AIRPOWER'S TOP TECHNICAL DEVELOPMENTS

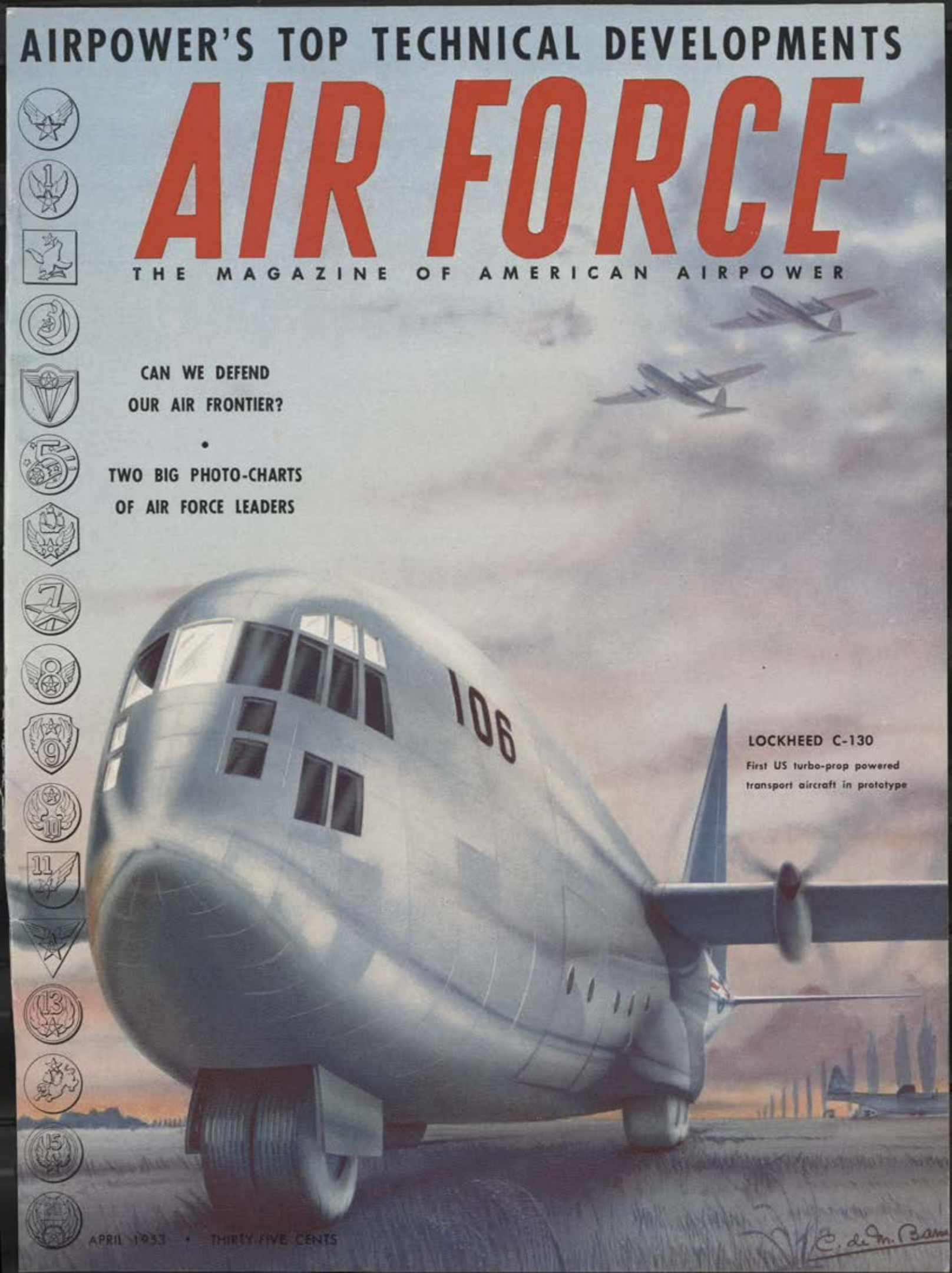
AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

CAN WE DEFEND
OUR AIR FRONTIER?

•

TWO BIG PHOTO-CHARTS
OF AIR FORCE LEADERS



LOCKHEED C-130

First US turbo-prop powered transport aircraft in prototype

APRIL 1953 • THIRTY-FIVE CENTS

HAMILTON STANDARD . . . leader for years in propeller design and production, is supplying other equipment for such outstanding new aircraft as the United States Navy's McDonnell F3H jet fighter.

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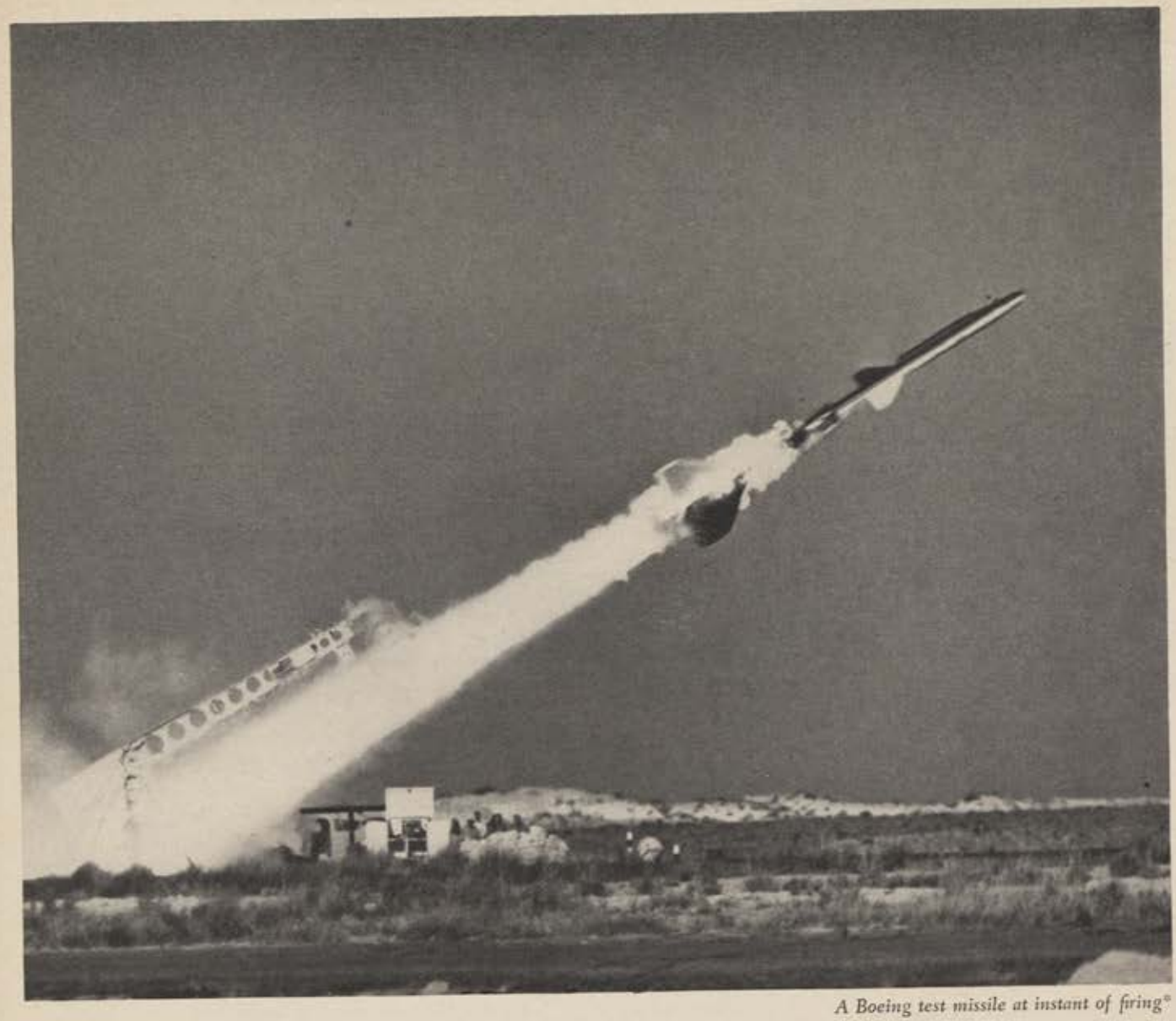

