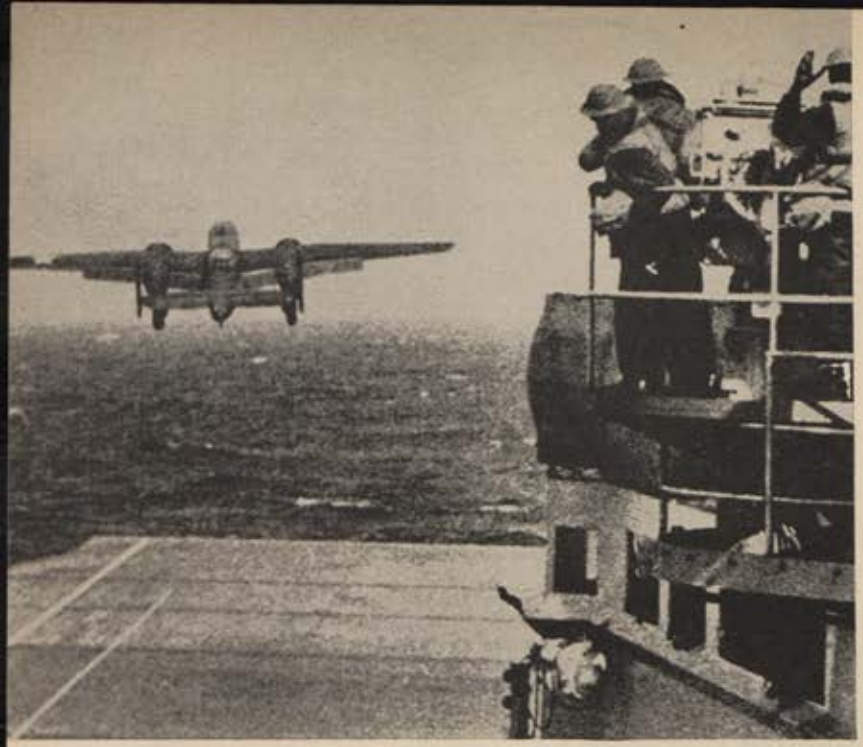
Maj. Jay Zeamer, Jr., though wounded on a photo mission in 1943 over the Solomon Islands, fought off enemy planes and directed his flight to a base 580 miles away.

KOREAN WAR

1st Lt. Jack W. Mathis, a lead bombardier, badly wounded by flak at the start of his bomb run, died at his post after bombs away over Germany, March 18, 1943.

Maj. William A. Shomo attacked 12 Jap fighters escorting a twin-engine bomber over Luzon in 1945. He destroyed the bomber and six of the escorting planes.

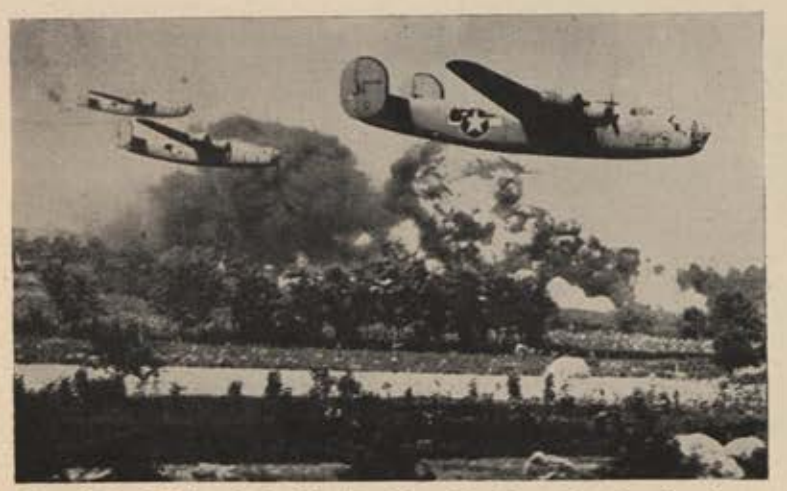
Maj. Louis J. Sebille, F-51 pilot, determined to press the attack after his plane was hit by flak on a Korean strafing mission in August 1950, dived into his target.



The first blow against the Japanese homeland. From about 650 miles east of Tokyo sixteen B-25s take off from the carrier Hornet for a one-way trip.

Pilots of Chennault's China Air Task Force race for their shark-toothed P-40s at Kunming Air Base.

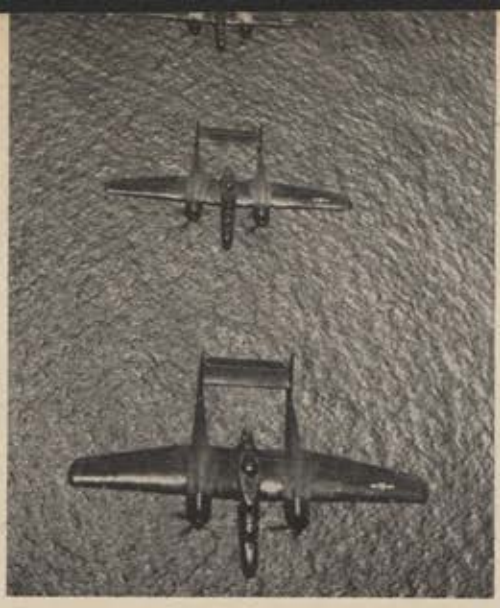
The price of victory. An A-20 is hit by Nazi flak during a low-level attack and goes down in flames.



Low-flying B-24s of the 9th Air Force hit the vital oil refineries at Ploesti in the famous surprise raid, August 1943.

B-25s of the 13th Air Force head for home after plastering a Japanese supply dump on Bougainville.

Even before Pearl Harbor training had begun to boom at centers like Randolph Field.



The ocean is the backdrop for three P-61s defending the bitterly won base at Iwo Jima.

B-17s of the 8th Air Force, based in England, pioneered the daylight strikes against Fortress Europe. These have just hit an aircraft plant at Bremen.

World War II Flashbacks

Airpower's decisive role in history's biggest war

WITH the attack on Pearl Harbor World War II became world-wide in fact as well as name. Every major power was involved, every continent affected. And the Army Air Forces, too, became global in scope, carrying men and supplies to every theater of war, doing battle with the enemy wherever he could be found. From the famous carrier-based raid on Tokyo to the historic mission of the *Enola Gay* against Hiroshima United States airmen battered away at the stubborn Axis defenses. The price of victory was not low. The AAF suffered more than 120,000 casualties and lost 65,200 planes, but it proved beyond a doubt the fundamental effectiveness of the air weapon in waging modern war.—END

Some of the roughest flying of the war was done in the China-Burma-India theater. A C-46 flies the "Hump" over the Himalayas, unheard of in prewar days.

B-25s of the 12th Air Force riddle Nazi transports shuttling the Afrika Korps out of the Tunisian trap.

The B-29 *Enola Gay*, after dropping the historic atomic bomb which blasted three-fifths of Hiroshima into shreds.


484028
"FS-818-A

Mass Mid-Air Jet Refueling Over Pacific

F-84s of the 31st Fighter-Escort Wing fly from Georgia to Japan, 10,985 miles in eleven days, refueling in air

THE word "global" doesn't necessarily mean big bomber any more. The jet fighter has gone intercontinental. Nothing could have demonstrated the world-wide striking power of the USAF any more dramatically than the mass movement of fifty-eight F-84s from Turner Air Force Base, Albany, Ga., to Tokyo only a few weeks ago.

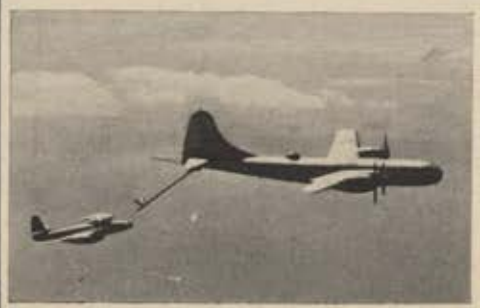
The Thunderjets of the 31st Fighter-Escort Wing, a unit of the Strategic Air Command, covered 10,985 miles in eleven days, refueling twice in flight. By surface transportation this movement would have taken weeks. Add this capability to the announced ability of the F-84 to carry a baby atomic bomb and the flight takes on added significance.

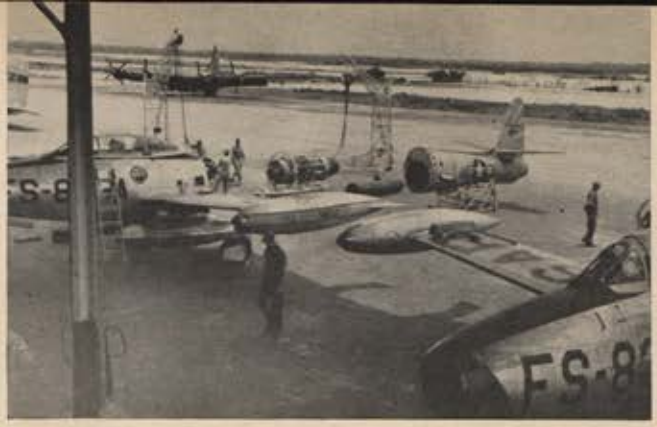
Among other things the wing, commanded by pioneer transoceanic flyer Colonel David Schilling, accomplished:

The first jet flight ever to span the Pacific.

(Continued on next page)

An F-84 nuzzles the boom of a KB-29 somewhere over the Pacific between San Francisco and Hawaii (below and left).





To cope with the speed of the Thunderjets the KB-29 tankers had to roll out early to make their over-ocean rendezvous.

A perfect formation of F-84s roars over Yokota Air Force base, near Tokyo, at the end of their epochal jet flight.

"I thought I'd bought it." Col. Bill Dunham (center) describes a flame-out at a refueling point over the Pacific.

Top-notch work by maintenance crews (above and below) made it possible for the pilots of the 31st to set jet records.

REFUELING — CONTINUED

The first mass flight of jet fighters utilizing refueling techniques.

The longest mass movement of a jet fighter wing by air.

The longest mass non-stop, over-water flight by jet fighters (2,400 miles on the leg from San Francisco to Honolulu).

The pilots of the 31st left Turner on the Fourth of July and arrived at Yokota Air Force Base, near Tokyo, on July 15. Their route was Turner to Travis (San Francisco) to Hickam (Honolulu) to Midway to Wake to Eniwetok to Guam to Iwo Jima to Tokyo.

KB-29 tankers from the 307th Refueling Squadron, based at Walker Air Base, Roswell, N. M., refueled the F-84s on both the Turner-Travis and Travis-Hickam legs of the flight. The flying-boom refueling system, developed by Boeing, was used. The 84s carried both belly and wing tanks to stow the necessary fuel.

Of the tankers, Colonel Schilling said,

"They did a wonderful job. They kept us from getting wet—and believe me, I hate water."

Sharing in the glory were the ground crews of the 31st, who followed their pilots in more leisurely fashion via MATS; the MATS planes and crews themselves, who lugged spare parts and engines for the long-ranging jets; and the weather B-29s, which cruised far out to sea to sniff out bad weather.

The flight went off without too many hitches although there were occasional aborts, most of which caught up with the remainder of the wing at one point or another. Col. William D. Dunham, deputy wing commander, got all set for a swim when he had a flame-out while jockeying for position behind the tanker, miles above the ocean. He dropped his F-84 away from the boom and pushed the air re-start button. It was a "hot start" but, in Colonel Dunham's words, the engine settled down "to the smoothest purr you've ever heard."

Only casualty was Lt. Col. Elmer Da Rosa, killed while landing at Iwo.—END

Gen. O. P. Weyland, CG of FEAF, (left) and Brig. Gen. D. T. Spivey, Japan ADF, welcome Col. Schilling at flight's end.

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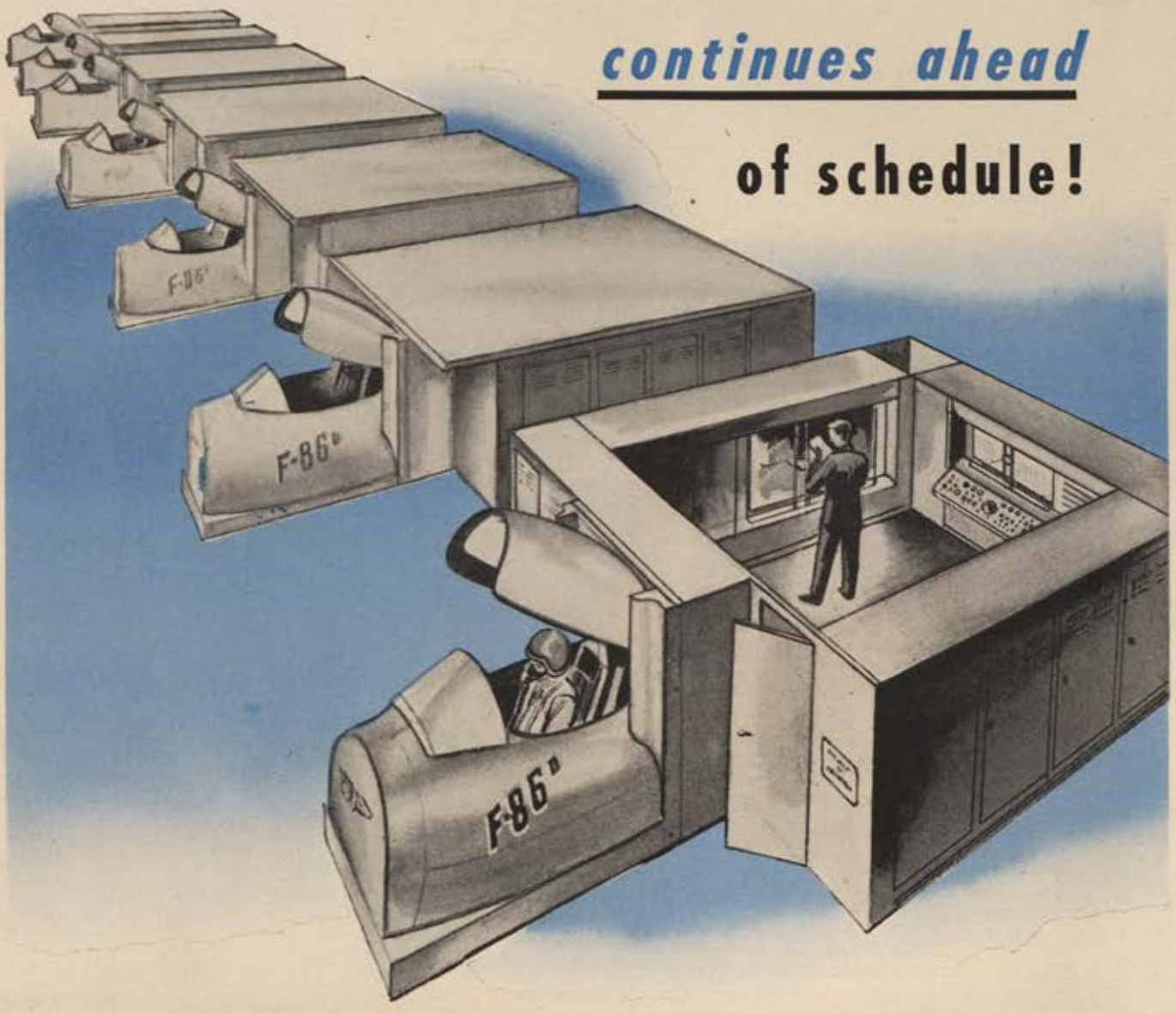
continues ahead

of schedule!



Aviation experts considered it impossible to deliver highly complex, ERCO designed, F-86D "Flightronic" Simulator Trainer on any dependable production schedule. Yet, today, ERCO is producing this intricate combination of precision engineering and advanced electronics at the rate of two per month — *ahead of schedule* — for the Air Material Command and Wright Air Development Center, USAF.

In addition ERCO is also in production on the F9F-5, P2V-5, Twin Engine Instrument Trainer, and other important projects for the Special Devices Center, Office of Naval Research, USN.

Delivery *before* the scheduled date has been the rule rather than the exception at ERCO for 20 years.

ENGINEERING AND RESEARCH CORPORATION

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Each busy day starts off right.

The cadets get right down to work, learn the proper way to rig a chute.

CAP CADETS GO TO SUMMER SCHOOL

This year nearly 8,000 Civil Air Patrol cadets attended two-week summer camps at thirty-nine AF bases. Here's how they lived

You learn your way around a map, take grid coordinates and azimuth in stride.

CIVIL Air Patrol, the official civilian auxiliary of the USAF, has a cadet membership of 46,500 boys and girls, ranging in age from 15 to 18.

An important part of their training is the annual program of summer encampments held at Air Force bases. These are designed to acquaint the cadets with the scope of the USAF training program and to show, by practical demonstration, the relationship between vocational training in the Air Force and the trades peculiar to the aviation industry in civilian life. The encampments also give the cadets a chance to see at first-hand how the Air Force ticks.

Truly the "life of an Aviation Cadet for two weeks," the CAP encampment program includes orientation flights, classroom work, Link trainer flying, athletics, social activities, tours of local historical spots, and even close-order drill. It is a practical application of the aviation theory that the cadets study during the year at their squadron meetings.

This year 7,700 cadets from forty-eight states, the District of Columbia and Alaska, Hawaii, and Puerto Rico

Air Force people like this WAF take over as instructors. The discussion's about career opportunities in the AF.

The jet pilots of tomorrow pick up a few pointers on navigation, as well as getting orientation flights and Link trainer sessions.

A physical check-up is on the docket. No one worried much about that famous square needle.

But who wants to work all the time? It's not long before the youngsters are doing close order drill on the dance floor and in the swimming pool.

CAP — CONTINUED

attended forty-two encampments at thirty-nine Air Force bases. The largest single encampment was at Ramey Air Force Base, Aquadilla, Puerto Rico, where 475 cadets participated.

In addition to regularly-assigned base personnel, encampment instruction was provided by Air Force Reservists selected for fifteen-day tours of active duty. Many of these also provide year-round assistance to Civil Air Patrol and thereby earn point credits toward promotion and retirement.

By joining CAP the cadets have clearly demonstrated their interest in American airpower and their encampment experience adds to their awareness of the importance of aviation in this modern world.—END

An anxious moment in a Link trainer flight. The cadets also got briefed on electronics, radio, and control tower techniques.

The last word in hats — one that won't blow off, the gals find — is a jet pilot's helmet.

NEED RUGGED, FAST STABILIZATION?

The new versatile Honeywell Cageable Vertical Gyro opens up some pretty exciting possibilities.

Its light weight and ruggedness make it ideal for application in airborne radar search equipment. Held *steady* in its vertical reference, the radar screen platform scans a given area without straying, despite maneuvering. Should any *violent* maneuvers be necessary it can be caged in from *one to four seconds*—and later uncaged in as little as *three seconds!*

As an autopilot component in fighters, tests have shown that this amazing gyro helps increase accuracy of gun and rocket fire. And soon it will be stabilizing guided missiles in flight.

This versatile gyro is but one of many produced by Honeywell—a leading *specialist* in this important field.

The Cageable Vertical Gyro and other members of the Honeywell gyro "family," including other vertical, rate, and the extremely sensitive Hermetic Integrating Gyros, are available to manufacturers who require *precision* gyro performance.

A letter addressed to Dept. 401 (AF), Honeywell Aero Division, Minneapolis 13, Minnesota, will bring you full facts about our gyro line.

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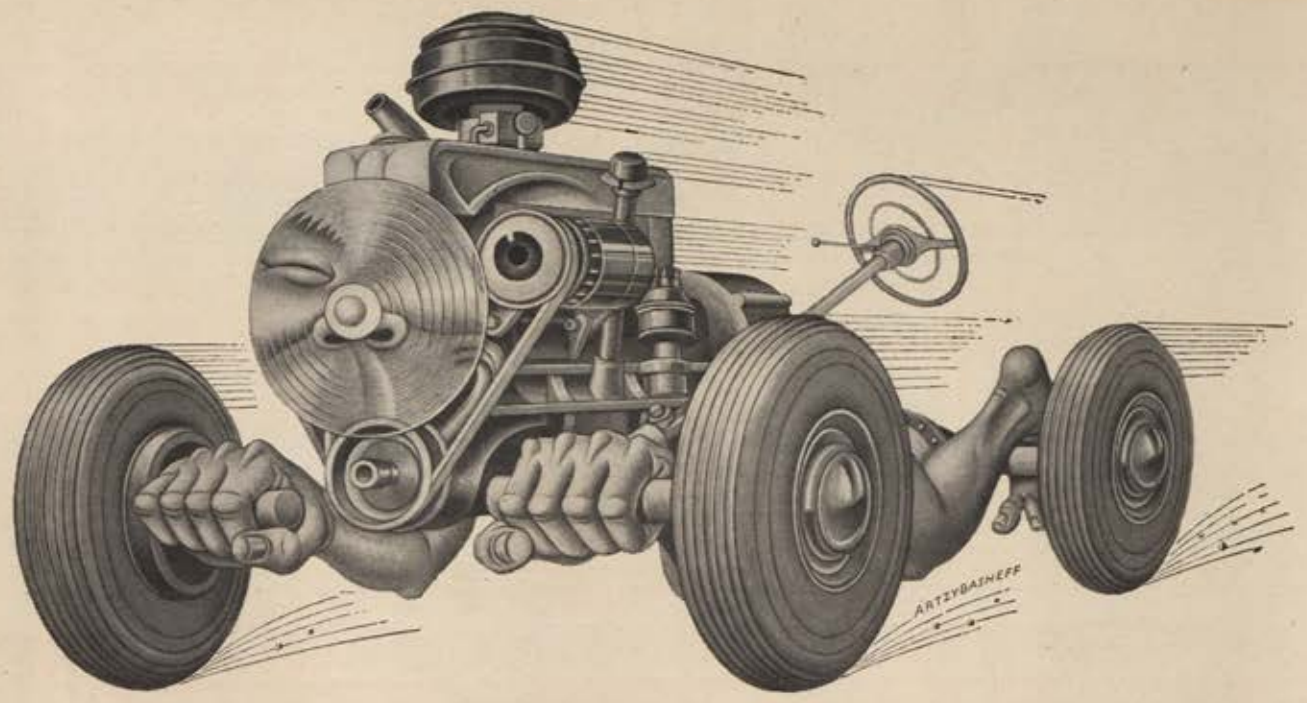

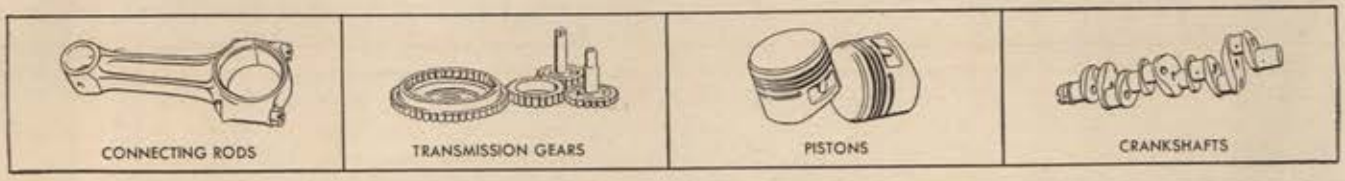

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An AIR FORCE Magazine chart

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Gen. B. W. Chidlaw

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Lt. Gen. Joseph Smith

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Gen. John K. Cannon

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Gen. Lauris Norstad

Alaskan Air Command
Maj. Gen. William D. Old

Northeast Air Command
Lt. Gen. Charles T. Myers

Air Training Command
Lt. Gen. Robert W. Harper

The AIR FORCES

1st Air Force
Maj. Gen. Howard M. Turner

4th Air Force
Maj. Gen. William E. Hall

10th Air Force
Maj. Gen. Harry A. Johnson

14th Air Force
Maj. Gen. C. E. Thomas, Jr.

2nd Air Force
Maj. Gen. J. H. Atkinson

8th Air Force
Maj. Gen. S. E. Anderson

15th Air Force
Maj. Gen. Emmett O'Donnell

5th Air Force
Lt. Gen. Glenn O. Barcus

13th Air Force
Maj. Gen. Ernest Moore

20th Air Force
Maj. Gen. Ralph F. Stearley

9th Air Force
Maj. Gen. Edward J. Timberlake

18th Air Force
Maj. Gen. Robert W. Douglass, Jr.

3rd Air Force
Maj. Gen. Francis H. Griswold

12th Air Force
Maj. Gen. Dean C. Strother

Flying Training Air Force
Brig. Gen. Gabriel P. Disosway (as of Sept. 1, 1952)

Technical Training Air Force
Maj. Gen. Eugene L. Eubank

Crew Training Air Force
Maj. Gen. Julius K. Lacey

An AIR FORCE Magazine chart

(Corrected as of August 1, 1952)

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The eyes of this Sperry engineer are on tomorrow—even while they closely observe the performance of a Gyropilot* flight control system being vibration tested at 500 cycles per second on a shake table. All Sperry equipments are being constantly "tortured" and exposed to conditions more rigorous than they may undergo even in tomorrow's aircraft.

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REPORT to the RESERVE

A properly trained and equipped Reserve demands new skills and must achieve the same combat potential with fewer people

JUST A YEAR AGO, the Air Force announced a long range plan for its Reserve Forces. At that time, the recall from reserve status to active duty included those individuals and units required to build up the strength of the Air Force from the pre-Korean authorization of forty-eight wings to the then current authorization of ninety-five wings. At that time there were too few Reservists in the organized units to meet emergency requirements for this buildup. As a result Reservists from other categories were called without any apparent recognition of readiness, proficiency, family or economic hardship. Efforts to equalize this military burden were honestly made, yet those efforts, while not completely adequate to prevent hardship cases, did point up the fact that our training, organization and administration were inadequate to meet the conditions under which our Reservists had to be utilized. As a result the Air Force announced that further recalls would be confined to only those skills so scarce that they could not be obtained from other sources.

Since then a new authorization by the Congress, even before the Air Force had reached the ninety-five wing strength, directed that the Air Force build to a level of 126 combat wings plus support units that add up to a total strength of 143 wings. This buildup is to be made with only about a twenty percent increase in the overall personnel strength authorized for the ninety-five wing Air Force. It is obvious that without any further recalls of Air National Guard or Air Reserve personnel, the Air Force is faced with a severe degree of austerity in its manpower utilization.

Without question, the public and the Congress recognize the Air Force as the major deterrent force to a World War III. They also recognize the Air Force as the prime carrier of atomic weapons. Only an Air Force "in being" backed up by Reserve resources can be a successful deterrent force, and by the same token have the capability of winning a war.

This does not mean that the Reserve Forces are not now a deterrent force. Nothing could be further from the truth. The Reserve Forces, properly trained and equipped, will continue to contribute great stature to the military strength of our Air Force. To achieve this, however, there must be further Reserve development, particularly in the light of the new weapons available to the Air Force. This will demand new skills in the Reserve. It will also be necessary to achieve relatively the same combat potential with fewer people.

During the past year we have taken many forward steps in the implementation and development of the Air Reserve Forces. Some of the actions that we wanted to take had to await the outcome of pending legislation, including the Armed Forces Reserve Act of 1952, which was approved on July 8 of this year. This legislation, thanks to the foresight and integrity of some few members of Congress, the Department of Defense and foremost Reservists, now provides us with the legal framework upon which to build anew. The major items of this act are discussed briefly below:

- Supervision of Air Reserve Forces activities is provided at Secretary or Assistant Secretary level within the Air Force and further a general officer shall be designated to be directly responsible to the Chief of Staff for all Reserve Forces affairs within the AF.
- A Ready, Standby and Retired Reserve are established and each member of the Reserve components shall be placed in one of these categories.

  A *Ready* Reservist is liable for active duty either in time of war or in time of national emergency declared by the Congress or proclaimed by the President or when otherwise authorized by law.

  A *Standby* Reservist is liable for active duty only in time of war or national emergency declared by the Congress or when otherwise authorized by law.

  A *Retired* Reservist may, if qualified, be ordered to active duty involuntarily in time of war or national emergency declared by the Congress.

These clearly defined degrees of obligation for Federal service are the key factors in eliminating the inequities of our past recalls.

- All new appointments of Reserve officers shall be for an indefinite period. All Reserve and Air National Guard appointments and enlistments in effect on July 9, 1952, the date of enactment of this law, are automatically made Reserve Federal appointments or enlistments.
- The Secretary of Defense is required to insure that in future recalls of the Ready Reserve, attention is given to the duration and nature of previous service.
- Authority is granted to enter into standard written agreements with members of the reserve components for periods of active duty not to exceed five years.
- Reservists required to serve in a reserve component pursuant to PL 51, 82nd Congress, must serve in the Ready Reserve unless they meet one of the following requirements:

  Five years of active service.

  A combination of active service and Ready Reserve participation to total five years.

  Active duty of twelve months or more during World War II and active duty of twelve months or more after June 25, 1950.

  Eight years active service in a reserve component subsequent to September 2, 1945.
- When not on active duty all members of the Reserve components, except the Retired Reserve, shall be given physical examinations once every four years and shall be required to submit personal certificates of physical condition annually.
- Each reserve component shall be divided into training categories according to the types and degrees of training. The designations shall be the same for each Armed Force.
- Each Armed Force of the United States shall maintain adequate and current personnel records of each member of its reserve components, indicating physical condition, dependent status, military qualifications, civilian occupational skills and availability for duty.
- Any member of the Reserve Forces on active duty may be detailed to any duty authorized for officers or airmen of the Regular Force.

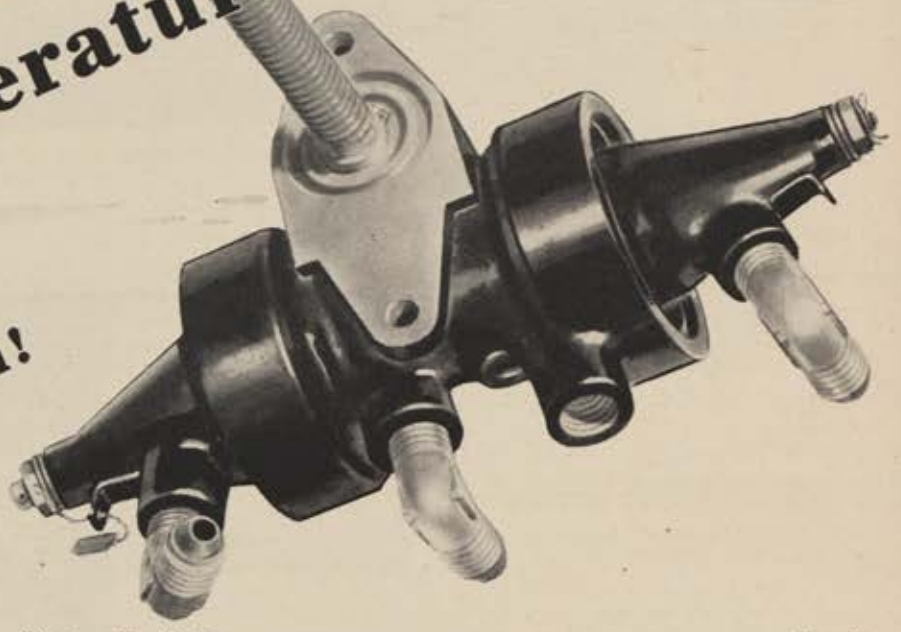
(Continued on page 84)

By Brig. Gen. Robert L. Copsey

Special Assistant to the Chief of Staff for Reserve Forces

NEW pneumatic temperature control

developed by AiResearch!



Electronic equipment... radar... gun, rocket and camera compartments — these as well as aircraft cabins must be air conditioned in modern, high altitude, high speed planes.

To meet such specialized cooling problems AiResearch offers two major types of temperature controls: (1) pneumatic; (2) electronic. Each has specific advantages.

Newest development in pneumatic temperature control is the AiResearch unit shown above.

Outstanding features are:

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This advanced unit is now being used successfully for air temperature control on the Super Constellation. It is also being employed in auxiliary equipment on many types of turbo-jet and turbo-prop aircraft where the advantages of pneumatic power can be fully utilized.

Years of experience in the development and manufacture of pneumatic equipment for the aircraft industry are behind this newest AiResearch creation in air temperature control.

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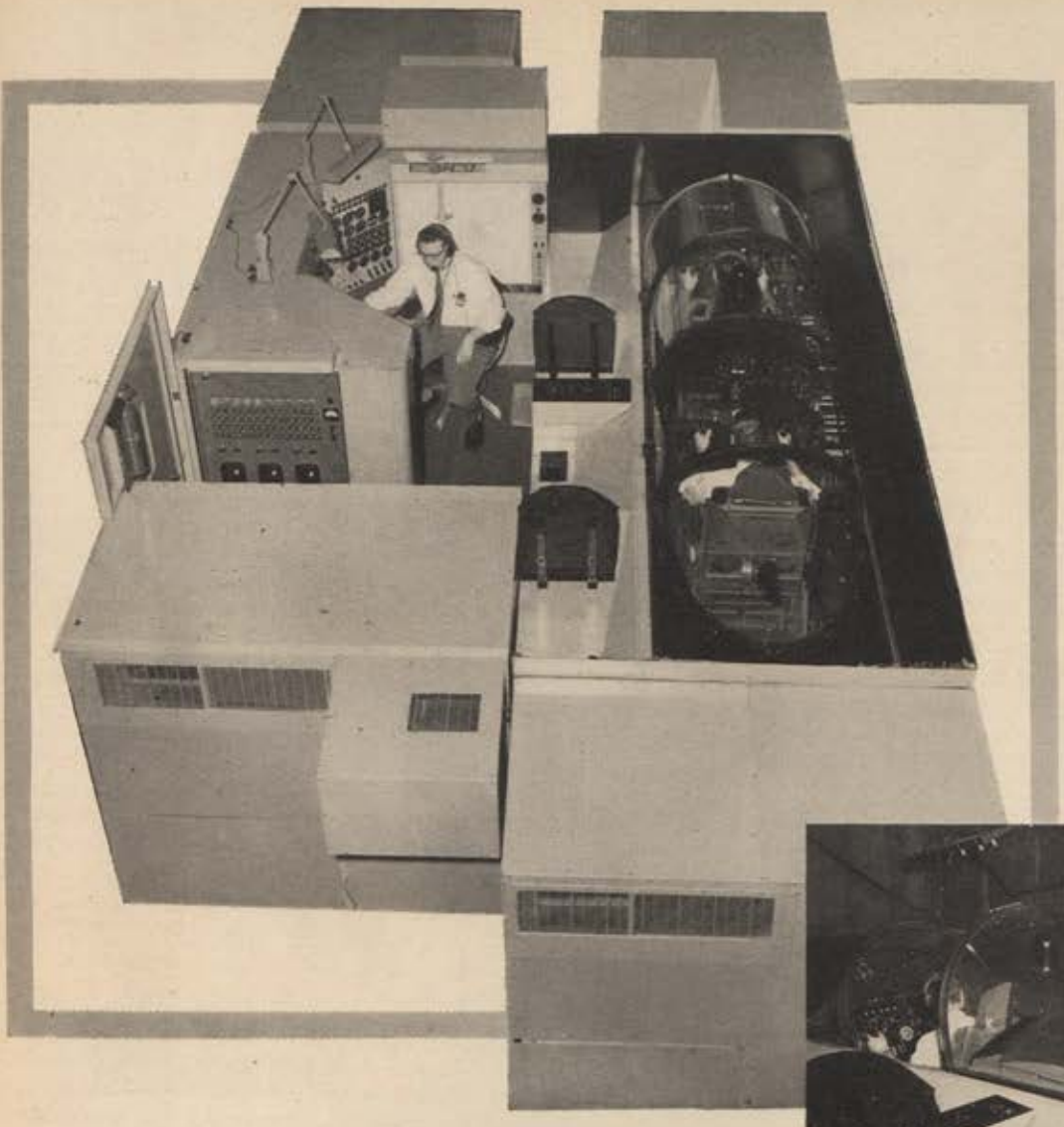

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SCHEDULE FOR THE RESERVE SURVEY

Current and Projected Operations

Inventory Site	*Starting Date*	*Estimated Completion Date*
14th Air Force*		
Tulsa, Okla.	Aug. 4, 1952	Sept. 20, 1952
Atlanta, Ga.	Aug. 4, 1952	Sept. 20, 1952
Augusta, Ga.	Aug. 11, 1952	Sept. 13, 1952
Little Rock, Ark.	Aug. 18, 1952	Sept. 27, 1952
New Orleans, La.	Aug. 18, 1952	Oct. 4, 1952
Columbus, Ga.	Sept. 29, 1952	Oct. 25, 1952
Greenville, S. C.	Sept. 29, 1952	Oct. 25, 1952
Lawton, Okla.	Oct. 6, 1952	Nov. 8, 1952
Fort Smith, Ark.	Oct. 6, 1952	Nov. 8, 1952
Jackson, Miss.	Oct. 6, 1952	Nov. 15, 1952
Memphis, Tenn.	Oct. 13, 1952	Nov. 29, 1952
1st Air Force		
Philadelphia, Pa.	July 1, 1952	Sept. 30, 1952
Pittsburgh, Pa.	July 1, 1952	Sept. 30, 1952
Hempstead, N. Y.	Aug. 3, 1952	Sept. 13, 1952
New York, N. Y.	Sept. 14, 1952	Nov. 27, 1952
Williamsport, Pa.	Oct. 6, 1952	Oct. 16, 1952
Erie, Pa.	Oct. 8, 1952	Oct. 20, 1952
Bradford, Pa.	Oct. 22, 1952	Oct. 29, 1952
Troy, Pa.	Oct. 22, 1952	Oct. 29, 1952
Franklin, Pa.	Oct. 27, 1952	Nov. 11, 1952
4th Air Force*		
San Diego, Calif.	Aug. 13, 1952	Sept. 16, 1952
Fresno, Calif.	Sept. 18, 1952	Oct. 24, 1952
10th Air Force		
Detroit, Mich.	July 1, 1952	Sept. 30, 1952
Indianapolis, Ind.	July 14, 1952	Sept. 8, 1952
Milwaukee, Wis.	Aug. 1, 1952	Oct. 11, 1952
Grand Junction, Colo.	Aug. 1, 1952	Sept. 30, 1952
Chicago, Ill.	Sept. 1, 1952	Jan. 31, 1953
Saginaw, Mich.	Sept. 15, 1952	Oct. 15, 1952

All Air Force Reserve Combat Training Center Units are conducting the inventories of their assigned reserve members starting from October 15, 1952. The estimated completion date for these inventories is November 30, 1952, according to late word from USAF Headquarters.

*Fourteenth Air Force areas where the inventory has been completed include these: Alabama (completed May 31), New Mexico (June 15), Texas (June 15), Southern Florida (July 5), part of Oklahoma (July 19), the rest of Florida (July 26), and part of Louisiana (August 2). The inventory was also completed in San Bernadino and Riverside counties, Calif. (4th Air Force), August 16.

Aircraft engine 1894 version

Model of the plane designed by Sir Hiram Stevens Maxim and powered by two of the engines shown above.

Sir Hiram Stevens Maxim could have left posterity a more accurate record of engine weight, but hardly a more dramatic one than the photograph shown above showing him holding one of the two 150 H. P. *steam engines* with which he powered his airplane. The airplane actually was airborne briefly on July 31, 1894. A copy of this rare engine photograph (without any advertising message) is yours for the asking.

His grandson, Hiram Hamilton Maxim, continues the family interest in aviation as head of the Company which designed and manufactured the Maxim Silencer, shown below, quieting the roar of a jet engine during run-up tests at the Lockheed plant in Burbank, California.