*A Boeing test missile at instant of firing**

This rocket missile writes a story of the future

With a shattering roar, a test project guided missile takes off for the black silence of space. Its intricate electronic equipment broadcasts data of vital importance back to earth.

Boeing engineers were among the earliest to be assigned a guided missile project at the end of World War II. Their work, which demands a great variety of specialized engineering backgrounds, now goes far beyond research and design on missiles themselves. It includes the development of complete systems for air defense.

Communications, logistics, maintenance, co-ordination, bases – these are just a few of the many sub-areas of Boeing's over-all activities in this field. In addition, Boeing monitors the activities of numerous sub-contractors whose work is part of this larger, more comprehensive developmental program.

Sound research, design and engineering have distinguished a long line of Boeing aircraft. Today the same sincerity and imagination are dedicated to a broad developmental program on air defense systems. At the same time the company is building the swift B-47 six-jet medium bomber and the great new B-52 eight-jet heavy bomber. On their own – or considered with air defense systems – such strategic bombers are strong deterrents against attack.

Whatever Boeing develops and builds, you can depend on its integrity.

*Firing of one of more than one hundred GAPA missiles built by Boeing is shown. These missiles reached speeds of more than 1500 miles per hour. The GAPA project, concluded in 1949, provided valuable knowledge now being utilized by Boeing in a new advanced air defense program.

BOEING

ENGINEERS
AND
SCIENTISTS

You are invited to write regarding long-range projects at Northrop Aircraft, Inc. Exceptional opportunities now exist to join the company's engineering and scientific staff. If qualified, you may select important developmental work, or equally vital production engineering.

Examples of positions open:

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SERVO-MECHANISTS
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STRUCTURAL DESIGNERS
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ENGINEERING DRAWING CHECKERS

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

Address correspondence to

Director of Engineering,
Northrop Aircraft, Inc.
1045 E. Broadway, Hawthorne, Calif.

AIR MAIL

Correction by Wire

Have discovered that percentile score of 66.7 quoted in my article "No School —No Promotion," [March issue] should be 73.3. If too late to correct hope that your readers are as poor at arithmetic as I.

Lt. Col. Wendell A. Hammer
Maxwell AFB, Ala.

AF Reg. 45-5

Gentlemen: The article on Air Force Regulation 45-5 in the February issue is a fine presentation and will be of considerable assistance to Reservists in their interpretation of the regulation, if and when they should have access to a copy.

I hesitate to mention it but there is one minor point in the article which might cause slight confusion on the part of the Reservists. The item, on page 32, is the caption "Inactive Reserve." Although the material which follows that caption clearly states that the term "Inactive" applies only to a status list within the Standby Reserve, it strikes me that possibly the use of the term "Inactive Reserve" will leave some with the impression that the old "Inactive Reserve" has been retained. This is, as I say, a very minor point but the attempt should be to get everyone "weaned" from the old nomenclature.

Lt. Col. James M. Trail, ANGUS
Washington, D. C.

Our Own Back Yard

Gentlemen: I am an Air Force man from way back, believe in the Air Force, and understand the Air Force. Also, I am a booster of Air Force Association and read each copy of our magazine with great respect and interest.

However, I am wondering (to put it mildly) why the Association assumes an entirely one-sided point of view. We back expansion, plug for advancement, and fight to see that the Air Force is given its proper place in the events of the military. All of this is necessary. Yet, there are other things just as necessary, perhaps even more so at this time.

In recent issues there appeared a rather critical summary of the doubtful value of the flat-top in the Mainbrace maneuvers. This criticism was well taken and there should be more of it. But, where is the criticism of our own Air Force? We need it badly and it seems to me that the Association is the perfect instrument.

For the past two years I have been associated once more with the Air Force and know of which I speak, and know full well that you do also.

Again, I ask you to consider this point and to keep in mind that I am sincerely concerned with our waste, improper perspective, poor recruiting techniques, and our carefully camouflaged and never admitted lack of true unification.

I hope that we shall be seeing some real concern with the need for a true self-analysis.

John R. Burnett
Hondo, Tex.

MIA Figures

Gentlemen: In the January 1953 AIR FORCE the article "Where Do Leaders Come From?" mentions some figures concerning casualties for the US Air Force during world War II. Do these figures represent reported casualties, or are the "missing in action" still unrecovered or undetermined as of the date of the article?

Capt. Alvin Israel
Ithaca, N. Y.

Gentlemen: In his article "Where Do Leaders Come From?" Col. Dale O. Smith stated that the Air Force lost 15,100 officers, which was almost twice as many as any other army component during World War II. In addition, he said that casualties for the enlisted men were 69 per thousand in comparison to only 27.7 per thousand for the infantry.

I would like to know where he ac-

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quired these figures and what he based his graphs on. I am presently enrolled in the AF-ROTC program and am very interested in the Air Force.

Cadet Steve Du Four
San Jose, Calif.

• *The data on killed and missing in action were taken from Gen. Vandenberg's testimony before the House Appropriations Committee of the 83d Congress. The missing in action figure is the unrecovered figure as of the time the statement was made.*—The Editors.

Worn Pins

Gentlemen: May I take this opportunity to suggest that the AFA issue new lapel pins to members who have more than five years in the organization? Mine is so worn I can't wear it and this is true of several other AFA members in our area.

Furthermore, as an industrial psychologist, I would like to see AIR FORCE print some articles on "Human Relations" training in the Air Force. I believe the members will be interested.

David A. Brown
Bayside, N. Y.

Cold Fact

Gentlemen: In the February issue of AIR FORCE, in the "Airpower in the News" section, it is stated that "MATS aircraft spanned all but one of the world's continents (Australia.)" I have always been under the impression that the Antarctic is a continent. Am I wrong in this assumption? If not, my knowledge of polar flights isn't up to par since I know of no aircraft that has actually spanned the Antarctic.