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- Torque Pressure
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- Gyro Flux Gate* Compasses
- Magnetic Compasses
- Rate of Climb Indicators
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- Voltage Regulators
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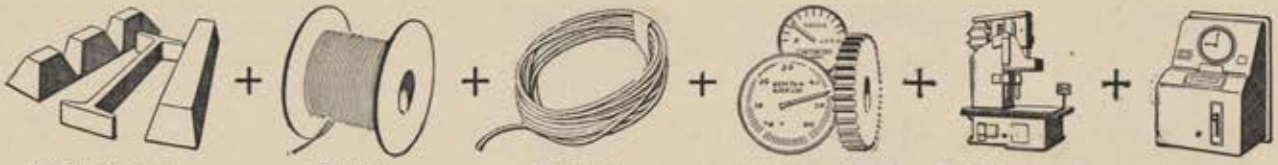

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OUR JET ACES

The men who've shot down the most MIGs don't measure up to a popular belief

THE WILD blue yonder is still wild, bluer than ever, but not as far yonder as it was in World Wars I and II. The devil-may-care youngsters with the 100-mission caps may still fly in the comic strips, but you won't find them piloting our new $250,000 fighter planes. A look at the record tells why.

At the start of the last war, when the US needed pilots in a hurry, the Air Corps pulled men out of high school graduating classes, from college, the farm, the stock exchange, and the neighborhood gas station. Of these thousands, the swaggering, cocky few whose greatest pleasure was buzzing beaches in Florida and cattle in Texas, or impressing the

Maj. William Whisner

Col. Francis Gabreski

Capt. Robert H. Moore

Capt. Iven Kincheloe

Capt. Robert J. Love

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Capt. Robert Latshaw

Lt. James H. Kasler

Col. Harrison R. Thyng

Lt. James F. Low

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Even 20-20 vision could hardly see the dimly lit face of old radar screens! The time lost as the pilot's eyes adjusted themselves from a glaring haze-blanketed sky to a low-illumination radar screen was too long. In aerial combat life or death depend on instant recognition and reaction.

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girls with their shiny new wings became the public notion of a typical pilot.

Many comic strips and some breakfast food advertising still depict the jet pilot as one of these "hot rocks," complete with crew cut and a roving eye for the ladies. And when the Lockheed F-80 first came into operational use in 1945, even some Air Corps people felt that only a youngster could pilot a "zoomie."

But the record of a select group of jet pilots—the seventeen aces of the Korean war—should squelch this myth once and for all.

The average jet ace is close to 30, is losing his hair, is extremely cautious, since few "hot rocks" live to such a venerable age, and has eyes only for the MIG-15 and his wife.

Only four of these men, whose average age is 28.8 years, are single. Those that are married have a total of twenty-three children. The average length of service is eight years, ranging from pre-World War II for Colonels Gabreski and Thyng to neophyte 2d Lt. James F. Low, who was commissioned Dec. 15, 1950, and became an ace six months later—six weeks after entering combat.

All but two of the jet aces were in the last war. Two were infantry ground-pounders, one was a tail gunner with 100 missions. Another was a bombardier, one was a navigator, one a radio specialist, and the others pilots.

Three entered service with college degrees. Nine others attended college without graduating, while five hold only high school degrees. After World War II, the top living ace, Gabreski, who had attended Notre Dame two years as a pre-med student, earned his B.S. degree from Columbia.

Aces come from all over. Michigan, Pennsylvania, Texas, and California contributed two each, while Illinois, Wisconsin, New Hampshire, New York, Indiana, Louisiana, Kansas, and Missouri furnished one apiece. Captain Love hails from Grande Prairie, Alberta, Canada.

Of the seventeen, seven had World War II victories in the air. Five (Jabara, Davis, Whisner, Gabreski, and Thyng) were aces. What they all have in common—beside being aces—is aggressiveness, extensive gunnery training, and air discipline—the things that make an ace.—END

As this issue went to press news came of an eighteenth ace—Capt. Clifford D. Jolly, who made it on August 8. Jolly's 31, married, has three children, calls Salt Lake City home.—THE EDITORS

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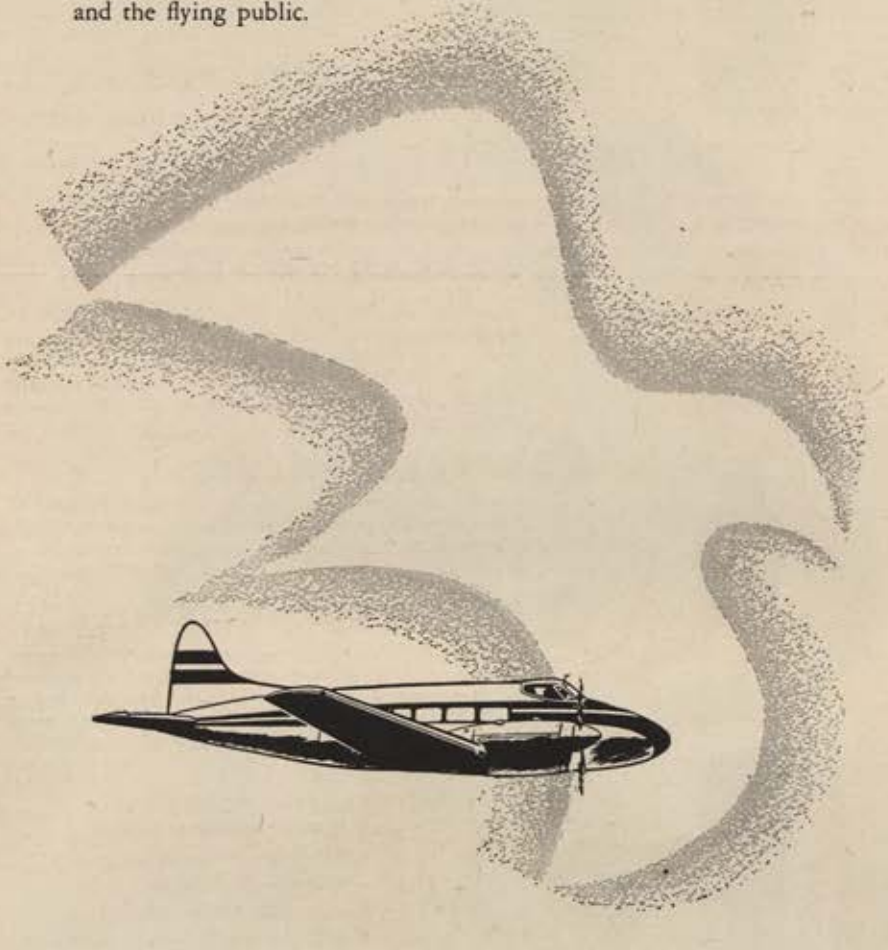

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Each and every step in the manufacturing of Delco Radio products is closely supervised to maintain high, uniform product quality.

Leader
IN MANUFACTURING

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

DELCO RADIO Division of General Motors
Kokomo, Indiana

RESERVES—CONTINUED

• Initial and subsequent additional allowance are authorized for uniforms for Reserve officers entering on periods of active duty and under certain conditions, active duty training.

• Initial appointments in the Air Reserve are limited to the grade of Major or under unless recommended by a board of officers.

• Enlisted members are entitled to rations in kind or portion thereof when the instruction or duty period totals eight hours in any one day.

• Discrimination between and among Regulars and Reserves in the administration of laws applicable to both is recommended against.

Many of the above provisions will not be put into effect until January 1, 1953. This is a short time for the Department of Defense and the various services to prepare the necessary instructions and regulations to implement the law properly. Cooperation of every Reservist will be needed.

Notwithstanding the above, the Air Force has, during the past year, taken many actions which have prepared the Air Reserve Forces for the impact of this legislation. Our current programs for the Reserve Forces were based on the general provisions of this legislation when it was being developed over a year ago.

Perhaps the most important of these has been action to bring personal and training records of Reservists up to date. Test surveys during the past eight months have indicated the best methods of accomplishing this task. Starting in July a nationwide survey of all Air Force Reservists was started. Areas already surveyed and the schedule for the survey for the first three months of this fiscal year are shown on page 74.

Equally important is the activation of sixteen Air Reserve Combat Wings and six Air Reserve Flying Training Wings. Three additional Air Reserve Combat Wings are to be activated later in this fiscal year.

Seven Specialist Training Centers have been activated and it is anticipated that forty-three additional centers will be activated throughout the United States during this fiscal year.

Contract School Training courses are now being offered at more than 104 locations throughout the United States. This program has won wide acclaim since it provides some of the finest specialized training in the country.

Mobilization Assignments include 7,000 opportunities for officers and 2,000 for airmen during this fiscal

(Continued on page 88)

There is no Substitute for Experience

Since 1942 Cornelius has built over 25,000 high pressure air compressors for the Navy, Air Force and leading aircraft manufacturers. These 10 years of research and manufacturing experience have given us the "know-how" that few, if any, can approach in our field. The basic design of our new 4 CFM 3000 PSI Compressor has been proven by thousands of hours of service. This unit has been added to our line of dependable compressors to meet a specific need of the Air Force and Navy and to keep abreast of the advanced requirements of the aviation industry. Profit from our years of experience—write to us about your compressor requirements.

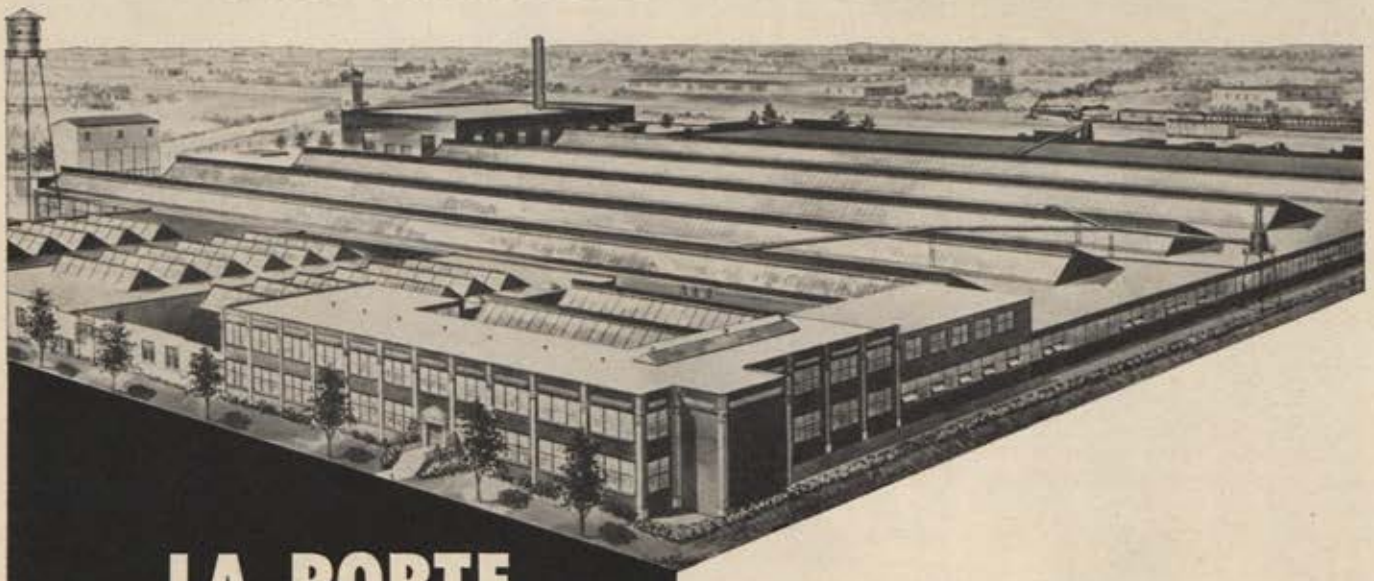
THE Cornelius COMPANY

550 39th Avenue N.E., Minneapolis 21, Minn.

Pioneers in the Development of Aircraft Pneumatic Systems

new source

FOR AIRFRAME PRODUCTION



LA PORTE AIRCRAFT DIVISION

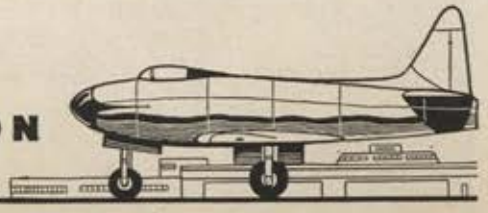
of the

Whirlpool CORPORATION

Today, when the USAF needs *quality* production . . . and *needs it fast* . . . the La Porte Aircraft Division of Whirlpool Corporation is an *excellent* source to know.

Here's a big plant *exclusively* devoted to precision airframe manufacturing on such important programs as C-119 Wings, B-47 Ailerons and C-123 Wings. It has complete, modern facilities . . . unsurpassed, manufacturing know-how gained from over 52 years of quality manufacturing experience . . . and skilled aircraft technicians who know how to build *high quality at low cost!*

Remember . . . La Porte Aircraft Division is a good company to know and depend upon.



LA PORTE AIRCRAFT DIVISION

WHIRLPOOL CORPORATION

LA PORTE, INDIANA

Can You Name

. . . THESE PLANES OF TODAY AND TOMORROW?

1

The newest of carrier-based jet fighters shown in photo 1 utilizes *Huck* Lockbolts* extensively in its structural assemblies. The jet fighter in photo 2 is a Korea combat-proved model and because of the great quantity of *Huck* Lockbolts* used in its construction has been termed by some the "Flying Lockbolt." *Huck* Lockbolts* were selected as fasteners for these speedy military jets because of their high tensile and shear strength, hole filling and sheet pull-together characteristics, and speed in assembly.

2

3

The modern jet fighters pictured in illustrations 3 and 4 have increased rigidity and stability in deflection resistant joints which are made possible by the hole filling characteristics of *Huck* Lockbolts* when driven in interference holes. Also, *Huck* Lockbolts* not only do a better job but they have a lower installed cost than most fasteners approved for aircraft use. More and more modern aircraft manufacturers are utilizing *Huck* Lockbolts and Blind Rivets* wherever quality, strength and economy are essential factors in assembly or maintenance of the high speed planes of "Today and Tomorrow."

4

Huck Blind Lockbolts* are the only heat treated alloy steel blind fasteners with a positive swaged lock. They have exceptional strength and pull-together features. Also, their simplicity and speed in assembly or maintenance operations rates them as outstanding performers on production or repair jobs. Recorded maintenance jobs where *Huck* Lockbolts* were employed saved as high as 98% of the flight time that would have been lost if conventional methods of repair had been used. In production or maintenance they can also do an outstanding job for you.

***Huck** Lockbolts, Blind Lockbolts and Blind Rivets* are approved by the United States Air Force "Air Materiel Command" and the United States Navy "Bureau of Aeronautics" for use in government aircraft structures.*

1. CUTLASS—F7U
Chance Vought Aircraft

2. SHOOTING STAR—F80
Lockheed Aircraft Corp.

3. SCORPION—F89
Northrop Aircraft, Inc.

4. BANSHEE—F 2H-2
McDonnell Aircraft Corp.

**Manufactured under U. S. patents, other patents pending. Complete literature on Huck Fasteners is available on request to:*

Huck MANUFACTURING COMPANY
2480 BELLEVUE AVENUE · DETROIT 7, MICH.

RESERVES — CONTINUED

year. There are also over 7,000 additional Mobilization Designation opportunities in the program. There are many vacancies yet to be filled in this phase of our Reserve training.

The Volunteer Air Reserve Program is to be continued.

Four Air Reserve Districts have been established to better administer the Air Force Reserve. Four additional districts will be activated in November and additional districts are scheduled for activation during the fiscal year.

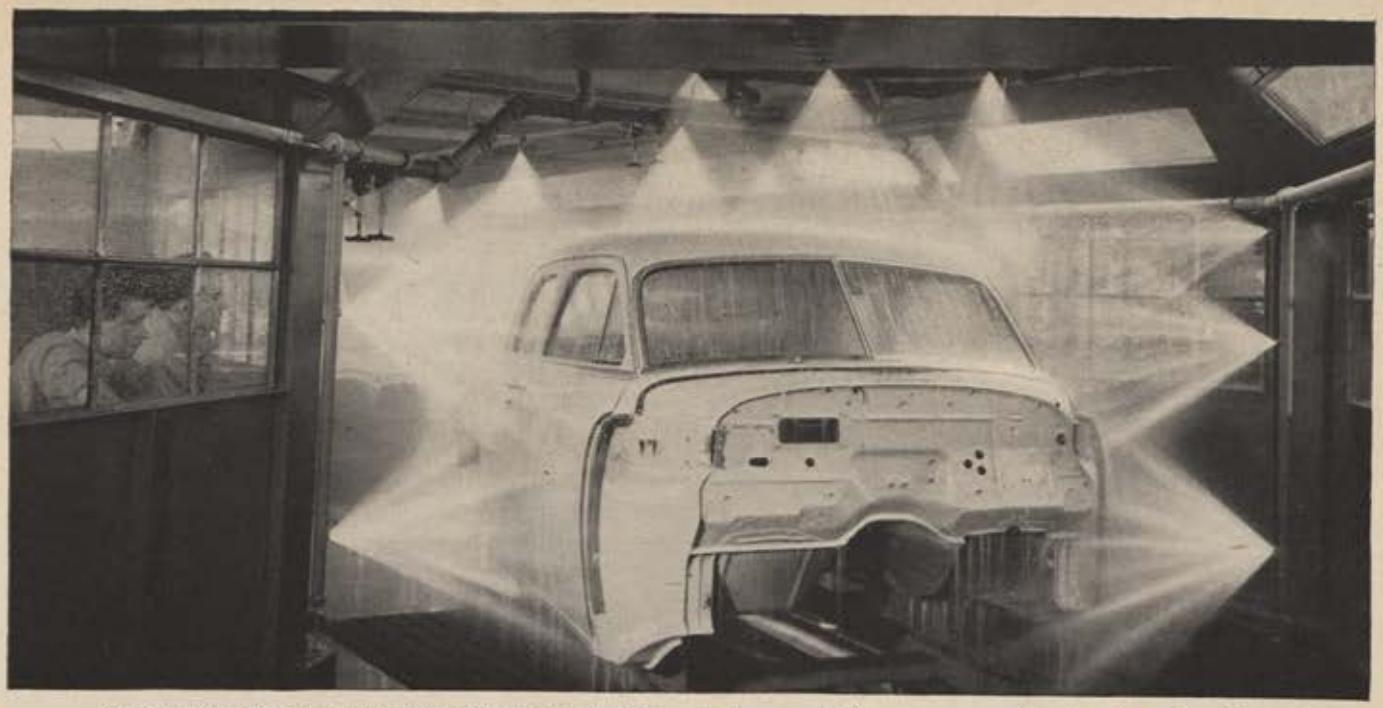
The objectives of our programs will be difficult to attain because of increasing costs, increasing limitations on the availability of adequate personnel and limited availability of facilities and training equipment, particularly air bases and modern aircraft. The impact on the Air Force to go to a 143-wing active establishment, to a large measure, creates these handicaps at this time.

The inadequate air education of the youth of the country, the inadequate employer-Reservist relationship, are fertile fields calling for new civil military leadership. The Air Force Association has done much to encourage youth in civil aviation in the past and I would presume now to urge AFA to forge this "youth education" link from civil aviation to military aviation. Air ROTC and Civil Air Patrol are well along this road but they too need the help AFA could well provide.

The employer - Reserve relationships need to be improved through greater mutual understanding of the military requirement of the individual Reservist insofar as translating them into encouraging personnel policies by employers in industry, agriculture, labor and education. In this, I again presume to urge the Air Force Association to assist.

All of us, Reservists and Air Force veterans, must realize our obligation for military service to our country in time of stress. If we would lessen our individual opportunity for military service in our skills we must see to it that we are replaced by younger people, skilled in the more complicated arts of modern war.

The American public must be led to realize the decisive character of airpower and the relative amount of it necessary to satisfy modern defense requirements. It has been said that our Reserve has been our most effective secret weapon since Korea. For the future it must be counted on as a decisive factor in preventing or winning wars.—END



A "CLOUDBURST" in this water tunnel proves the effectiveness of Chrysler Corporation's advanced methods of sealing against moisture, dust and drafts. Here complete De Soto bodies pass high-pressure water jets that douse them from every angle. This is typical of the thoroughness with which all Chrysler Corporation cars are built.