Maj. Murray A. Wiener
Eglin AFB, Fla.

• *Oops! You're right, we're wrong. We figured Antarctica is strictly for the Byrds.*—The Editors.

Red Cross Ready

Gentlemen: The editorial and article in your February issue on the use of prisoners of war to promote Communist propaganda are most timely and informative.

As you probably know, despite refusal of the Communists to recognize the International Committee of the Red Cross, the American Red Cross has continuously maintained adequate stocks of prisoner of war medical and food packages in the Far Eastern Theater. So far, we have not been permitted to distribute them. Obviously, Communist appeals to relatives of prisoners to supply food packages are based on ulterior motives since the packages of the Red Cross could be made available in a matter of hours.

Teams of American Red Cross workers have been specially trained and are ready to assist in repatriation of United Nations prisoners at the first opportunity. You may be sure everything possible will be done for our men when we can get to them.

E. Roland Harriman, Pres.
The American National Red Cross
Washington, D. C.

The Northrop Constant

Northrop administrators think in years-ahead terms. They keep the company's busy creative and productive organization in efficient motion.

Alert administration, teamed with scientific and productive capacity, is Northrop Aircraft's invaluable constant—an unvarying factor in low-cost output of aircraft, target aircraft, missiles, optical devices, and other Northrop products.

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5A14

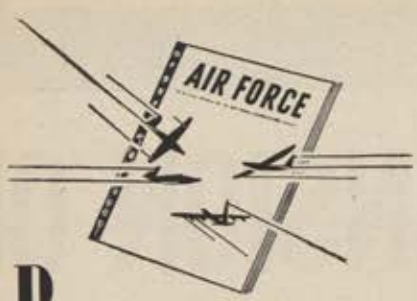
Which way's the wind blowing?

YOU CAN'T TELL—if you try to track this balloon. Because it's drifting at 40,000 feet—out of sight and beyond the range of optical tracking systems! But a new radar, developed by RCA for the military, can clearly "see" the balloon in any weather—track it accurately—tell how high it is—show how fast it's moving. *Result: Exact wind direction and speed information at specific altitudes!*

Here's how the system works. A free balloon carrying a radar reflector is released. The new RCA ground radar follows the balloon as it rises and drifts with the wind. Signals are reflected back to the radar—accurately directing the movement of the pedestal that feeds data to an electronic computer. From this equipment, wind velocities at specific elevations are presented on teletype to be read on the site, or at some remote point. *All this automatically—and with greater economy than with previous systems!*

"Wind intelligence" like this makes accurate weather forecasts possible—days in advance. It is invaluable in aiming heavy artillery and in directing long-range aircraft and guided missiles! Just one example of how RCA research and applied engineering helps provide our Armed Forces with better electronic equipment. By all means get acquainted with the RCA engineers and field technicians in your Branch of Service.

RCA **RADIO CORPORATION of AMERICA**
ENGINEERING PRODUCTS DEPARTMENT CAMDEN, N.J.



RENDEZVOUS

Where the Gang gets together

RECOGNIZE HIM? While going through my remaining soldierly possessions I discovered this snapshot. It is of an American flier who parachuted into our section when his bomber was shot down Dec. 31, 1943, over the Atlantic in Bretagne. On taking him prisoner I was told that a secret order existed to kill

prisoners of that sort, but I could not kill a prisoner who could not defend himself. I always thought that I might be in a like situation—which afterwards actually happened. Thus I took him in and turned him over to my superior, who had him transported on to the section [not named]. I am much interested in knowing what became of the man. *Nagel Reinhold, Hochst 530, Vorarlberg, Austria.*

REUNION ATTEMPT: Several buddies and I are trying to get a squadron reunion together but do not have a complete mailing list of our old outfit. All former members of the 531st Ftr. Sqdn., 7th Ftr. Command, 7th AF, stationed in the Central Pacific Theater of Operations during World War II who are interested in a reunion in New York City next fall, please get in touch with me. I'll gladly furnish full particulars. *Nick Bongo, 71 St. Marys Pl., Nutley 10, N. J.*

CALLING ALL BUDDIES: I would like to hear from those who served with me at R.A.A.B., Richmond, Va., with the 443d Ftr. Sqdn., 327th Ftr. Gp. in 1943 and those who went with me to Norfolk Army Air Base, Norfolk, Va., in 1944. *B. Angel Lugo, 326 S. Delmar Ave., San Gabriel, Calif.*

To be sure your Rendezvous item appears in the June Issue, we should have your request by April 15.—THE EDITORS.

ACTION PACKED!

Chase Assault Transports are now performing, as routine; functions which previously were deemed impossibilities—the delivery—ready for action, of heavy arms and equipment directly to front line areas, ***by landing*** in small unprepared fields.

Recent demonstrations of this new technique have proven beyond doubt that its potentialities for revolutionizing present military concepts are unlimited.

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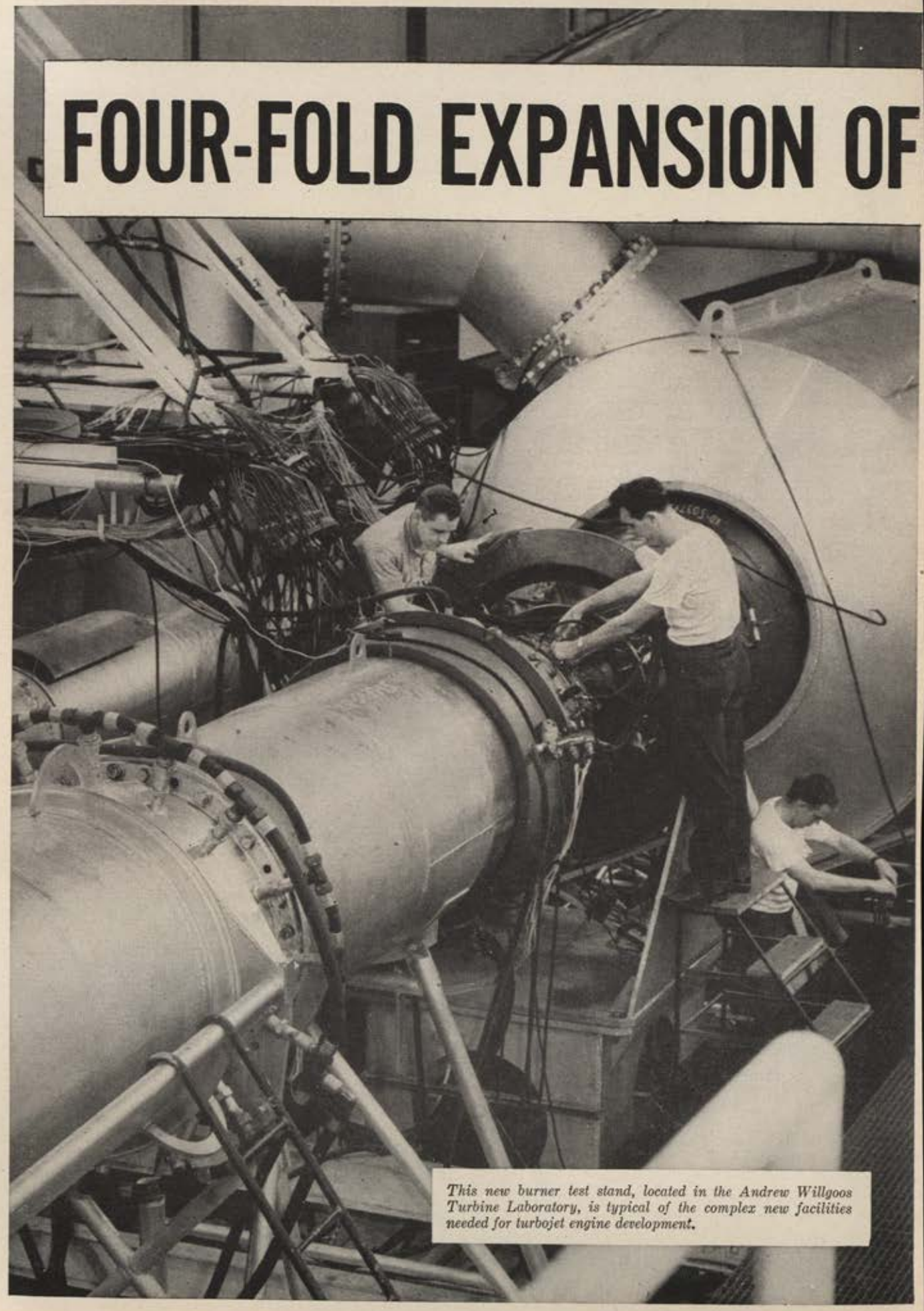