A CAR'S BODY TELLS A LOT ABOUT A CAR'S REAL WORTH TO YOU

Chrysler Corporation engineers, stylists, and production men work together, so that body and chassis form a perfectly balanced unit—created from the start for your safety, comfort and *driving and handling ease.*

The way a door latches and holds . . . the amount of head and leg room you get . . . the comfort of the seats . . . breadth of vision . . . ease of getting in and out—all these are easily read guides to car worth.

In a Plymouth, Dodge, De Soto or Chrysler, you get a superior body — and a superior chassis — engineered to give you the greatest worth for your money.

You can prove this for yourself just by calling your nearby dealer and driving one of these great cars.

CHRYSLER CORPORATION engineers and builds PLYMOUTH, DODGE, DE SOTO, CHRYSLER CARS & DODGE TRUCKS

Chrysler Marine & Industrial Engines • **Oilite** Powdered Metal Products • **Mopar** Parts & Accessories
Airtemp Heating, Air Conditioning, Refrigeration • **Cycleweld** Cement Products

ENGINEERS' EYES ARE EVERYWHERE. Out of their laboratories and on to the production lines go Chrysler Corporation engineers, to follow through each step in body construction. Here an engineer studies the double welding of a Dodge body, one of the many things that mean safer and quieter cars, with windows that work easily, doors and panels that stay solid and free from rattles.

THE NEW C-200. New advanced body designs are created by Chrysler to learn from experience practical applications of entirely new concepts of style and comfort, fabrics and fittings, performance and safety. The Chrysler C-200 is the prototype of a dramatic new convertible.

FOR THE WORLD'S BEST AIRPLANES . . .

Air Associates has served aviation for 25 years. During this period of rapid technical progress and expansion in all types of flying, Air Associates has stuck to its basic objective of serving aviation. The organization has adapted itself to the changing needs and increasing complexities of the industry so that today the following specialized divisions meet the requirements of the world's best airplanes:

AIRCRAFT PRODUCTS DIVISION — Unusually flexible engineering and manufacturing facilities produce a wide variety of equipment such as electric motors, linear and rotary actuators, gear boxes, hydraulic and pneumatic valves and cylinders, pumps, steer systems, and safety belts. Factory and sales offices of this division are at *Teterboro, N. J.*

ELECTRONIC EQUIPMENT DIVISION— Modern development and production facilities are utilized to design and fabricate airborne and ground transmitters and receivers, radio ranges, amplifiers, remote proportional control systems, fire-control systems, and echo-ranging systems. Factory and sales offices of this division are at *511 Joyce St., Orange, N. J.*

AVIATION SUPPLIES DIVISION—From five strategic locations Air Associates merchandises and distributes more than 2,000 different kinds of aviation supplies and materials to airframe and accessory manufacturers, airport operators, airlines, and overhaul operations. Branch warehouses are located at *216 Union St., Hackensack, N. J.; International Airport, Miami 48, Fla.; 5315 W. 63rd St., Chicago 38, Ill.; 3214 Love Field Drive, Dallas 9, Texas; 1231 Airway, Glendale 1, Calif.*

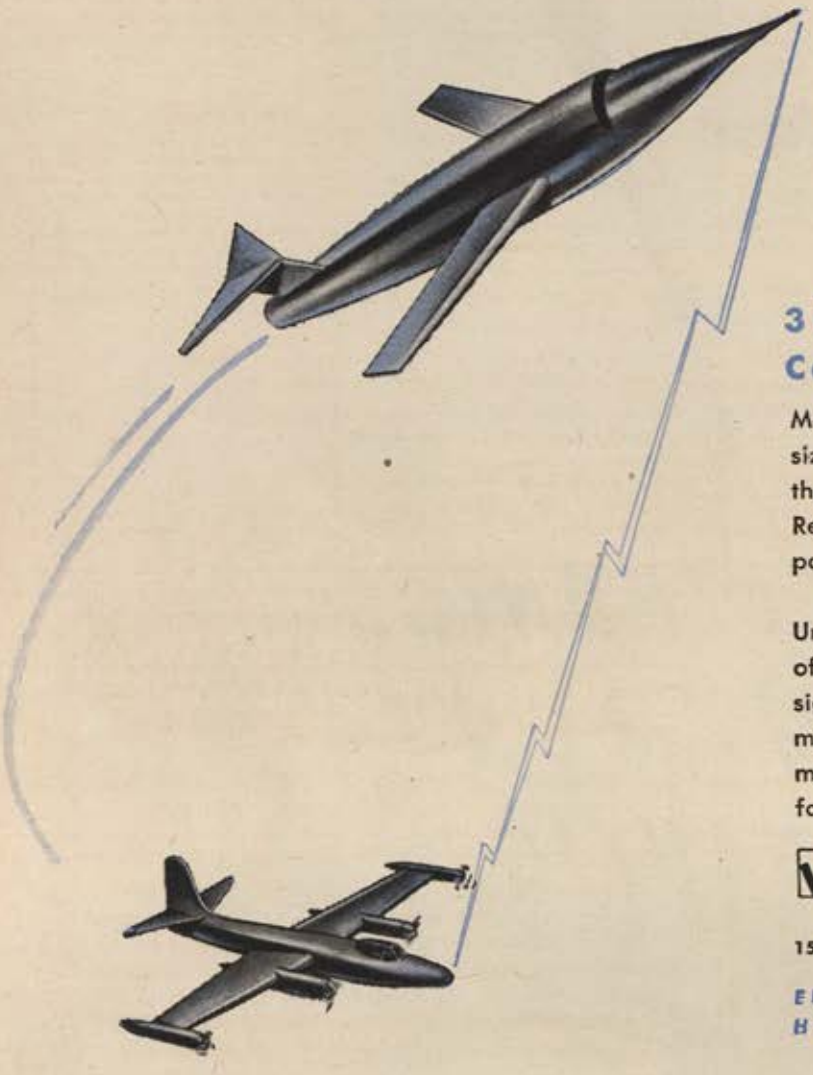
For further information about Air Associates products and services contact any of these divisions, or write direct to Air Associates, Inc., Teterboro, N. J.

AIR ASSOCIATES INC.

25 YEARS SERVING THE NATION IN AVIATION

AVIATION SUPPLIES • HYDRAULICS • PNEUMATICS • ELECTRO-MECHANICALS • ELECTRONICS

LIKE "opening a barn door in a hurricane"..... with a FEATHER



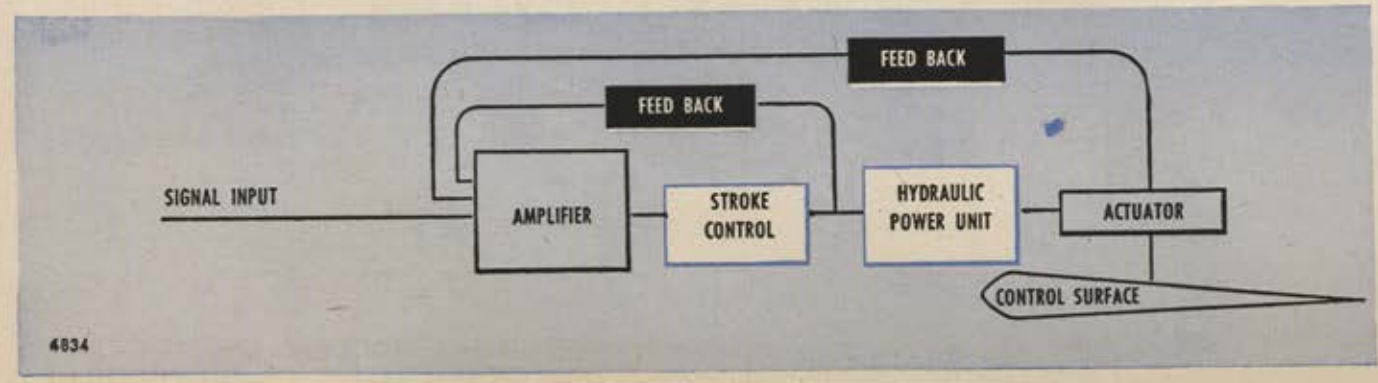
30 Milliamp Signal Controls 50 Horsepower

Modern aircraft control surfaces are not the size of a barn door but the wind across them is several times hurricane velocity. Results are similar . . . it takes plenty of power to control them.

Vickers Electro-Hydraulic Servo Power Units provide rapid and accurate control of up to 50 horsepower with a 30 milliamp signal. This is another Vickers accomplishment in the control of heavy power by means of very minute signal inputs. Write for special bulletin No. SE-18.

VICKERS Incorporated
DIVISION OF THE SPERRY CORPORATION
1526 OAKMAN BLVD. • DETROIT 32, MICH.

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921



TECH TALK

By Richard Skinner

Despite the bang-up job it did covering the National Conventions, television has flopped its first test as an aircraft landing aid in bad weather. TV got a three-week trial recently at Washington's National Airport as a means of determining the exact visibility conditions pilots meet the last mile or so of instrument landings. Existing instruments measure horizontal and vertical visibility during letdown, but there's now no reliable way of measuring visibility during the downward slant of a landing aircraft. In the test, TV cameras at the end of the runway couldn't tell how dense or how far away clouds were and bogged down completely in fog. And by the time TV spotted the planes, the pilots could also see the runway. Undaunted technicians are continuing research at MacArthur Field, Long Island.

In a bid to reduce the likelihood of flame-outs—jet engine failures at altitude—the Scintilla division of Bendix now has a seven-pound ignition system that uses electronics to boost a 24-volt current supply to a sizzling 10,000-watt spark. Starting jets on the ground should be easier too. In the past the process has been compared to striking matches in a hurricane. The problem in jets is that an extremely cold, wet, hard-to-fire mixture of fuel and air rushes past the igniter plugs at terrific speeds, and it takes a super spark to do much good. Even plugs badly fouled with carbon or graphite, Bendix spokesmen say, spark with the TLM-10, now being used on F-84s and F-86s.

One of the problems confronting NACA engineers at the supersonic wind tunnel at Langley AFB is moisture condensation. As wind velocities pass the 1,000 mph mark, temperatures in the tunnel drop to more than 100 degrees below zero, and the resulting moisture condensation disturbs air-flow patterns. To correct this, engineers bleed dry air into the tunnel, using a GE photoelectric dewpoint recorder to tell them how much. The instrument automatically and continuously measures dewpoint temperatures. Air from the tunnel flows over a refrigerated mirror located in a phototube system. A dew spot forms on the mirror and shades out part of the light reflected to the photoelectric cell. The system then acts to maintain the mirror temperature so the dew spot remains but doesn't grow. Besides monitoring the moisture level, the GE instrument gives a permanent record that can be used to indicate broad trends.

Research planes clipping along at 1,238 mph are just loafing. Scientists now produce laboratory speeds up to 180,000 mph—235 times as fast as sound at sea level. The Los Alamos A-bomb lab clocked this speed by building up air pressure in a tube and discharging it suddenly against a stream of very small particles traveling at enormous speeds in the opposite direction. Similiar research is going on at Langley AFB, Va., and Cornell University where, in another test, a speed effect of 26,000 mph was achieved by shooting a bullet at 7,000 feet a second through a chamber filled with krypton, a heavy gas. The result equalled 34 times the speed of sound, or 26,000 mph. These tests have already produced some shock wave effects that can't be explained by the usual rules, and point to some of the problems space rockets will one day encounter.

AIR FORCE ALFIE — BY RAY BECK

NEW GI BILL

Want the word on the new GI Bill? See "Mobilization News," page 103 of this issue, for the provisions of the bill. Then write AFA's Service Department for free fact sheet. Address: AFA Service Department, 1424 K St., NW, Washington 5, D. C.

Present And Accounted For...

IN THE SKIES over our own land, and in the skies over troubled lands throughout the world, Cities Service Aviation Gasolene is present and accounted for... playing its important role in the global struggle for freedom and peace.

Production is surpassing previous highs, but every gallon of aviation gasolene produced at the great Cities Service Refineries is committed to meet the needs of our Air Force, and existing contracts with commercial operators.

Cities Service is proud to lend its support to the world's greatest team of fighting men, to America's first line of defense, to our United States Air Force.

CITIES SERVICE

AVIATION PRODUCTS

New York · Chicago · In the South: Arkansas Fuel Co., Inc.

Improving the EYES of the Air Force

How PERKIN-ELMER's specialized optical and engineering skills serve the Air Force

New "EYES" for reconnaissance—photograph 50,000 sq. miles in less than a day

A new type of aerial camera developed by Perkin-Elmer around a unique 90-lb. rotating glass prism, enables aerial cameramen to photograph an area the size of Pennsylvania in less than a day on a single roll of film. The Transverse Panoramic Camera scans terrain from horizon to horizon across a plane's line of flight and records the image on a 400-lb. roll of film 18 in. wide and 5000 ft. long. The extreme accuracy of Perkin-Elmer's optics even captures such fine ground detail as pole shadows and railroad ties from 40,000 ft. on a single 12-ft. frame. A battery of seven conventional aerial cameras was previously needed to do the same job, now done by this single, lighter, Perkin-Elmer unit.

Perkin-Elmer has designed and built an impressive variety of telephoto camera lenses for the Air Force, ranging in focal length from 24" to 144" with apertures up to F3.5.

New "EYES" for pinpointing the target—at jet speeds

The Air Force foresaw the need for a simplified bombsight with navigational attachments incorporating radar, calling for less operator skill, and designed to work at the high speeds and altitudes of jet aircraft. Compactness, reliability, ease of maintenance through unitized construction and design that anticipates improvements of aircraft performance were Air Force mandatories. The BDHSA sight that resulted from the unique combination of optical, electronic and mechanical engineering skills found at Perkin-Elmer, permitted the Air Force to write "Mission Accomplished" on the assignment. (Mechanical, electronic and optical design details of the BDHSA are withheld for security reasons.)

Indeed, at one time or another, Perkin-Elmer has designed nearly every type of sighting device used in the Air Force—including bombing periscopes, fighter sights and many other devices for sighting ground targets and enemy planes. How thoroughly Perkin-Elmer meets the complex optical requirements of the Air Force is revealed in this observation of an Air Force pilot who remarked, wonderingly, that only he "looks out through a windshield; everyone else in the plane looks out through Perkin-Elmer optics."

New "EYES" that see in the dark

Darkness and haze cannot stop infrared radiation. Devices that detect such radiation can spot objects otherwise invisible. Perkin-Elmer, as the outstanding manufacturer of industrial infrared spectrometers and other infrared equipment, is well equipped to undertake the development of specialized devices for the Air Force based on this principle.

The foregoing covers but a few of the examples of the optical, the electro-optical and engineering skills at Perkin-Elmer that serve the Air Force. Those same skills are available to you in meeting your instrumentation and production problems. We welcome the opportunity of talking them over with you.

The Perkin-Elmer Corporation, 895 Main Ave., Norwalk, Conn.

For Optical Design and Electro-Optical Instruments

PERKIN ELMER

In nine months the men who make air bases out of rice paddies built 1,500 miles of runways—three times the length of Korea

THEY BUILD THE BASES

THOSE ADVANCED air bases in Korea didn't just grow there. Without them, the F-86s would be homeless and 5th AF fighter-bombers wouldn't be able to pound the Reds around-the-clock, cutting rails, blowing bridges, and blasting convoys and depots. "Operation Strangle" begins and ends at the close-in bases built by the Aviation Engineers, the men who turn rice paddies into runways.

The urgent need for Air Force Engineers was seen fifteen years ago by the late Brig. Gen. Stuart C. Godfrey, who realized that, in case of war, the Air Force would need specially trained men to build and rehabilitate airfields for combat use.

During World War II, the forerunners of today's Aviation Engineers worked miracles in both the European and Pacific theaters. But still no separate command existed. Then in April 1951, the Aviation Engineer Force was established at Wolters AFB, Mineral Wells, Tex., a World War II Infantry replacement training center.

Appointed commander of the new force was Brig. Gen. Herbert W. Ehrgott. He had been Chief of Staff of the 9th Air Force's Engineer Command in Europe during World War II and was later the AF's Deputy Chief of Staff of Operations for Atomic Energy and Engineering Research and Development.

Organized under the jurisdiction of the Continental Air Command, the Aviation Engineer Force operates on an Air Force level. Its mission — to carry on with the same type of work so superbly performed during World War II.

Starting off with about 1,000 officers and airmen last year, the Aviation Engineer Force is now expanding to ten times that strength.

Besides Wolters, three other bases conduct Engineer training. These are Beale AFB, at Marysville, Calif., Orlando AFB, Fla., and Eglin AFB, Fla. But Aviation Engineer activities are by no means restricted to these installations. Units are found in every overseas theater as well as many domestic bases.

Aviation Engineer units are originally organized, manned, and trained by the US Army. Then, as units, they are turned over to the Air Force—to Conac—for further training and operational employment.

The organizational set-up starts on a brigade level. This is further broken down into one or more Engineer Aviation groups, and then into battalions. Usually there are four Engineer Aviation battalions assigned to a group. The battalions are usually further subdivided into four companies, including a headquarters and service company, and three line companies.

In Air Force jargon the Engineers are called SCARWAFs—Special Cat-

by Bob Walsh

egory, Army With Air Force. Although they are paid, maintained and supervised by the Air Force—which also furnishes their equipment—Engineers do not lose their Army identity. SCARWAF duty tours ordinarily run three years.

Korea is where the Aviation Engineers have really come into their own. Often under fire during the early days of the war, they helped build and maintain the 5th AF's tactical air bases ringing the fighting zone, carving advance landing strips for fighter plane support from the rugged Korean terrain.

The experience of the 822d Engineer Aviation Battalion is typical.

Rushed to Korea from Okinawa less than a month after fighting began, the 822d was the first Aviation Engineer unit in the combat zone. Straightway they were put to work hewing a fighter base out of a tiny, weed-grown, rice paddy-surrounded air strip. Constantly harried by infiltrating Communist troops and sniped at by Reds in the surrounding hills, the Engineers kept running their huge cranes and bulldozers.

Using a "Big Bertha," a giant shovel whose two-yard "bite" eats away more than 6,500 cubic yards of earth in a single day, in just twenty-seven days they built an airbase equipped to handle all types of fighters. The field subsequently became the busiest tactical airbase in Korea.

Within nine months, the 822d had completed three war zone airbases and made major repairs on ten others. This involved laying nearly 1,500 miles of steel mat runways and taxi strips—three times the length of the Korea peninsula. Engineers poured more than a million gallons of asphalt, much of it in sub-zero weather—devising ingenious equipment to heat the frozen mixture. Their "Big Berthas" and bulldozers moved some 900,000 cubic yards of dirt.

One of the 822d's proudest achievements was the extension of a runway, complete with taxi strips and warm-up aprons, 4,000 feet across a river and through rice paddies. This job involved building two dams to change the river's course and filling in several square miles of rice paddy ooze.

The feats of the 822d Engineer Aviation Battalion, which has been awarded a Presidential Unit Citation, have already brought recognition and fame to the Aviation Engineer Force. Still growing, the Engineers promise bigger and better runways for the Air Force, anywhere they're needed.—END

Combat Conditioned!

ROBINSON ENGINEERED MOUNTING SYSTEMS

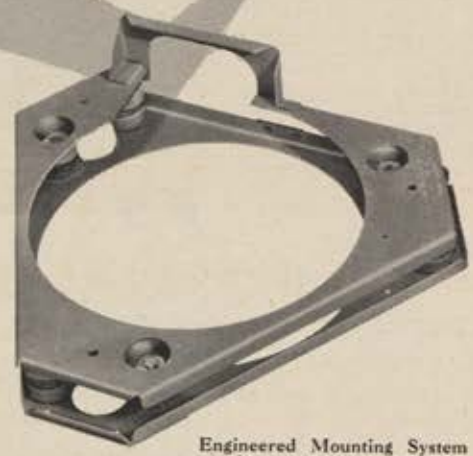
FOR YOUR AVIONIC EQUIPMENT

• The speeds and maneuvers of combat flying impose loads on airborne electronic equipment far in excess of those detailed in the specifications. Robinson Engineered Mounting Systems have demonstrated superior ability to deliver the necessary "plus protection" to electronic equipment on thousands of combat missions.