This new burner test stand, located in the Andrew Willgoos Turbine Laboratory, is typical of the complex new facilities needed for turbojet engine development.

EXPERIMENTAL FACILITIES

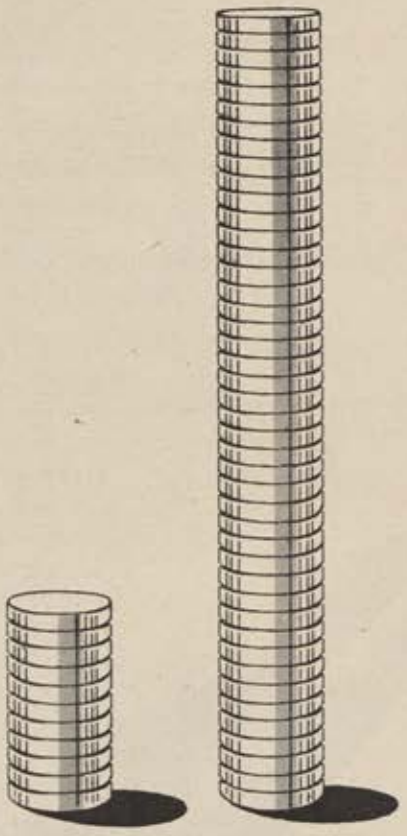
For New Aircraft Engine Development

TODAY, more than ever, high achievement in aircraft engine development demands tremendous experimental facilities. This is especially true at Pratt & Whitney Aircraft where engines of greater and greater power are being developed for the military and commercial needs of today —and tomorrow.

At the close of World War II, Pratt & Whitney Aircraft was the world's foremost piston engine builder. Naturally its experimental facilities were extensive. But today's broad program in the turbojet, turboprop and ramjet power plant fields has required an enormous increase in such facilities . . . at a dollar investment four times as great now as in 1945.

Our multi-million-dollar Andrew Willgoos Turbine Laboratory, the most complete privately-owned turbine engine test laboratory in the world, is a major example of these post-war facilities. Here experimental jet engines or individual parts of engines are tested and developed under an infinite variety of temperatures and simulated altitudes. In the Willgoos Laboratory, and in more than a score of other new laboratories and test facilities, power plant designs of the future are explored and proved.

Constant expansion of experimental facilities is only one aspect of aircraft engine manufacture, but it illustrates an entire industry problem. It helps demonstrate, too, why —today as always—dependable engines take time to build.



The above chart illustrates the huge increase in Pratt & Whitney Aircraft's investment for experimental and test facilities from January 1945 to January 1953. In 1945, we built only piston engines. Today, our program also includes turbojet, turboprop, and ramjet engines. This four-fold expansion covers only experimental and test facilities—it does not include additional heavy investments in new production facilities.

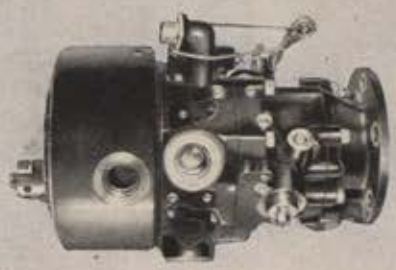
Pratt & Whitney Aircraft

MAIN OFFICE AND PLANT: EAST HARTFORD, CONNECTICUT
BRANCH PLANTS: NORTH HAVEN, SOUTHINGTON, MERIDEN

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

The Grumman F9F-6 COUGAR is the Navy's latest addition to its carrier-based combat force. Rated for security reasons in the "over 600 MPH" class, the swept wing COUGAR is the successor to the battle-proved Grumman PANTHER.

The complex turbine control needed to regulate the COUGAR'S powerful Pratt and Whitney J-48 jet engine is designed, engineered and manufactured by Holley.



LEADER IN THE DESIGN, DEVELOPMENT, AND MANUFACTURE OF AVIATION FUEL METERING DEVICES.

HOLLEY Carburetor Co.

DETROIT 4, MICHIGAN

A-15

Shooting the Breeze

THE JOB of getting this magazine out every month isn't over when the final forms have been OK'ed and shipped off to the printer. For then we have to see that every subscriber gets his copy as promptly as possible. In this we have an able ally in the US Post Office, but changes of address sometimes plague us . . . and the postman.

There are a few ground rules. If you're going to move, let us know as far in advance as you can, since it takes six weeks for a change of address to become effective. Send one of the old mailing labels along with your new address. These coded labels make it possible for our subscription department to locate your records much faster.

This goes for renewals too, since every once in awhile someone who has renewed and is getting the magazine regularly also keeps receiving notices that his membership has expired. This happens because a new mailing stencil was made but the old one wasn't killed.

You'll get a renewal notice a month before your subscription or AFA membership expires. New membership cards are enclosed. This causes some members to believe they've already renewed. After paying their AFA dues, members may get one more renewal notice, since it takes about three weeks for these records to be changed. They should ignore that, but write us if a second notice comes their way.

AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

Vol. 36, No. 4 • APRIL 1953

FEATURES

DEPARTMENTS

THE COVER

During the past several months, fighter planes and guided missiles have monopolized our covers. We thought it about time to give the glamour boys a rest and pay tribute to a segment of airpower which is often over-worked and under-publicized. Transport aircraft are essential to the Air Force mission, and the new Lockheed C-130 marks a milestone in that field as the first designed to use turbo-prop engines. Chuck Barnes is the artist once again. More details on the C-130 on page 27.