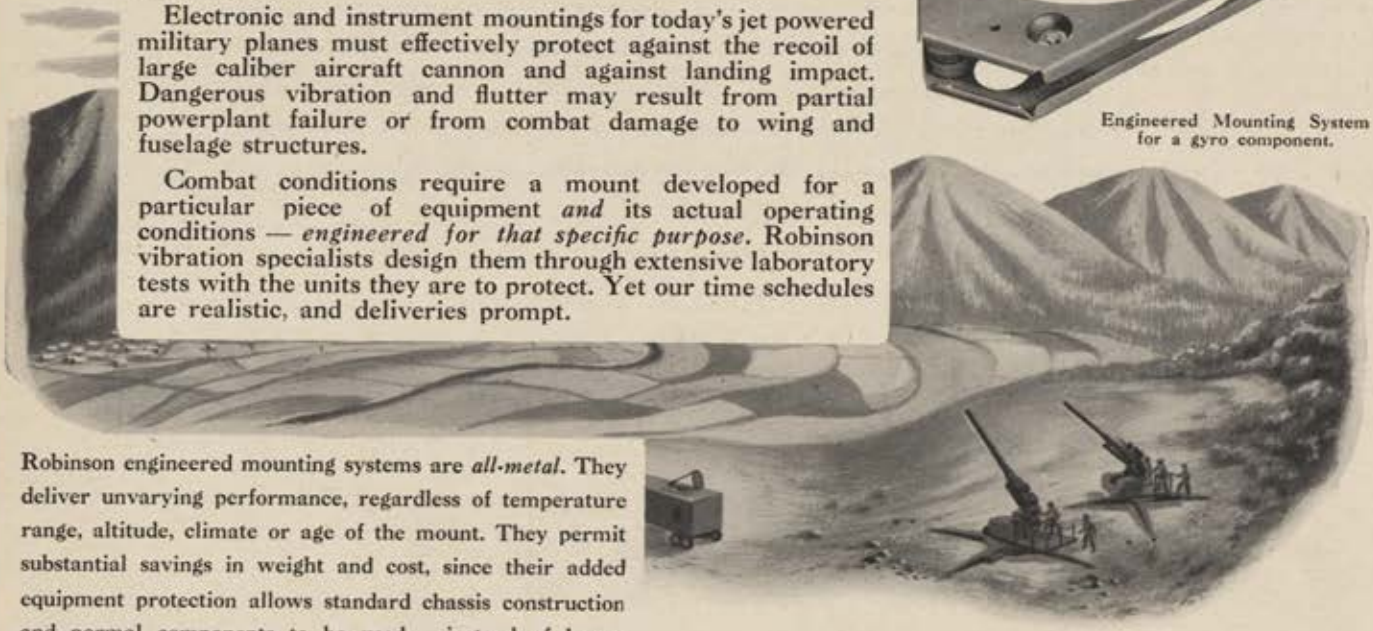
Combat maneuvers may impose temporary overloads as high as 8 "G". If the mounts "bottom out" under these conditions, and do not remain resilient, destructive vibration will be transmitted.

Electronic and instrument mountings for today's jet powered military planes must effectively protect against the recoil of large caliber aircraft cannon and against landing impact. Dangerous vibration and flutter may result from partial powerplant failure or from combat damage to wing and fuselage structures.

Combat conditions require a mount developed for a particular piece of equipment *and* its actual operating conditions — *engineered for that specific purpose.* Robinson vibration specialists design them through extensive laboratory tests with the units they are to protect. Yet our time schedules are realistic, and deliveries prompt.



Engineered Mounting System for a gyro component.



Robinson engineered mounting systems are *all-metal.* They deliver unvarying performance, regardless of temperature range, altitude, climate or age of the mount. They permit substantial savings in weight and cost, since their added equipment protection allows standard chassis construction and normal components to be used — instead of heavy "beefed-up" chassis and expensive ruggedized components.

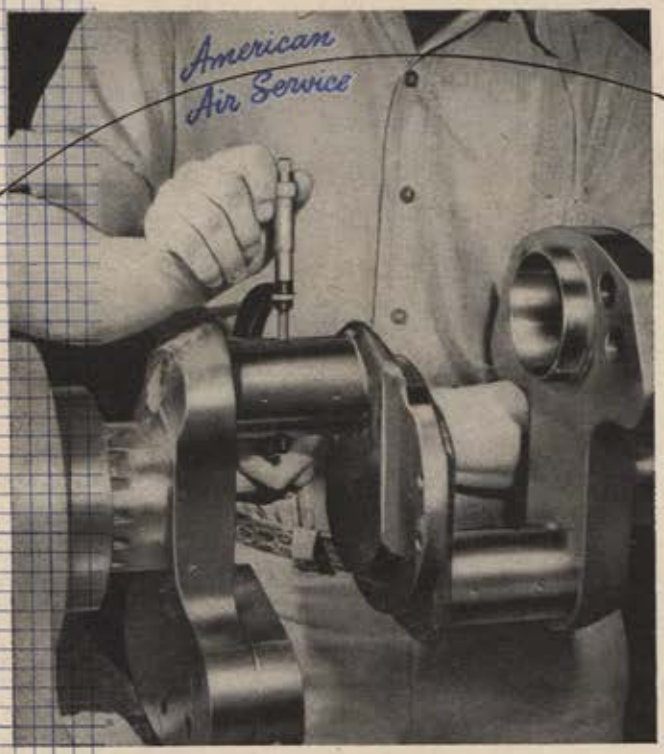
Let Robinson, pioneer in all-metal mounts, design and build an engineered mounting system that will allow *your* equipment to meet *its true potential performance.* Write or call for further information.

ROBINSON AVIATION INC.

TETERBORO, NEW JERSEY

Vibration Control Engineers

IN TODAY'S AIRCRAFT — ROBINSON MET-L-FLEX MOUNTS



performance pattern

To the airline . . to the fleet owner . . to the maintenance and overhaul depot which has a parts and service problem, plus a need for unquestioned workmanship and material . . we announce the presentation of a new, modern brochure. ➢ ➢ Written in the language of our industry . . illustrated in a manner which will emphasize the care and attention for the reader's interest . . here is an up-to-the-minute publication of our complete facilities which stresses the resources and equipment of this organization. *Sent to executives or engineers by application on your company stationery.*

Harvey H. Dwight
PRESIDENT

AIRCRAFT ENGINE AND PARTS
CORPORATION

EXECUTIVE OFFICES • **345 MADISON AVENUE, NEW YORK 17, U. S. A.**

AMERICAN AIR SERVICE INCORPORATED, CHARLOTTE, N. C.

AEP

AMERICAN CHEMICAL PAINT COMPANY

AMBLER CHEMICALS ACP PROCESSES PENNA.

Technical Service Data Sheet
Subject: PROTECTING ALUMINUM WITH ALODINE®

"ALODINE" No. 100

"Alodine" No. 100 forms an amorphous phosphate surface on aluminum which is thin, tough, durable, non-metallic, continuous with and a part of the basis metal. The "Alodine" film anchors paint, prolongs paint life, and protects aluminum exposed unpainted to the atmosphere.

With the "Alodine" No. 100 bath at its normal temperature of 120° F., coating time by immersion approximates 1½ minutes —and by spraying, 15 to 20 seconds. Coating times and bath temperatures can be varied to suit operating conditions.

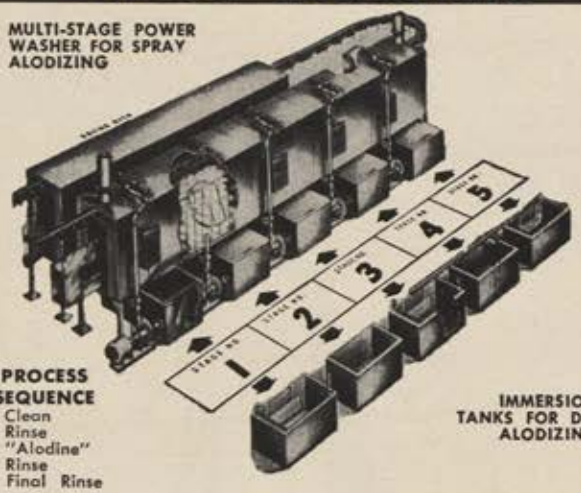
"ALODINE" No. 600

"Alodine" No. 600 forms corrosion-resistant coatings that provide excellent protection for unpainted aluminum and also make an effective paint-base. This grade is recommended for use in place of "Alodine" No. 100 on aluminum parts that are to remain unpainted or to be only partly painted; and on *all* aluminum castings and forgings whether or not these are given a paint finish.

"Alodine" No. 600 is applied at room temperature (70° to 120° F.). Recommended coating times are 3 to 5 minutes for an immersion process and 1 to 1½ minutes for a spray process.

"ALODINE" FLOW SHEETS

MULTI-STAGE POWER WASHER FOR SPRAY ALODIZING



PROCESS SEQUENCE
1. Clean
2. Rinse
3. "Alodine"
4. Rinse
5. Final Rinse

IMMERSION TANKS FOR DIP ALODIZING

NOTE: Equipment can be of mild steel throughout, except the "Alodine" stage which must be of acid-resistant material.

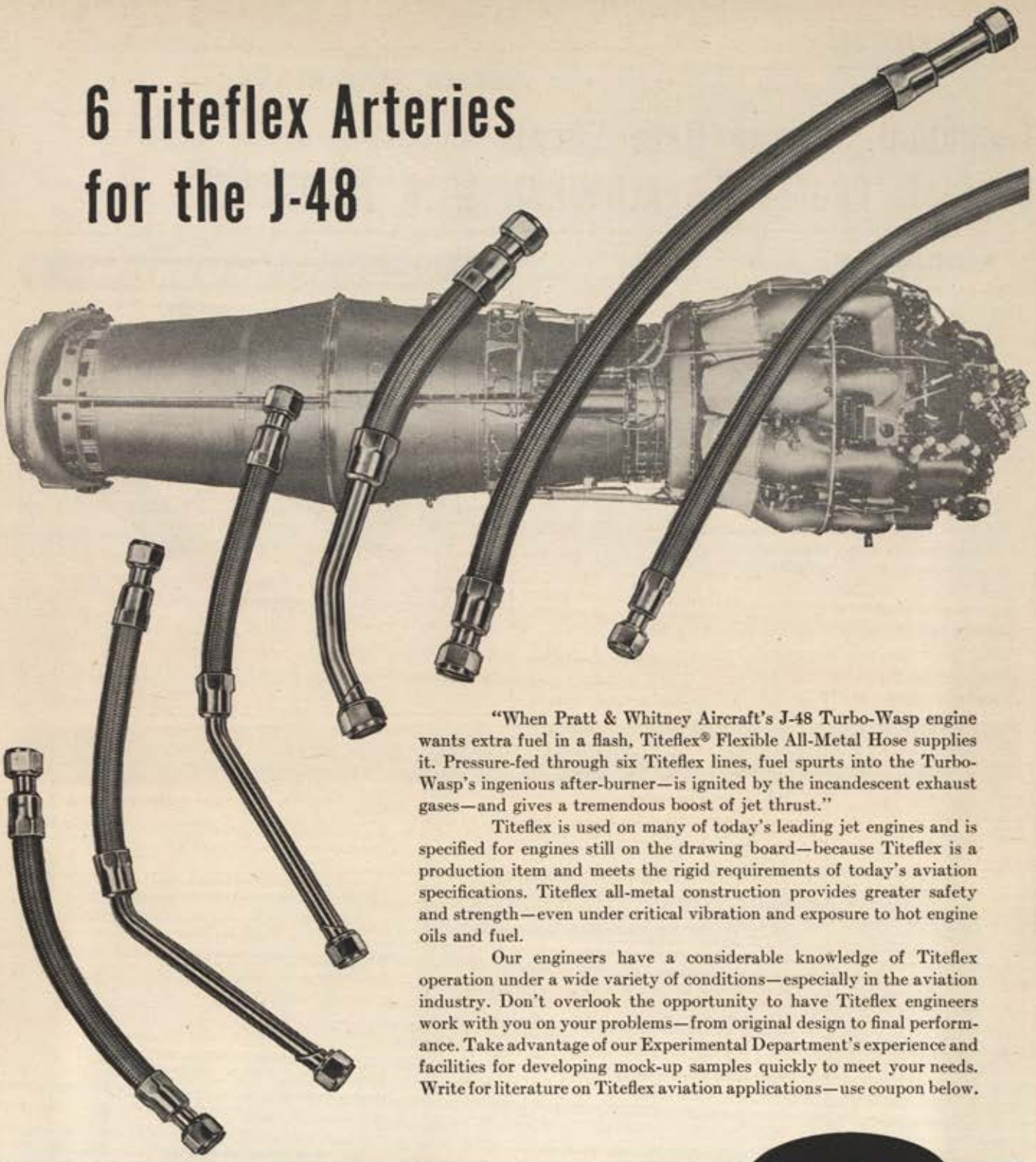
COATING DATA	"ALODINE" NO. 100	"ALODINE" NO. 600
COMPOSITION	Amorphous phosphate.	Amorphous mixture of metal oxides and chromates.
COLOR	Depending on alloy treated, color range is from an iridescent blue-green to a dark slate grey.	Depending on time of treatment, color range is from golden iridescent to light brown.
THICKNESS	From 0.01 to 0.08 mil. No appreciable dimensional changes occur when aluminum is Alodized.	From 0.005 to 0.01 mil. No appreciable dimensional changes occur when aluminum is Alodized.
WEIGHT	50 to 300 mgs. per square foot. Optimum: 100 to 200 mgs. per square foot.	35 to 50 mgs. per square foot.
SOLUBILITY	Insoluble in water, alcohol, solvents, etc. Insoluble in most dilute acids and alkalis. However, strong acids and alkalis which attack aluminum may penetrate the "Alodine" film and react with the underlying metal. Slightly soluble in concentrated nitric acid. Soluble in molten sodium nitrate, etc.	Insoluble in alcohol, water, solvents, etc. Soluble in strong alkalis and acids.
ELECTRICAL PROPERTIES	High dielectrical resistance.	This coating is electrically conductive. Aluminum coated with "Alodine" No. 600 can be shielded-arc welded or spot welded.
HEAT STABILITY	Unimpaired at temperatures that melt aluminum.	Unimpaired at temperatures that melt aluminum
FLEXIBILITY	Integral with and as flexible as the aluminum itself. Can withstand moderate draws.	Integral with and as flexible as the aluminum itself. Can withstand moderate draws.
ABRASION RESISTANCE	Approximately 90% of that provided by chromic acid anodized aluminum.	Approximately 90% of that provided by chromic acid anodized aluminum.
CORROSION RESISTANCE	Painted—superior to chromic acid anodizing. Unpainted—comparable with chromic acid anodizing. Meets MIL-C-5541 and other Government Finish Specifications.	Exceeds requirements of MIL-C-5541 and even AN-QQ-A-696a (anodic films)
PAINT-BONDING	Excellent. Equal to or superior to anodizing. Meets MIL-C-5541 and other Government Finish Specifications.	Excellent. Meets MIL-C-5541 and other Government Finish Specifications.
TOXICITY	Non-toxic.	Non-toxic.
BIMETALLIC CORROSION RESISTANCE	Shows good resistance against bimetallic or galvanic corrosion.	Shows good resistance against bimetallic or galvanic corrosion.

CHEMICALS ACP PROCESSES

WRITE FOR FURTHER INFORMATION ON "ALODINE" AND ON YOUR OWN ALUMINUM PROTECTION PROBLEMS.

CHEMICALS ACP PROCESSES

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."

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MOBILIZATION NEWS

NEW GI BILL, recently signed into law by President Truman, provides educational benefits, unemployment payments, mustering-out pay, and on-the-job training for veterans who served in Armed Forces on or after June 27, 1950. Those attending school full-time will receive a sum of money each month out of which they must pay all expenses, including tuition. Amounts provided are $110 per month for single veterans, $135 for one dependent, and $160 for more than one dependent. Mustering-out pay was set at $100 for vets with fewer than 60 days service. Those who served more than 60 days but spent their active duty in US will receive $200, and men and women who served overseas will receive $300. Officers above rank of captain are ineligible for mustering-out pay. Service personnel released before passage of bill are eligible for mustering-out pay on retroactive basis. Bill also gives flat $26 for 26 weeks to unemployed veterans.

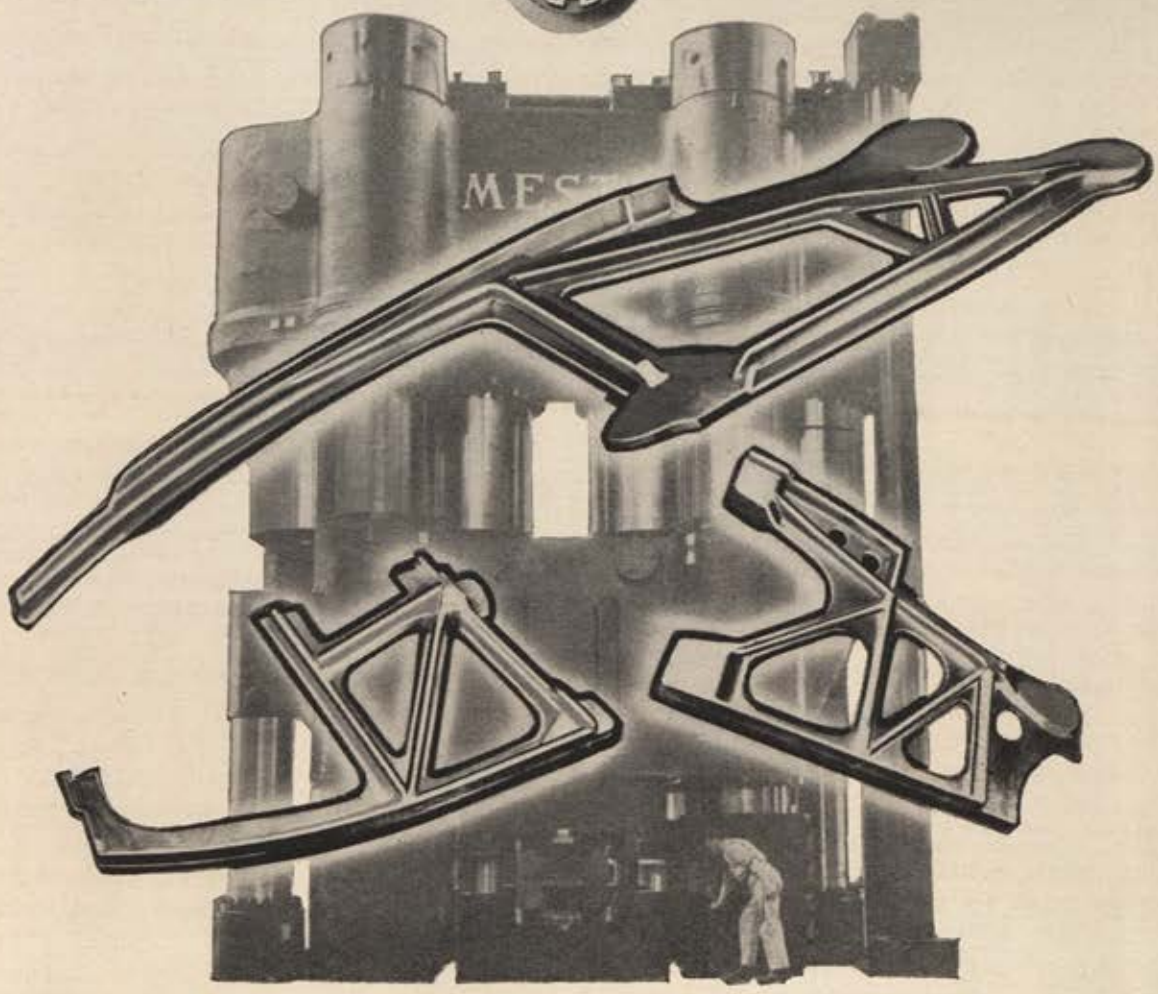
OFFICERS serving on EAD in temporary grades lower than their permanent Reserve grades and who were not promoted by July 1, 1952, may request release from active duty. An officer so released will not be recalled to EAD afterwards without specific authority from USAF Hq. . . . Officer strength of AF Medical Service is approximately 11,000, of whom 1,700 are Regulars and 9,300 Reserve and ANG personnel on EAD. . . . At present, there are 13.29 percent officers in USAF, but when 143-wing AF is reached by end of FY '55, this percentage will rise to 14.38.