AIR FORCE STAFF

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WILLIAM A. DEAN, Art Director
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JAKE CULPEPPER, Associate Editor
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AIR FORCE Magazine is mailed monthly to all members of the Air Force Association. There are several ways you can become a member. If you were in the Air Force or its predecessor services, you're eligible. The $5 yearly dues include the magazine. Or if now on active duty, you can be a Service Member. Those interested in airpower can become Associate Members for $5 per year. The cost for CAP and AF-ROTC cadets is $3 per year. Details of membership in AFA on page 80.

CUT OUT AND MAIL TODAY

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Washington 5, D. C.

4-53

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- ☐ Associate Membership in AFA (includes magazine subscription) $5

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Air Strike....Submarine Style

Guided missiles launched from submarines promise to be major offensive weapons in case of war. A missile of this type travels to its distant destination under unerring electronic orders. The brain center for such missiles will be typical of the electronic systems developed and manufactured by Arma Corporation.

In close collaboration with the Armed Forces since 1918, and more recently with the Atomic Energy Commission, Arma has contributed much in basic research, design, development and manufacture to the advancement of electronic and electromechanical weapon control, navigation, and other precision remote control systems. There is every reason to believe that engineering background and techniques—first used successfully in these devices—will see widespread industrial applications. *Arma Corporation, Brooklyn, N. Y.; Mineola, N. Y. Subsidiary of American Bosch Corporation.*

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THE "OTTER"

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AIRPOWER IN THE NEWS

BY JAKE CULPEPPER

REENLISTMENT — USAF is concerned about loss of its non-commissioned officers, particularly those with technical skills gained after long schooling and field experience. New regulation which spells out NCO responsibilities is now making the rounds of AF bases for comments, and certain junior officer T/D positions are being reviewed to see if non-coms can fill them. AF reports the training cost for typical airman is $1,361. At present rate of loss, 204,000 airmen will leave service during fiscal year '53 to '55, with partial loss of training investment of $208 million. The 21-24 age bracket still has the lowest reenlistment rate.

OFFICER STRENGTHS — Latest over-all figures on active duty AF officers indicate: Generals—regular 342, non-regular 24; colonels—regular 3,307, non-regular 650; lt. colonels—regular 4,685, non-regular 3,458; majors—regular 6,787, non-regular 13,050; captains—regular 4,664, non-regular 33,024; 1st lieutenants—regular 1,693, non-regular 29,111; 2d lieutenants—regular 1,186, non-regular, 24,235.

TRANSITION — AF colors of blue and silver have replaced maroon and gold in chapel draperies, candelabra, pulpit and altar covers, crucifixes, etc. . . . New field uniform being tested in the Far East may eventually replace present fatigues. . . . Aeromedicine has been recognized officially by American Medical Association as a distinct branch of the healing art. . . . Airmen living in dormitory-type housing at permanent ZI bases will get new all-steel furniture by early summer. . . . New career specialty in electronics countermeasures on reconnaissance type aircraft is open to airmen.

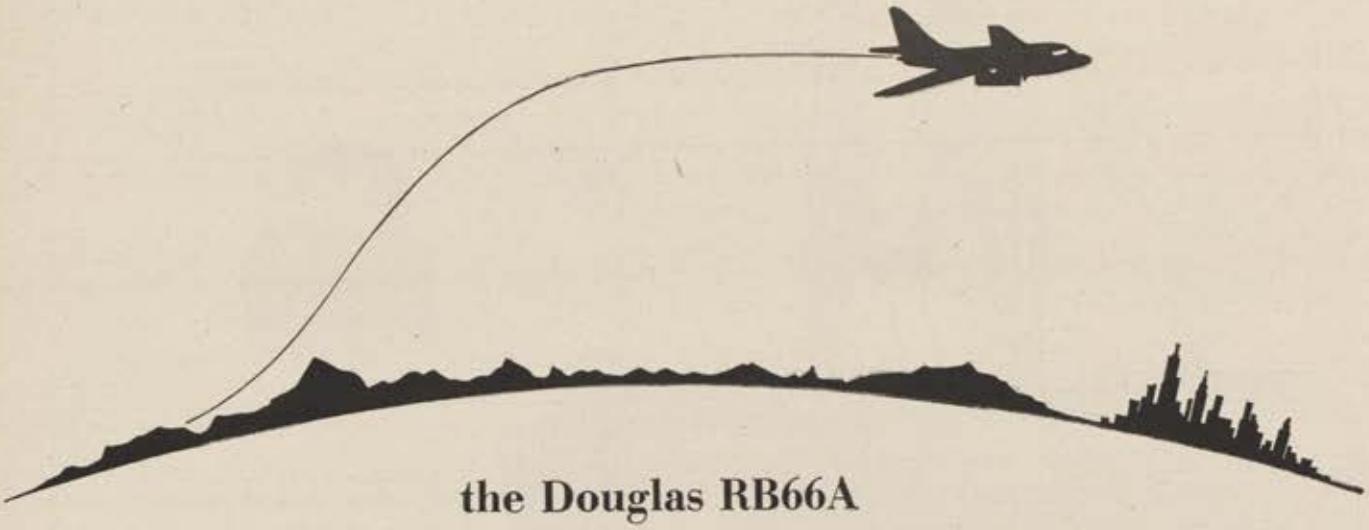
TRAINING — A food service training school is planned at Keesler AFB. . . . An experimental test pilot school will be set up at Edwards AFB. . . . FlyTAF's seventh basic jet fighter pilot training school was opened recently at Greenville AFB. . . . An 18-weeks armament operations officer training course is underway at Lowry AFB. . . . Basic military training is now on a nine-weeks schedule at all three AF basic schools. . . . Jet fighter training is presently open to men over six feet tall, if graduates of primary.

STAFF — James H. Douglas, Jr., of Chicago, is new Undersecretary of AF. . . . H. Lee White, New York attorney, has been confirmed as AF Assistant Secretary. . . . Recently retired are Lt. Generals Idwal H. Edwards, Hubert R. Harmon, William E. Kepner; Maj. Generals Robert L. Walsh, Earl S. Hoag, Edmund C. Lynch, Arthur Thomas; and Brig. Gen. Frederick Von H. Kimble. . . . New assignments include: Lt. Gen. Laurence S. Kuter, CG of Air University; Maj. Gen. Robert B. Landry, deputy commander of 2AF; Maj. Gen. Dan C. Ogle, USAFE Air Surgeon; Maj. Gen. David M. Schlatter, CG, Allied Air Forces, Southern Europe; Maj. Gen. Bryant L. Boatner, Inspector General; Maj. Gen. Joseph H. Atkinson, Commander-in-Chief, Alaskan Command; and Maj. Gen. Kenneth E. Webber, commander of AMC's Eastern Air Procurement District in N. Y.

AF BASES — Construction has started on 1,500 family housing units at Limestone AFB. . . . Tours of duty at Goose AB and Narsarssuak AB have been cut to twelve months. . . . Barksdale AFB recently celebrated its twentieth anniversary. . . . Headquarters of 12AF will soon be shifted from Wiesbaden, Germany, to the French Zone.

COMING UP — Armed Forces Day has been set for Saturday, May 16. . . . National Aircraft Show will be held from September 5-7 in Dayton, Ohio.