REFRESHER COURSE in subsistence is currently available to Reserve Forces officers at Quartermaster Subsistence School, 1819 West Pershing Rd., Chicago, with next class starting on October 11, 1952. . . . Qualified men are being sought to fill about 300 light plane pilot vacancies in Army units of National Guard. . . . AF will commission and train qualified college graduates in field of electronics countermeasures. Applicants must have minimum of one year college physics or mathematics through algebra and trigonometry. They must be physically qualified for flight training. Accepted candidates will get 22 weeks of electronics fundamentals, 15 weeks of technical study of electronics countermeasure equipment, and 10 weeks of flight training in applied tactics of electronics devices.

REGULAR AF enlistment applicants with two dependents may now join up only if qualified for grade E-4 or higher. Men with more than two dependents must still meet E-5 requirements to join AF. These rules do not apply to airmen with dependents who enlist day following discharge or release from active duty. . . . Date of permanent grade of Reserve Forces airmen who enlist in Regular AF is now made to agree with date of grade awarded at time of order to active military service. . . . Two airmen of AF Reserve were among those entering West Point this summer.

15 POINTS awarded Reservists gratuitously each year for membership in ANG and in training elements of AF Reserve will henceforth be granted in full with exception of case in which individual concerned earns 350 or more points per year for days of active service; in such event, gratuitous points given will be no more than the number needed to make total for year amount to 365. . . . Reserve survey recently completed for Texas-New Mexico revealed that 80 percent of 26,000 screened would be immediately available for active duty in case of total war. More than 75 percent of former pilots would be willing to fly again if recalled.

INCOME TAX totaling $65,947,477.20 was withheld from pay of AF service men and women during first six months of 1952. . . . James T. Hill, Jr., formerly AF General Counsel, is new Assistant Secretary of AF in charge of Reserve components.



Greater Size and Speed in Aircraft have created engineering problems, the solution of which has required larger and larger forgings of high-strength aluminum alloy. *Examples* shown above are forged structural members used in a modern military bomber, the largest more than seven feet over all. These are forged on an 18,000-ton press, the biggest ever built in this country.

Wyman-Gordon Experience—the most extensive in the industry—is keeping abreast of new forging demands involving the use of Steel, Aluminum, Magnesium, High Density Alloys and Titanium.

• • •

Standard of the Industry for More than Sixty-five Years

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FORGINGS OF ALUMINUM • MAGNESIUM • STEEL

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HARVEY, ILLINOIS DETROIT, MICHIGAN

Maynard H. Smith, WW II Medal of Honor holder, pins AFA Silver Medal on Georgetown's John J. Riley, Jr., of Lynn, Mass.

On the Univ. of North Carolina campus, Cadet James A. Bell, Jr., Greensboro, N. C., receives medal from Rep. Carl T. Durham.

Cadet John W. Barton, Jr., receives his medal from his PAS&T, Capt. William Beaven, at Clemson A&M.

Awarded for Outstanding Achievement

The top AF-ROTC cadets from coast to coast step forward to accept AFA's Silver Medal

COLLEGES and universities across the country this year awarded the 1952 AFA Silver Medal in military ceremonies to more than 100 outstanding AF-ROTC cadets. Since the award's establishment in 1948, it has gone to more than 500 cadets.

Winners are named by the PAS&Ts of the 188 colleges and universities now affiliated with the AF-ROTC program. To aid selection, AFA provides rating sheets that may be used. These give equal importance to scholastic standings in both general and military subjects, and slightly greater emphasis to such individual qualities as leadership, initiative, military bearing, and neatness.

Meanwhile, the Air Force announced on August 1 that responsibility for the AF-ROTC program had been transferred from Conac to the Air University, Maxwell AFB, Ala. A new national headquarters for AF-ROTC was opened in Montgomery, Ala. The change, involving more than 145,000 students, makes possible more direct supervision of AF-ROTC activities.

At VMI, Lexington, Va., Cadet Charles R. Steward accepts his medal from Aubrey Boxley, member of the VMI Board of Visitors.

In Dallas, Tex., Cadet David J. Powell, Southern Methodist Univ., receives medal from AFA's Rex V. Lentz.

Winner at the University of Idaho, Cadet James B. DeLeve, receives AFA Silver Medal from his PAS&T, at Moscow, Idaho.

UCLA's outstanding cadet, Lincoln A. Perry, gets award from Medal of Honor holder, Capt. Edward Michael.

Maj. Gen. W. R. Wolfinbarger, Jr., pins Silver Medal on Cadet Robert W. Jones in ceremony at Duke University, Durham, N. C.

At Lehigh Univ., Bethlehem, Pa., Cadet David S. Wiltsie is congratulated by Maj. Ralph A. Newman, his PAS&T.

Cadet William C. Giltner, Univ. of N. M., gets medal from Gen. Tom D. Campbell, AFA Reg. VP, and Col. John L. Parker, PAS&T.

Gen. B. W. Chidlaw, CG of ADC, pins medal on Cadet Charles Shissler at Univ. of Denver while AFA Reg. VP Thayer Tutt looks on.

Maj. Gen. George G. Finch congratulates Cadet Edward D. Hoffmann at Newark College of Engineering, N. J.

THIS YEAR'S LEADERS

The 1952 scholastic year set an all-time record in the number of colleges presenting the annual AFA ROTC awards to outstanding cadets. Here are the names of the winning cadets that have been announced to date:

Baylor Univ., Waco, Tex.—
Billy D. Hillis

Bowling Green St. Univ.
Bowling Green, Ohio—
John Ellis

Brigham Young Univ.
Provo, Utah—
R. Dwight Stuckey

University of California
Berkeley, Calif.—
Raymond C. Carrington

Cent. Wash. Coll. of Ed.
Ellensburg, Wash.—
Allan W. Lamb

The Citadel
Charleston, S. C.—
Hampton J. Walker

Clemson Agricultural Coll.
Clemson, S. C.—
John W. Barton, Jr.

Colorado College
Colorado Springs, Colo.—
William M. Pugh

University of Colorado
Boulder, Colo.—
Perry Wils Squyres

University of Connecticut
Storrs, Conn.—
Timothy J. O'Neill

University of Denver
Denver, Colo.—
Charles Shissler

University of Detroit
Detroit, Mich.—
Joseph E. Kutz

DePauw University
Greencastle, Ind.—
Theodore L. Bierman

Drake University
Des Moines, Iowa—
Lloyd O. McDole

Duke Univ., Durham, N. C.—
Robert W. Jones

East Tex. St. Teachers Coll.
Commerce, Tex.—
Robert M. McKenzie

Florida State University
Tallahassee, Fla.—
John H. Poston

Franklin and Marshall Coll.
Lancaster, Pa.—
Jack A. Sippel, Jr.

Georgetown University
Washington, D. C.—
John J. Riley, Jr.

Gettysburg College
Gettysburg, Pa.—
John W. Clark

Harvard University
Cambridge, Mass.—
Jack L. Wagner

University of Idaho
Moscow, Idaho—
James B. DeLeve

Iowa State College of A & M
Ames, Iowa—
Severd V. Johnson

Lehigh University
Bethlehem, Pa.—
David S. Wiltsie

Louisiana Polytechnic Inst.
Ruston, La.—
Fred Hudgens

University of Louisville
Louisville, Ky.—
Kenneth L. Weber

MIT, Cambridge, Mass.—
John M. Dahlen

University of Massachusetts
Amherst, Mass.—
Robert Servais

Michigan State College
East Lansing, Mich.—
James C. Webb

Univ. of Mo., Columbia, Mo.—
Joe D. Crumpacker

Univ. of Neb., Lincoln, Neb.—
John G. Wirsig

Newark Coll. of Engineering
Newark, N. J.—
Edward D. Hoffmann

N. M. College of A & M
State College, N. M.—
Daniel P. Svilar

University of New Mexico
Albuquerque, N. M.—
William C. Giltner

University of North Carolina
Chapel Hill, N. C.—
James A. Bell, Jr.

N. C. State College of A & M
Raleigh, N. C.—
William J. Jowdy

University of Notre Dame
Notre Dame, Ind.—
Patrick J. Riley

Occidental College
Los Angeles, Calif.—
James B. Nickels

University of Oklahoma
Norman, Okla.—
Charles McLane

Ore. St. Coll., Corvallis, Ore.—
Richard C. Johnson

University of Portland
Portland, Ore.—
Robert L. Bridges

Purdue University
Lafayette, Ind.—
Stanley E. Rohrer

University of Rochester
Rochester, N. Y.—
Rupert M. Gollogly

Rutgers University
New Brunswick, N. J.—
Andrew W. Kendall

St. Louis University
St. Louis, Mo.—
Robert J. Nickels

St. Michael's College
Winooski Park, Vt.—
Eugene E. Combs

College of St. Thomas
St. Paul, Minn.—
Charles F. Kaye

San Diego State College
San Diego, Calif.—
Herbert E. Peterson

University of South Carolina
Columbia, S. C.—
Robert L. Blackmon, Jr.

University of So. California
Los Angeles, Calif.—
Gordon H. Walker

Southern Illinois University
Carbondale, Ill.—
Harold G. Murphy

So. Methodist University
Dallas, Tex.—
David J. Powell

University of Tennessee
Knoxville, Tenn.—
Clarence W. Miller

UCLA, Los Angeles, Calif.—
Lincoln A. Perry

Union College
Schenectady, N. Y.—
George I. Bathiewicz

VMI, Lexington, Va.—
Charles R. Steward

Virginia Polytechnic Inst.
Blacksburg, Va.—
Howard B. Sivils, Jr.

Wayne Univ., Detroit, Mich.—
Donald Maxwell

University of Wichita
Wichita, Kan.—
Homer Nester

Willamette University
Salem, Ore.—
Robert T. Platenberg

Williams College
Williamstown, Mass.—
Robert R. Ellis III

Wis. St. Coll., Superior, Wis.—
Wayne H. Smith

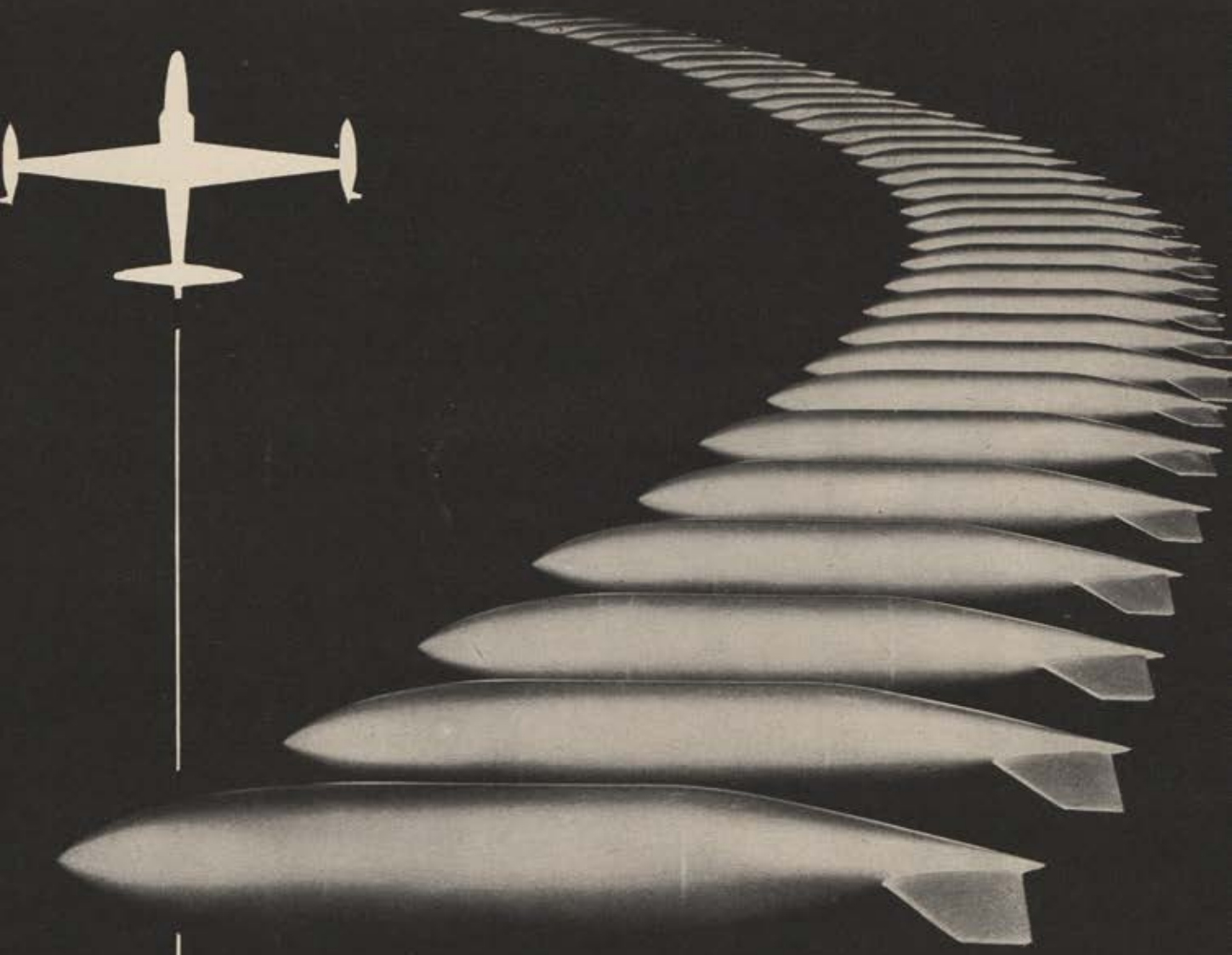
Yale University
New Haven, Conn.—
William C. Canby

John Kocinski, representing AFA, presents medal to Cadet John Ellis at Bowling Green State Univ., Ohio.

Occidental College winner, Cadet James B. Nickels, gets medal from AFA Sqdn. Commander Cecil C. Howard.

Cadet Jack A. Sippel, Jr., from Franklin & Marshall College, gets medal from his PAS&T, James R. Loher, Jr.

FOR TANKS *it's* FLETCHER



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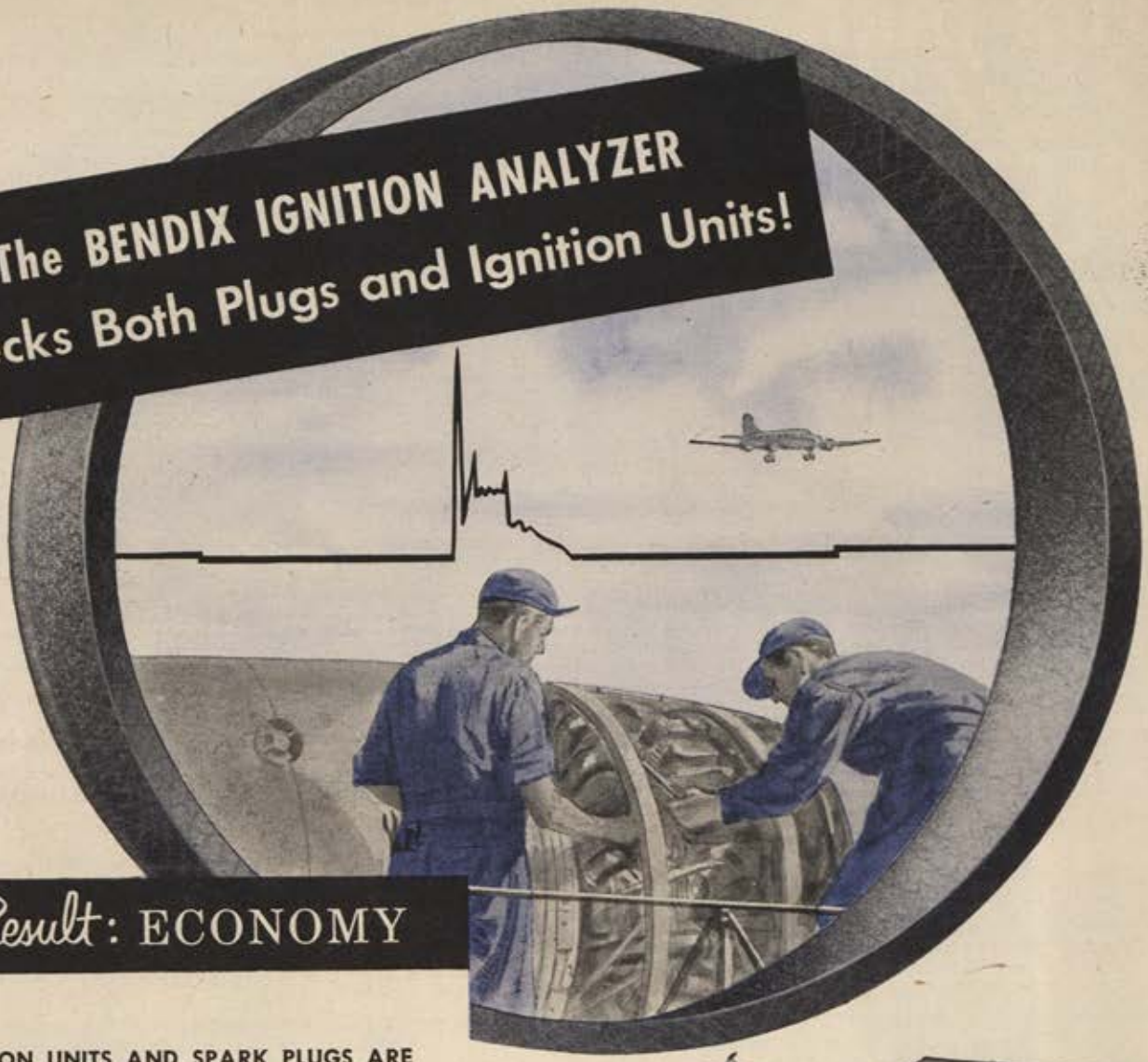
The BENDIX IGNITION ANALYZER Checks Both Plugs and Ignition Units!



Result: ECONOMY

IGNITION UNITS AND SPARK PLUGS ARE NOT DISCARDED BEFORE THEIR TIME!

An airline recently reported that in one month it removed a great number of ignition units off schedule. Later tests showed that *73% of these units were satisfactory and never should have been removed from the engine.* Similar records for spark plugs showed that *94% of the plugs removed were still in good condition.* If your maintenance records show similar inefficiencies, you can correct the situation with a Bendix Ignition Analyzer. It is *the* analyzer that locates present and impending difficulties. Your men will be able to make fast correction by replacing *only* the bad part. Ignition units and plugs will give longer service . . . overhaul facilities can be substantially reduced . . . engine run-up time will be considerably lessened. Doesn't that make the use of a Bendix Ignition Analyzer for daily aircraft operation a must in your equipment planning?

Write us for free literature concerning the Bendix Ignition Analyzer.

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

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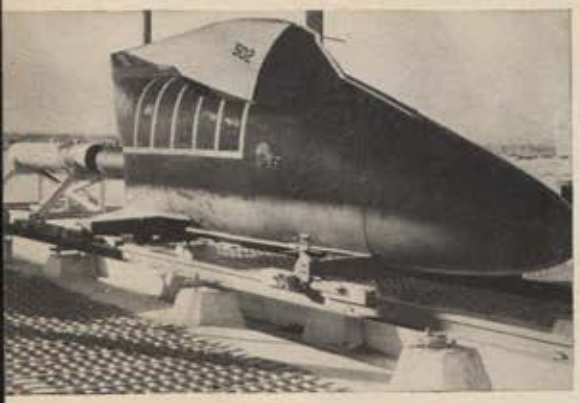
TECHNIQUE



Capsule Cockpit

Jet pilots bailing out at supersonic speeds will have a pretty fair chance of survival if they use the cockpit capsule Douglas has designed for the Navy. A rocket charge blows the whole cockpit clear if the pilot has to abandon his plane. Then three stabilizing fins unfold and a small parachute pops to slow down the capsule. At a safe speed, a main chute blossoms. The sealed, pressurized unit protects pilots above 50,000 feet and in case of water landings. The plane's storage battery acts as a weight to keep the capsule upright in water.

Sky Sentry Shapes Up

Neither Lockheed nor the Navy is saying much about the mission of the WV-2, a Super Constellation crammed full of radar. It's officially described only as a high-flying sentinal for domestic defense. The shark-like fin on top of the flying laboratory and the "balloon" underneath are radomes. The long range sentry plane, now undergoing flight tests, has tiptanks, the first such use on transport aircraft.

REMCO Shop Speeds F-86 Repairs

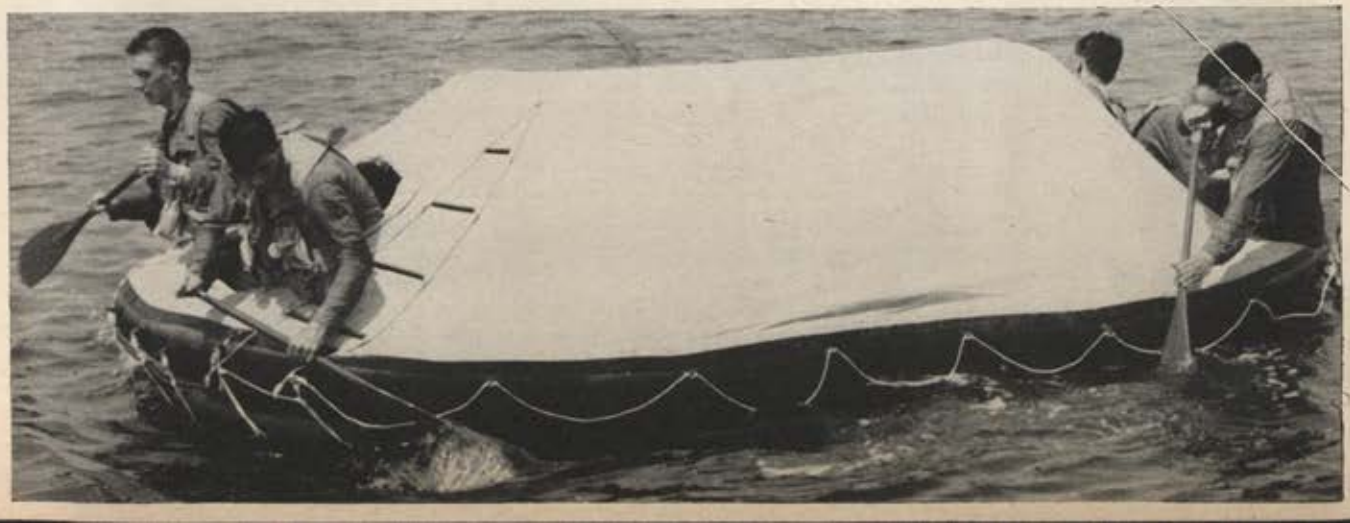
REMCO is saving time, manpower, and dollars ($750,000 in six months) in Korea. Fifth AF's Rear Echelon Maintenance Combined Operation now performs three formerly separate phases of maintenance. Above, technicians inspect and repair Sabrejet J-47 engines in a rear area depot, instead of shipping them stateside. The engines are ready for combat again in days instead of months. The technique also saves transportation charges and increases combat efficiency.

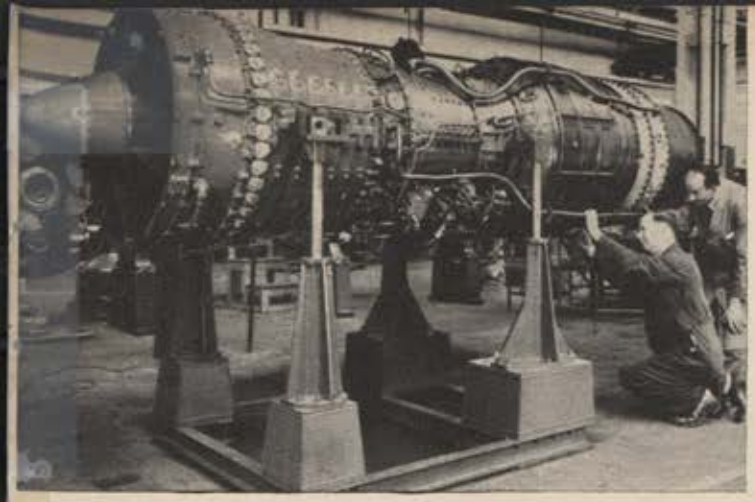
Jeep Helicopter

The smallest, lightest helicopter yet procured by the AF is now undergoing final tests in California. The XH-26 is called an "aerial jeep" by its makers, the American Helicopter Co. The plane is light and compact—less than 300 pounds and only six feet high. It can be collapsed into a five by fourteen foot container, and you can reassemble it and be ready to fly in less than 20 minutes, according to the company. Two sixteen-pound pulsejet engines, one on each end of the standard sized rotor blade, make up the power plant. Each engine has only one moving part. The engines are self-cooling, require no lubrication, and will burn any type of fuel. The XH-26 is equipped with radio. Loaded, the 'copter is said to be able to lift more than its own weight and carry it at 80 mph for 1½ hours. When crated, the new helicopter can be carried aboard cargo planes and dropped by parachute for on-the-spot assembly.

New Lifeboat Provides Comforts of Home

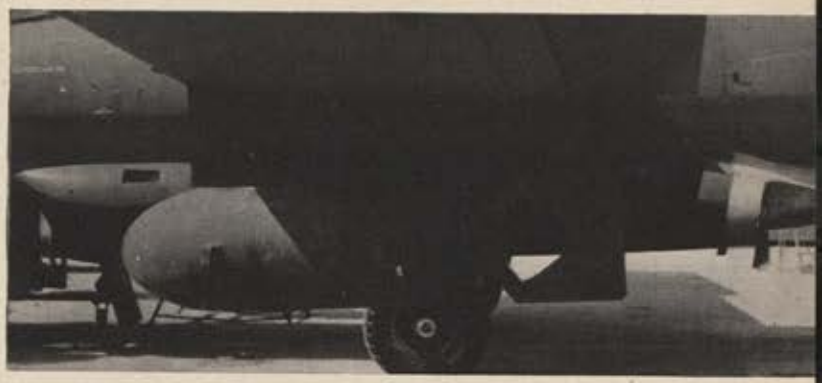
The Navy has a new rubber lifeboat that inflates in 30 seconds and provides 70 degree protection for 15 survivors in either sub-zero or tropical weather. An insulating layer of dead air in the inflated canopy, sides, and bottom retains the body heat of the passengers. The inner floor can also be towed as an extra life raft. Deflated, the 230-pound, B. F. Goodrich lifeboat is about the size of a small steamer trunk. Other models are under study for use aboard aircraft.





British Show Off the Olympus

Just off the secret list is a new British jet engine, the Olympus, whose 9,750 lb. thrust, its manufacturer claims, makes it one of the world's most powerful. Two axial compressors in series give it a high compression ratio. Wright Aeronautical Corp. has the US license for the Bristol unit.



Trim Bomb Speeds Combat Planes

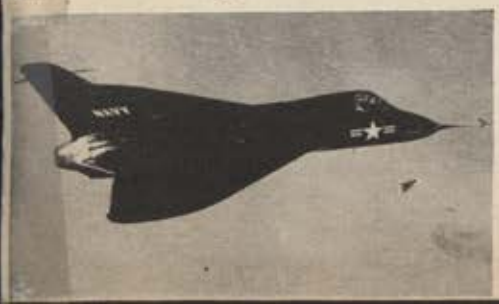
The new look in externally carried bombs may permit modern combat planes to fly faster, Douglas Aircraft and the Navy's Bureau of Aeronautics feel. The new bomb is shaped like a supersonic missile. Its carefully contoured lines provide the lowest possible drag. The new design contrasts sharply with the World War II type bomb (lower picture, above), a shape which originated twenty-five years ago. Douglas engineers say a plane carrying three 2,000-pound bombs of the new Aero X-IA design has flown fifty mph faster than the same plane with an equal number of the old type bombs. A twin-jet F3D Skyknight was used in the tests.

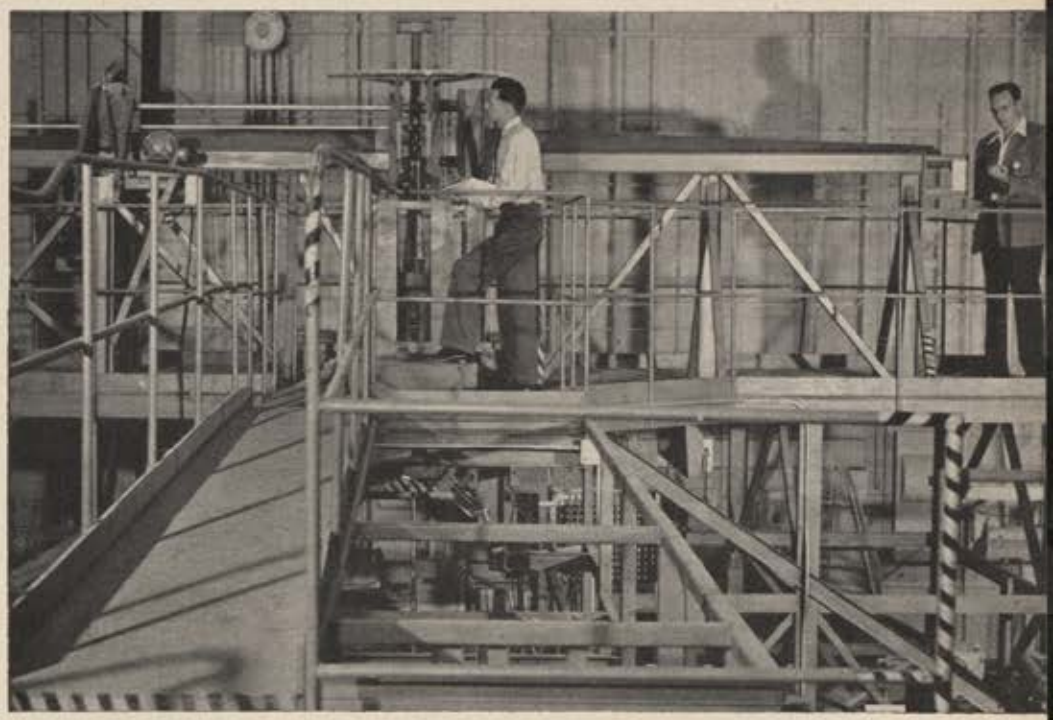
Undergoing Army Tests

The first light, twin-engine transport to get CAA postwar certification is the Aero Commander, built by the young (two years old) Aero Design and Engineering Co. of Bethany, Okla. Three of the Commanders have been bought by the US Army for tests to determine the plane's suitability for Army air operations. The Army is looking the plane over with an eye on its utility capabilities—for liaison work, carrying litters or light cargo, and as a staff transport. The high-wing, all-metal monoplane is powered with twin Lycoming engines. It cruises at nearly 200 mph at 8,000 feet. Its 1,800 feet-per-minute rate of climb enables it to land and take-off with its full gross load of 5,400 pounds from fields less than 1,000 feet long. The cabin has room for five or six persons or their equivalent in cargo.

New Delta Interceptor

The first air photo of the Navy's F4D Skyray, designed and built by Douglas for use aboard carriers, shows the thin planform, or delta, type wing. The Skyray, now undergoing flight tests, is scheduled for production. No performance figures have been announced, but the F4D is believed to have a high rate of climb.





Windless Wind Tunnel Checks Scorpions

This "windless wind tunnel" uses electronics instead of rushing air to simulate flight tests of the Northrop F-89. It's done by hooking up a mock-up of the full-power control systems used in the F-89 to an electronic analog computer. Above, Northrop engineers take readings. They introduce varying external conditions like airflow, temperature, and altitude by changing settings on the computer. Though the device can't obtain final response data, it holds actual flight tests to a minimum, cuts costs, saves time and manpower.

What JACK & HEINTZ *is doing about...*

HEAT RESISTANCE

Extreme jet engine heats give a "hot foot" to electrical components. Ordinarily, insulation must be heavy—bulky. To meet the ever-increasing need for compactness, J&H developed a new paper-thin plastic insulation. Coated with this heat-resistant skin, compact electrical components can withstand temperatures as high as 500° F.

This is just another example of how Jack & Heintz solves unusual and difficult problems . . . even when that means originating new materials. If you need this kind of unique engineering skill in solving your electrical, hydraulic or mechanical problems—Jack & Heintz is the place to come. For technical information and examples of J&H solutions to heat-resistance problems, write Jack & Heintz, Inc., Dept. 950, Cleveland 1, Ohio.

JACK & HEINTZ *Rotomotive* **EQUIPMENT**

means electrical, hydraulic or mechanical devices designed to solve unusual problems of developing, controlling or using power.

Generating Equipment — a-c and d-c—including Control Systems and Components • Electric Starters • Actuators and Special Aircraft Motors • Custom-built Commercial Motors • J&H Eisemann Magnetos

MORE THAN JUST A COP

The Air Policeman is a vital link in the Air Force's security chain, as important to the safety of the nation as the airplanes he guards

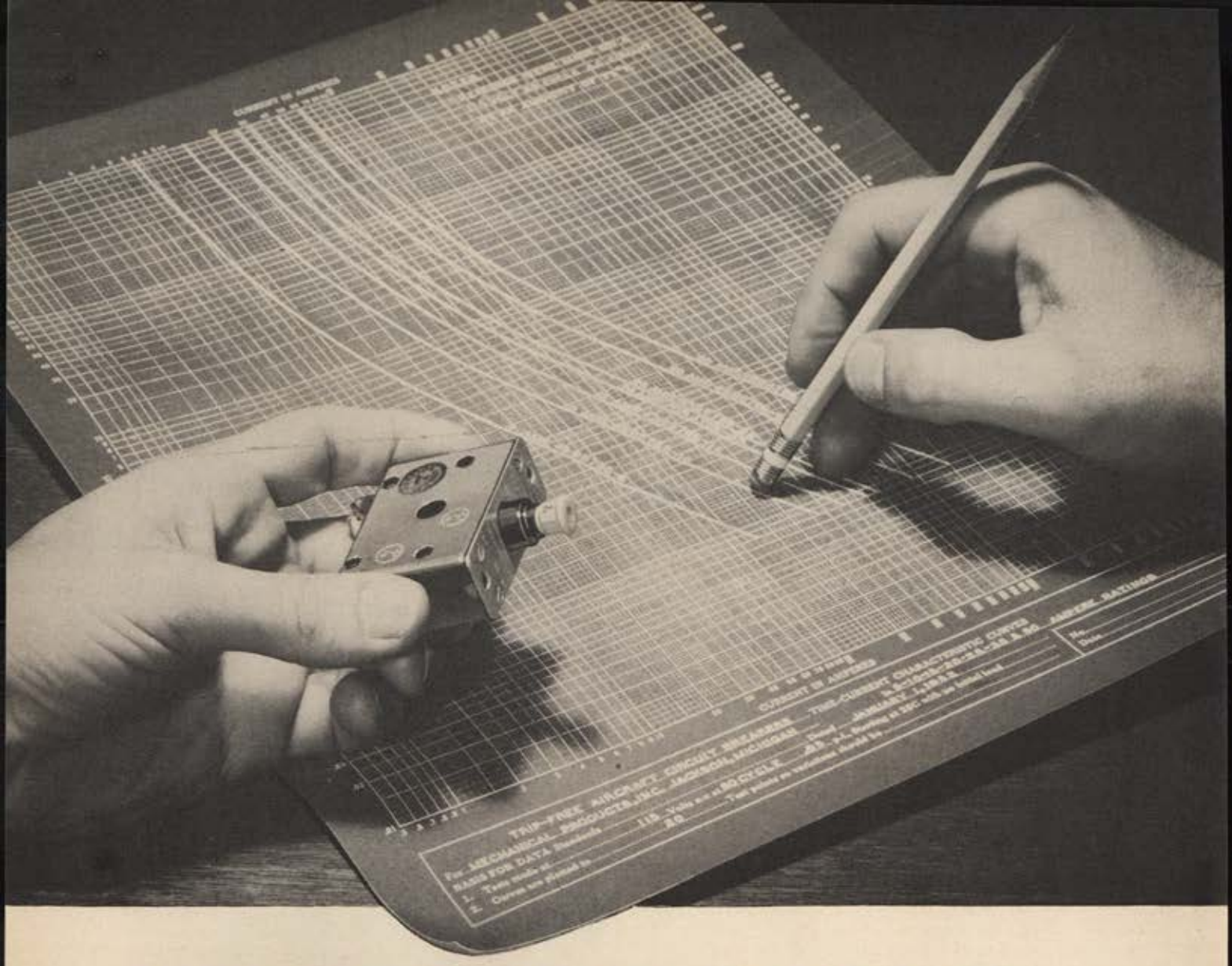
LET'S face it. The Air Policeman is not a much-loved man. But by the same token he is perhaps the most misunderstood and underrated individual in this man's Air Force.

The military version of the cop on the corner has been the butt of unprintable humor ever since the first soldier reported in late because his hour glass didn't go off. As a result the very serious mission which has been entrusted to the Air Policeman is too often lost in the dull routine of checking passes and sniping at unbuttoned buttons.

Actually, it's quite simple. The Air Policeman is to the Air Force what the civilian cop is to your home town —the guardian of its property and of its people and the general overseer of law and order. He's a nuisance when he waves a speeding ticket under your nose but he's as welcome as a three-day pass when the chips are down.

The Air Force gets its cops from the Air Police School at Camp Gordon, Ga. The 3335th Training Squadron of the 3250th Technical Training Group, under Lt. Col. Bob Endicott, is the parent organization. With more than 2,000 people it calls itself the largest squadron in the Air Force.

Korean oxcarts don't break any speed limits but they're still a problem.



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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!

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AIR POLICE——CONTINUED

Air Police candidates are chosen, after careful screening, from recruits at the USAF's induction centers and shipped to Gordon at the rate of 260 every two weeks. In the little more than a year that the school has been in existence it has graduated more than 7,500 men.

At Gordon the future policemen get a rigid eight-weeks' course from picked Air Force instructors, all under the friendly supervision of the Army's Military Police Corps, which also calls Gordon home.

The Army tie-up is quite apropos, for the Air Policeman is half infantryman. As well he should be, for one of his primary missions is to defend and maintain the security of his base against hostile attack. And in the kind of infighting which has characterized the Korean War, this becomes more than an academic role. He learns to handle all the infantry small arms, from the hand grenade to the bazooka, and spends two weeks out of the eight in bivouac, under simulated combat conditions. The training is rigorous. The future policemen are up at 5 a.m. and on the go until late at night.

As a result today's Air Policeman is an aggressive, fit, well-dressed, well-trained representative of the USAF. A vital link in the chain of security that binds every air base, he is as important to the safety of the nation as the men and planes he guards. —END

CREDITS

Page 18, photo of Mrs. Blocki by United Press; pages 44 and 45, air base map by Bob Burleigh; pages 63-67, command chart by Watson Holley.

As Governor Long proclaims AFA Week in Hawaii, he is flanked by Albert M. Head (left), Wing Secretary, and Joseph M. Murphy, Squadron Vice Commander.