U.S. Air Force's new twin jet
reconnaissance aircraft



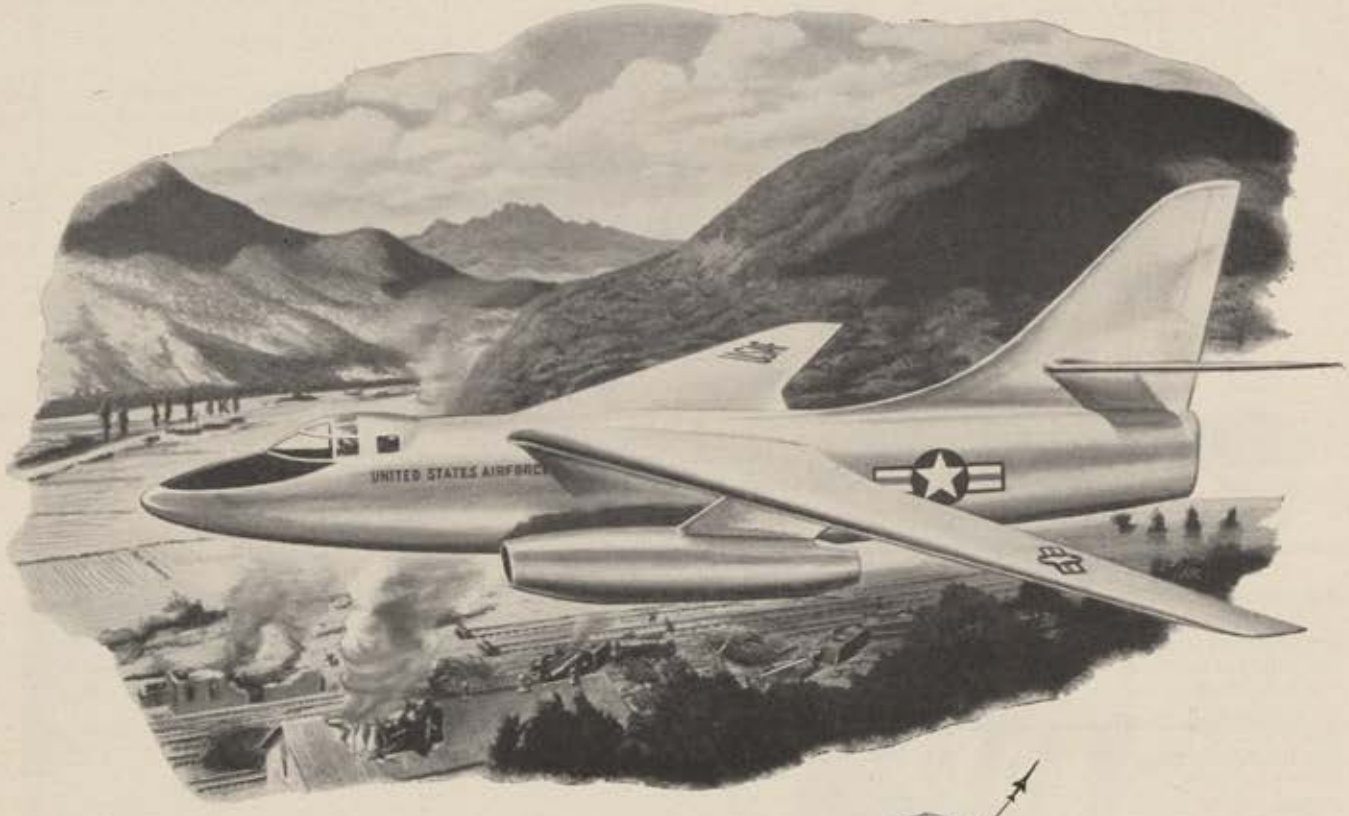
the Douglas RB66A

Built to perform in the stratosphere, or to scrape treetops in low-level missions, the new U.S. Air Force RB66A will be one of the most versatile photo-reconnaissance planes ever designed.

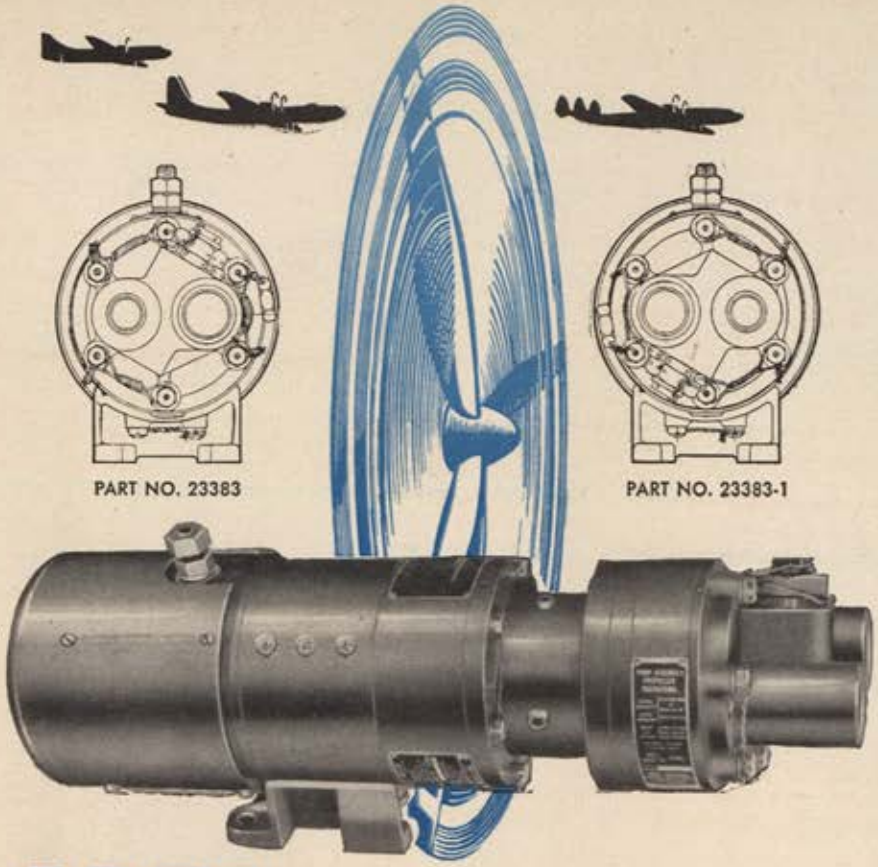
Complete performance data must still remain secret, but the Air Force permits release of the information that the Douglas RB66A will be in the 600 to 700 mph class—with range enough to fly deep into enemy territory, and return. Powered by twin jets, slung in pods below the wing outboard of the fuselage, RB66A will carry the most modern photographic equipment, for accurate reports on operations.

Design of RB66A is another example of Douglas leadership in aviation. Planes that can be produced in quantity to fly *further and faster with a bigger payload* is a basic concept at Douglas.

Enlist to fly with the U. S. Air Force



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



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PEOPLE

IN THE AIR NEWS

Capt. Manuel J. Fernandez, Jr., who got his fifth MIG-15 February 18 to become jet ace number 26 of the Korean war. Then just to be safe he bagged another. He also has a probable. A member of the veteran 4th F-I Wing, Fernandez made ace on a day when FEAF F-86 pilots downed a total of seven MIG's. He's from Miami, Fla.

A/2C Reis Leming of the 67th Air Rescue Squadron (MATS) though unable to swim, by towing a rubber raft saved 27 people stranded by floods in their homes in Hunstanton, England, January 31. He was awarded the George Medal, a British decoration for gallantry, the first American to win the medal and the first foreigner to win it in peacetime. Leming is 22.

Col. Bernt Balchen, well-known polar explorer, who has been awarded Sweden's second highest military medal, Commander First Class, Royal Order of the Sword. Norwegian-born Balchen, 52, was Byrd's chief pilot in the Antarctic in 1928-1930. He joined the AAF in September 1941 and in WW II built Bluie West 8 base. Recalled in 1948, he's now in the Pentagon.

S/Sgt. Jack T. Bolling, now with the 1600th Medical Group, Westover AFB, who has received the Silver Star medal for helping rescue a wounded Marine pilot shot down 10 miles behind enemy lines in Korea in July 1951. Bolling was then with the 3d ARS. The rescue was made under enemy fire, and Bolling gave first aid on the return flight in the 'copter.

MILITARY NEWS from the world's largest light plane producer

FIRST TURBOPROP LIGHTPLANE COMPLETES TEST AT CESSNA

Turbine in L-19 "Bird Dog" eliminates Vibration and Cooling Problems; Operates on almost any kind of fuel.

The Cessna XL-19B, world's first turbine propeller light airplane has successfully passed its initial flight test, the Cessna Aircraft Company announced recently.

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Advantages of the turbine over conventional engine include simplification of power plant installation, elimination of cooling problems and airborne vibration, plus ability to fly on almost any type of fuel.

Last year, much of Cessna production went to U. S. Armed Forces. Today, in Cessna shops at Wichita, Prospect and Hutchinson, Kansas, military work booms on a variety of new assignments.

Helicopter development for the Navy, faster assembly of battle-proved L-19 observation planes for the Army, National Guard, and Marines, more bomber and fighter sub-contracting for U. S. Air Force planes . . . plus accelerated commercial research on other developments including boundary layer control which speeds the take-off and landing of high-speed aircraft.

CESSNA AIRCRAFT COMPANY, WICHITA, KANSAS

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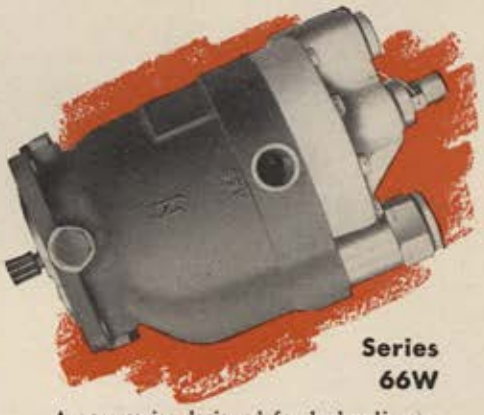

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Wing Tips

A Northwest Airlines plane from Japan arrived in Seattle three minutes before it took off from Tokyo. The Stratocruiser flight was off the ground at 9:10 A. M. on a Sunday, and after crossing the International Date Line landed at Seattle at 9:07 A. M.—still Sunday.

° ° °

Wayne County Airport at Detroit may become a salt mine one of these days. A quarter-mile vein of salt twenty-four feet thick has been discovered under the airport surface. Mining rights might bring in $5 million additional revenue.

° ° °

When the British jetliner Comet comes into the airport loading area, 140 feet of clear space must be maintained between the jet orifice and any other object because of the heat of the jet blast.

° ° °

The automobile is already giving way to the helicopter. In Baltimore, the City Planning Commission is proposing a heliport 300 feet wide and two blocks long on the downtown waterfront. The area was originally slated to be a parking lot.

° ° °

The 1952 domestic airline fatality rate was the same as the rate for railroad travel during 1951. One person was killed for every quarter of a billion passenger miles flown.

° ° °

The cost of going to sleep over the deep on North Atlantic hops is $35 per berth.

° ° °

Irish Airlines joins the North Atlantic parade this spring with services between Shannon and Boston and New York.

° ° °

The US domestic airlines now serve 687 points and can carry ten times as many passengers as they could ten years ago. Scheduled domestic and international aircraft fly a million and a half miles a day.

° ° °

The airlines are now accounting for about twenty percent more travel per year than railroad Pullmans.

° ° °

The air cargo industry in 1913 didn't amount to a hill of beans. But actually the cargo business got started that year with a pot of beans flown from Boston to New York by pioneer aviator Harry Jones.

° ° °

The number of civil aircraft in the US continues to drop. The latest CAA count shows only 51,879 planes in airworthy condition, about 5,000 fewer than in 1951. There are 35,000 additional civil planes on the sick list.

° ° °

In the past ten years, helicopter speeds have doubled, range has increased six times, and payloads have jumped nearly fifteen times.

By Wilfred Owen

AF VET IN GOVERNMENT

Robert B. Murray, Jr.

THE most popular man in the Air Force at the end of the last war was the one handing out the discharge papers. That was the job of Robert B. Murray, Jr., then a colonel, who was Chief of the Flow Control Division, Air Force Personnel Distribution Command, at Louisville, Ky., in 1945. He's now in Washington as one of the key figures in the new Administration and was recently appointed Undersecretary of Commerce for Transportation. From 1946 to 1953 he was president of the Pennsylvania Economy League, Inc., of Harrisburg, a privately financed governmental research organization. A native of Hampstead, Md., Murray, who is now 42, was graduated from Harvard in 1934. He was in the Statistics Department of Tucker Anthony and Co., members of the New York Stock Exchange, until 1940, and with the New York Trust Company until January 1942. He was then commissioned as a captain in the AAF. Later, as executive officer of the AAF's Special Projects Office, he headed the group that studied the AAF's operating efficiencies and planned the make-up and disposition of the postwar AF, in addition to planning demobilization, the termination of contracts, and the disposal of surplus material.—END.

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Big planes like the Boeing C-97 Stratofreighter may use as many as four or five combustion heaters for de-icing. Extra pressure to force high octane fuel to these heaters is furnished by the Lear-Romec Heater Fuel Pump illustrated.