AFA WEEK PROCLAIMED IN HAWAII

Governor Oren Long praises Air Force Association's activity and role in community service in the Islands

". . . Now, therefore, I, Oren E. Long, Governor of the Territory of Hawaii, do hereby proclaim this week Air Force Association Week, and I call upon you, the people of the Territory of Hawaii, to be especially mindful of the honor and high position which this Air Force Association holds in our community."

This is part of the tribute Governor Long recently paid the AFA Squadrons in the Hawaiian Islands. The interest and activity of these Squadrons have for years served as an inspiration to many units on the mainland.

The first Hawaiian squadron was the Oahu Squadron, chartered Jan. 19, 1948. This was followed by units on Maui and the Hawaiian Wing, now the Pacific Ocean Area Wing, encompassing all islands in the Pacific.

AFA'ers in "the islands" may contact the present Wing Commander, Arthur L. Gordon, 343 Hobron Land, Apt. 1, Honolulu, T. H.

MOUNTAIN AIRPOWER

On July 4, the 176th anniversary of Independence Day, 25,000 persons made their way to a mountain top in southern West Virginia to see scheduled air transportation brought to the area. The occasion was the dedication of the Raleigh County Memorial Airport, built in tribute to the native sons and daughters who gave their lives in the Armed Forces during World War II. Raleigh County Post No. 32 of the American Legion and the Beckley Squadron of AFA co-sponsored the dedication, which climaxed more than ten years of effort to keep the smokeless coal region abreast of modern transportation progress.

Ground and aerial demonstrations of the latest type fighters, bombers, and transports; soil from seventeen World War II battlefields; speeches by civic, government, and military leaders; and even a little rain were all carefully blended to make this dedication ceremony and Independence Day observance in the town of Beckley one of the most dramatic and inspiring in the nation.

Donald R. Wilson, National Commander of the American Legion, told the audience that the new airport "is a symbol of the might of America, of those who died for America, and of the future that you and I can gain for America."

Brig. Gen. Alonzo M. Drake, Chief of Staff of Tactical Air Command, speaking at a banquet in the evening, told the Beckley AFA Squadron and their guests that the new airport was a part of America's airpower. He went on to say that a further build-up of our airpower must be accomplished if we are to meet the ever-increasing threat of Russia's aerial might.

The airport was dedicated by a ceremony, believed to be the first of its kind ever held. W. R. Fugitt, chairman of the joint dedication committee, scattered soil over the airport from seventeen countries in which Raleigh County military men and women fought and died in World War II. This solemn gesture signified the blending of the native soil of the men being honored with that of the battlefields on which they fell.

This soil was flown to Beckley, a combined total of 98,116 air miles, in one-

During the West Virginia airport dedication, W. R. Fugitt places soil from 17 foreign battlefields in a special flower box in which Mrs. H. W. Smith planted a white rose.

Some 25,000 people watched jet fighters and bombers whip low over the field during the airpower demonstration at the dedication of the Raleigh County Memorial Airport.

Your Air Force is Going Places

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The decision is entirely one you must face, young man—to decide whether or not you should leave the Air Force and take up new, untried civilian pursuits, or capitalize on the training and experience you *now* possess toward a successful Air Force career.

There is only one direction in the Air Force, and that direction is UP! Airmen in a rapidly expanding Air Force have unlimited opportunity to advance to a top Non-Commissioned rank, apply for Officer Candidate School, or become an Aviation Cadet to train as a Pilot or Aircraft Observer.

The importance and prestige of being an Air Force Airman or Officer are yours . . . keep them!

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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.

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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.

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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.

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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,

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CULVER CITY, LOS ANGELES COUNTY, CALIFORNIA

Pan American Airways stewardess Gerri Doherty and Capt. Gene Trombley, USAF, take soil from Hickam AFB for dedication of the Beckley airport.

gallon containers by Pan American World Airways, Northwest Airlines, Trans World Airlines, and Eastern Airlines. Jim Tolley's Pence Springs Air Service and the Beckley Flying School flew the soil the last fifty miles, as scheduled air service for the area did not actually begin operating until July 15.

Then, the remaining soil of each container was placed in a memorial flower box, in which Mrs. H. W. Smith, twice a Gold Star Mother in World War II, planted a white rose as a living tribute to those for whom the airport was dedicated.

The estimated 25,000 who journeyed to the airport, and about an equal number who watched from surrounding hilltops, watched a seventy-minute aerial tribute by all types of modern aircraft. The F-80 Shooting Stars and the B-45 Tornado jet bombers stole the show with their black trails of smoke and 550 mph passes over the field. The C-119 Flying Boxcar was the center of attraction among the eight planes on ground display. A T-33 jet trainer flew from Langley AFB to Beckley, 268 miles, in thirty minutes, demonstrating how little time Raleigh County had to take shelter once an enemy was sighted over the Atlantic Coast.

Among the many distinguished guests on the speakers' platform were West Virginia Governor Okey Patteson, Beckley Mayor George Chambers, and AFA Regional Vice President George Hardy.

Tom Davis, president of Piedmont Airlines, the first scheduled air service for the new airport, spoke at both the dedication and the AFA banquet that evening. One of his twelve DC-3 Pacemakers made a "celebrity flight" during the dedication.

By the end of the day it was obvious that co-chairmen Marshal Johnson of the American Legion and Estil "Bud" Thorne of the Beckley AFA Squadron had headed a successful and dramatic tribute to their fallen comrades, and to the introduction of a new era of transportation into Beckley and Raleigh County. And Robert Davis, who engineered the airport's three years of construction, saw his fifteen year old dream come true.

Squadron Picnic in N.Y.

On Sunday, July 20, members of the Rochester, N. Y., Squadron had as their rendezvous point the Mendon Ponds Park. The occasion was the unit's third annual family picnic. Light rains failed to interfere with the afternoon of swimming and games. John F. Devney, 90 Kimbark Rd., Rochester 10, N. Y., was the program chairman.

Convention in Oklahoma

The Oklahoma Wing recently held its second convention, in Chickasha, electing George P. Miller, 1001 Dakota St., Chickasha, Commander. The principal speaker was Col. Lee R. Young, of SAC.

As a result of discussions about the formation of new squadrons, organizational meetings have already been held in Enid and Stillwater. Organizational chairmen in these two areas are Charles Cain, 506 So. Main St., Stillwater, and William A. Holliday, P. O. Box 161, Enid. All present or potential AFA members in these areas are invited to contact one of these men to learn more about squadron activities.

Among the Auxiliaries

The response to the recent memos from AFA President Harold Stuart, dealing with the formation of Ladies Auxiliaries, has proved gratifying, with AFA Squadrons in many different sections of the country applying for charters for affiliated units.

Where these units are, and the names and addresses of the presidents, may be found in the roster, pages 121 and 122 of this issue of AIR FORCE.

Cadets Honored at Fresno

Recently, the Fresno, Calif., Squadron held a stag dinner at which graduating ROTC Cadets from Fresno State Teachers College were honored. Program Chairman was S. S. Boghosian, past commander of the squadron. Principal speaker of the evening was M/Sgt. Paul Kackley, USAF, who addressed the members and guests on the problems of obtaining and disseminating to the public news of the Air Force in Korea.

Gill Robb Wilson, Manhattan Sqdn. Cmdr., presents 1952 award to C. S. Jones, first N. Y. Wing Cmdr. At left is Maj. Gen. Leon Johnson.

SQUADRON OF THE MONTH

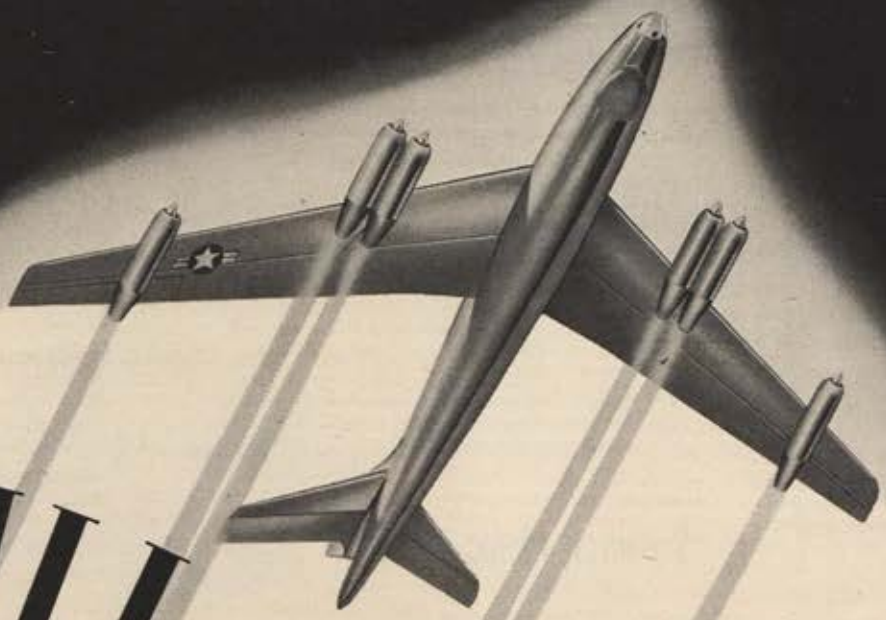
Oahu Squadron
Oahu, Territory of Hawaii

CITED FOR

the many community service accomplishments of the unit which resulted in Gov. Oren E. Long's proclamation of "Air Force Association Week." In recognition of these efforts and the unit's active participation in association affairs, AFA proudly salutes its Oahu Squadron.

Members of the San Diego Squadron recently flew to Santa Monica for a joint meeting with that squadron and a dinner honoring Col. Francis S. Gabreski.

Confidence in GRAND CENTRAL



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Who's Who and Where in AFA

Here are the names and addresses of the leaders of AFA Wings, Squadrons, and Auxiliaries. Not every unit is accounted for, since a few failed to return the necessary information to AFA Headquarters. If your unit is missing, send the names, addresses, and telephone numbers of the officers and councilmen to Headquarters without delay. For information about joining or starting a new squadron, write AFA, 1424 K St., NW, Washington 5, D. C.

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THIS IS AFA

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Active Members are men and women honorably discharged from military service who have been assigned or attached to the US Air Force or its predecessor services, or who are currently enrolled in the Air Force Reserve or Air National Guard. **Service Members** (non-voting, non-office holding) are men and women currently assigned or attached to the US Air Force. **Associates** (non-voting, non-office holding) are men and women not eligible for Active or Service Membership who have demonstrated an interest in furthering AFA's aims and purposes, or in proper development and maintenance of US airpower.

ITS OBJECTIVES

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

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

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

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How to Get an Education in the Air Force

Going into the service need not interrupt your education. If you have the initiative and the ability to learn, the Air Force will do what it can to help

YOU NEEDN'T put away your school books just because you're serving a hitch for Uncle Sam. The Armed Forces have made it possible for you to continue your education while on active duty. Courses are available at all levels, and right now more than a million men and women are taking advantage of them.

Biggest factor in the program to make our servicemen the best educated in the world is the US Armed Forces Institute, Madison, Wis. It began as a correspondence school for the Army's enlisted men, and courses were limited to the individual's career field. Soon all services were making USAFI available to their members. Other types of work available, besides USAFI, now include courses in a college near the man's base, and self-teaching courses, either in a group or individually. In many cases, where the enrollments have been large enough to justify it, colleges and universities have sent instructors to nearby bases to teach base-residence courses.

The Air Force separates its educational programs into two divisions: Operation Midnight Oil and Operation Bootstrap.

Midnight Oil will give you scholastic training if the subjects or courses taken coincide with your career field or specific job in the Air Force. Bootstrap, on the other hand, allows you to study what you wish if approved by the school of your choice. In either case several programs are available.

USAFI correspondence courses and self-teaching courses are convenient because the rate of study is usually up to you. When your application is accepted, necessary instructional materials are forwarded and you submit completed lessons to USAFI for grading. Errors are indicated and comments and suggestions are included. In the self-teaching course the lessons are not graded. The materials are forwarded but you get no instructional help. When you have completed either kind of course an end-of-course test is given. Under the self-teaching course it also is possible to attend a group study class which may be organized if ten or more interested students and a qualified teacher are available. The Armed Forces provide all materials and there is no fee.

By A/3C R. F. Brodman

Correspondence courses are numbered for identification. High school courses are numbered from 50 to 199; technical and vocational courses from 200 to 499; college courses, from 500 to 999. Prerequisite courses are suggested for certain subjects. For instance, plane geometry should precede solid geometry. Each course list spells out the usual prerequisites. You must submit a two-dollar fee with your first application for any USAFI

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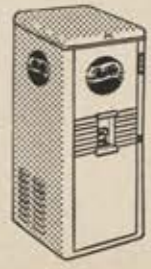

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course, unless you are already enrolled for a course with a cooperating college or university. If your activity in USAFI is continuous you may take additional courses and services without additional charges.

This mail-order approach to education occasionally results in an amusing error, like this letter from an irritated serviceman: "Four months ago I sent a money order to you folks for one of your courses. I would like to know if you intend to send me the course. I am beginning to think you are trying to defraud the soldiers of their money. If I don't get this course within three weeks I am going to take it up with the US Treasury for obtaining money under false pretenses." USAFI sent the course immediately.

Disenrollment from USAFI courses occurs after a definite period of inactivity. But extenuating circumstances may be taken into consideration, as in the case of the student who wrote to USAFI: "I am very sorry for the delay on this lesson but my wife just presented me with a daughter, and I was unable to keep up with my work for a while. This will not happen in the future if I can help it."

You may request transfer to other courses with no additional fee. To complete a course, you must make a passing grade on the end-of-course test. If no test exists, an average lesson grade of seventy or above for all lessons is the criterion for completion. A USAFI certificate is issued to successful students.

Courses from cooperating colleges and universities are available in both technical and academic fields. Education officers have pamphlets describing these courses. You should write to the school of your choice for specific information. After being accepted by USAFI and the college concerned, you deal directly with the school. When you enroll through USAFI for a course at a cooperating institution, you pay a fee covering the costs of enrollment and of books and materials. The government pays for correction and return of lessons.

The return of lessons proved embarrassing to one student who wrote: "I have just received results of my course lessons from my wife! I can't understand why you took it on yourself to notify my wife of the unsatisfactory report of my course. It is bad enough to flunk without your sending unfavorable reports to my home. I sincerely hope that you realize the situation and use better judgment in the future."

The total cost of each enrollment

A general educational development test may show that an airman is qualified for a program requiring a high school diploma even though he was never graduated.

Subjects like commercial art may be studied as a supplement to an airman's normal duties. Books and materials often are furnished for such courses.

A primary job for the Information and Education officer is to explain to airmen the many educational opportunities that are available to them in the Air Force.

EDUCATION — CONTINUED

fee is paid by a contract between the college and the government. In case of transfer you can continue your studies by following simple rules covering this situation. Forty-nine colleges cooperate in this program.

Overseas personnel have put these programs to good use. In Korea, combat wings enrolled a higher percentage of men than did service units. USAFI courses are available even to some men who have been discharged, if under conditions other than dishonorable.

USAFI offers a comprehensive testing service which is available at no cost and without previous enrollment. These General Educational Development Tests are designed to see how all of your educational experiences, including your informal or self-educational experiences, stack up. Even if you never graduated from high school, you may take these tests and qualify yourself for military programs requiring a high school diploma or its equivalent. These tests are provided for on both high school and college levels, but granting of academic credit is the prerogative of the educational institution.

Under Operation Bootstrap, you may take residence extension courses at a near-by college—if they don't interfere with your job and if your CO approves. The Air Force will pay your tuition. However, you pay the cost of other fees, books, and materials. There is no limit to the number of hours that you may take at one time, but it is up to your CO and the I&E office at your base. This office will help you choose subjects that will benefit you, but there is a limit. An educational advisor once asked a serviceman what sort of classes he desired. This was the answer: "I don't care, just so there are lots of girls."

One of the best features of Operation Bootstrap is available to all students who have six months or less to go for a college degree, either bachelor's or master's. The Air Force will assist qualified individuals to complete their college education by placing a limited number on "final semester" temporary duty at the college of their choice. The man receives his base pay and allowances during this time. However, the TDY must involve no cost to the government and the individual pays full tuition, fees, and cost of books and supplies.

So going into the service need not keep you from going ahead with your education. If you have the initiative to learn, the Air Force will do everything in its power to help.—END

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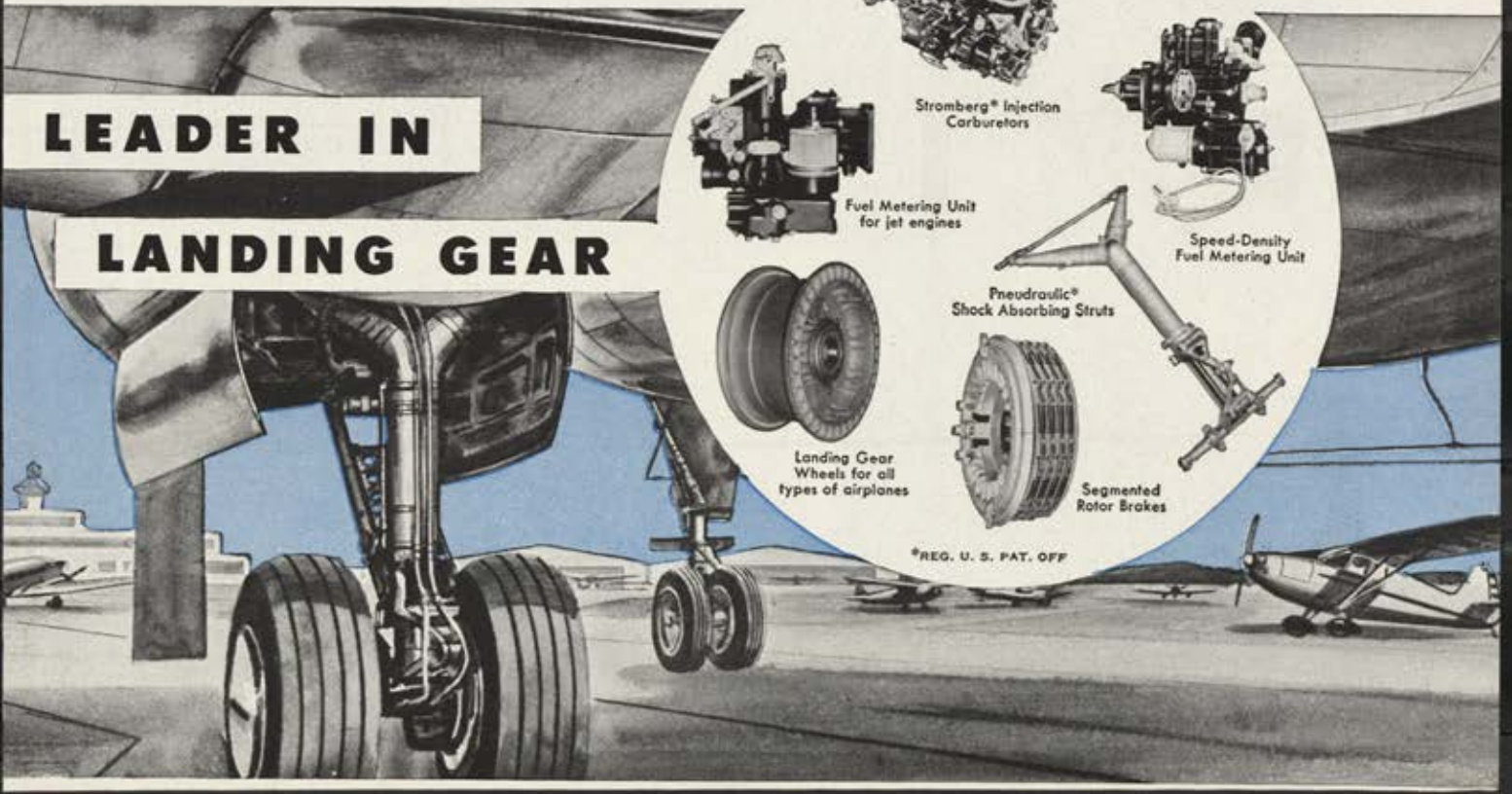

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