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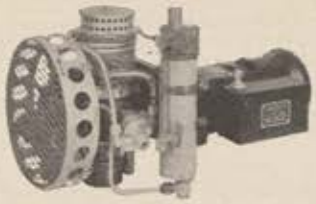

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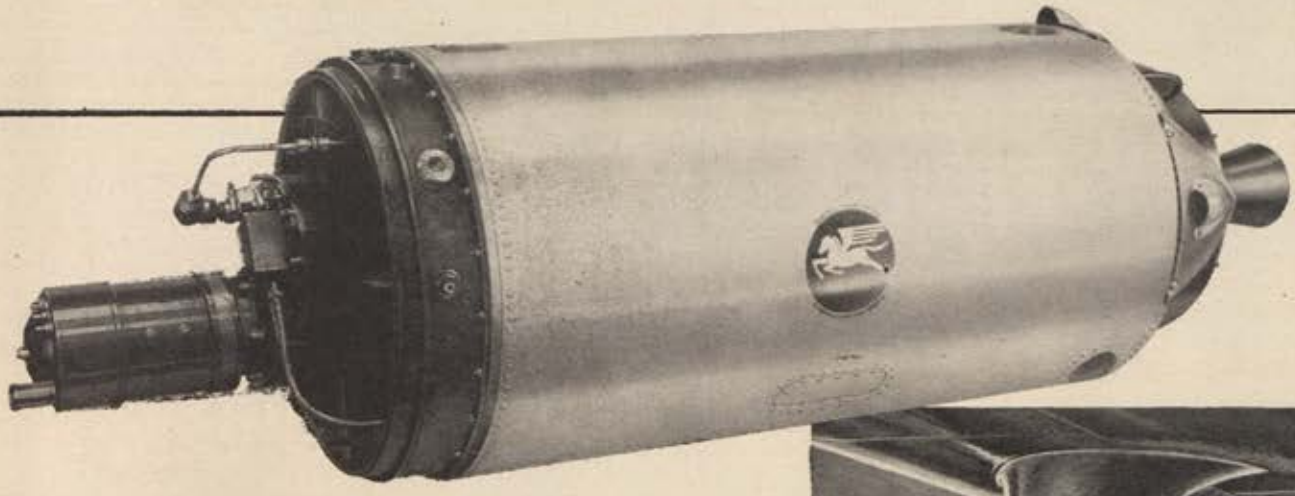

The J-44 Monocoque Turbo-Jet Engine... Designed and Built by Fairchild

One of the most compact engines in its power class ever produced is the Fairchild J-44 Monocoque Turbo-Jet. Only 72 inches in length, 22 inches in diameter and weighing only 300 pounds, the J-44 delivers a thrust of 1000 pounds.

Another example of a Fairchild design which met difficult and exacting specifications, the J-44 typifies the creative engineering ability of the Fairchild Engine Division.

Right now, the Fairchild J-44 Monocoque Turbo-Jet is being produced exclusively for the Armed Services. When conditions permit, this mighty midget will become available to boost payloads and lower operating costs of airline transports and other aircraft.

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AIR FORCE
APRIL 1953

THE AIR FORCE TAKES CARE OF ITS OWN

This unique military program slashes red tape right and left to insure that AF next of kin are well taken care of

AT A US AIR Force hospital somewhere in Europe a surgeon frowned and shook his head. The patient, a sergeant who had been badly injured in an accident, wasn't rallying as he should.

"Doesn't look good at all. Better contact his wife. Get her here if you can. Might help."

As efficiently as if the wife had been waiting in a corridor outside the hospital ward, instead of thousands of miles away in Texas, a unique military program swung into gear. Within minutes a telegram was clicking urgently into the Western Union Deskfax machine in the office of the Air Force Casualty Branch

By John F. Loosbrock

THE AIR FORCE TAKES CARE OF ITS OWN

in Washington, D. C.

"Sergeant Blank's condition critical. Wife's presence would be desirable from medical standpoint."

That was all the go-ahead needed. Casualty Branch had been in constant touch with Mrs. Blank ever since the accident a few days before. It shot another wire to her. The Air Force was prepared to fly her to her husband's bedside if she could make it to the port of embarkation, via commercial airline. The Air Force will furnish overseas transportation to next of kin in an emergency except to a combat zone. But, unless circumstances are exceptional and only if commercial air is not available, military transportation may not be furnished to the port.

The problem was that Mrs. Blank lived in a little town, miles off the beaten track, a long way from a major airlines terminal. Even the nearest Air Force base was more than a hundred miles away. But it was worth a good try. Casualty Branch got on the horn. The base said it would get hold of Mrs. Blank if it had to send a staff car the hundred-odd miles after her. It did.

Unfortunately the nearest commercial airport with good connections was Dallas, a far piece from this particular AF base. It seemed an apropos time to make an exception to the rules. Mrs. Blank flew to Dallas in a military aircraft.

Meanwhile Casualty Branch in Washington hadn't been cooling its heels. A phone call here, a telegram there, and it had found room for one more on the daily MATS Blue Ribbon flight to Paris. Another phone call intercepted Mrs. Blank in Dallas and routed her into Washington.

But Casualty Branch hadn't finished its job. Not by a long shot. When the distraught wife arrived in the nation's capital at four in the morning the chief of the branch met her at National Airport. He drove her to his home, where she could rest and gather her wits until time to board the plane for Paris. It was exactly three days from the time the doctors decided the patient was failing badly until his wife was at his bedside. Fortunately, the therapy worked. The sergeant recovered and a wife went back to Texas thinking the Air Force was a mighty fine organization.

VIP treatment? Not the usual kind. She was a sergeant's wife, remember? Yet to the USAF's Casualty Branch that sergeant and his wife became Very Impotrant Persons indeed, when they were in trouble and needed help.

The foregoing may not be an exactly typical case in the Casualty Branch's daily routine but it is far from the exception. And it shows the lengths to which the Air Force is willing to go to insure that the next of kin of a man injured or killed in line of duty are taken care of. The branch is part of the USAF's Personnel Services Division, which is headed by Col. B. E. Nowotny. Colonel Nowotny's division comes under Maj. Gen. J. H. McCormick, Director of Military Personnel for the Air Force. Chief of Casualty Branch is Lt. Col. R. W. Springfield, a wiry, benevolent ex-schoolteacher who thinks he has the greatest job in the world, works hard at it, and as a result has become Mr. Air Force to thousands of next of kin of Air Force personnel. It was Colonel Springfield who met Mrs. Blank at the airport and took her to his home, and it is typical of the man that he doesn't think this particularly unusual or exemplary. It's just part of his job.

And a tough job it is, although rewarding in its own heart-rending way. The bulk of it is concerned with notifying wives, mothers, and fathers that their husband or son is missing, seriously ill, wounded, or dead. The mechanics are simple on the face of them, yet a bit awe-inspiring if you consider the hundreds of thousands of men on duty with the Air Force who are scattered across the face of the globe.

Suppose a jet pilot is downed over MIG Alley. There is no doubt but what he is dead. His wingman saw the F-86 explode in mid-air and no parachute blossomed in the Korean sky. All available details, including name, rank, serial number, unit, location, and the circumstances surrounding the death are flashed forthwith to Colonel Springfield's office. The branch is located in an Arlington, Va., office building, a few short minutes by auto from the Pentagon. It has its own Western Union machines and even its own post office. Red tape is kept to a minimum.

Ordinarily, information on a casualty is in Colonel Springfield's hands within twelve hours of the time it occurs. The next of kin is determined from the man's records, which are rushed by messenger from the Pentagon. An "I regret to inform" wire goes out immediately, saying only that Lt. John Doe has been killed in action and that details will follow by letter. Western Union is asked to confirm that the wire has been delivered. This notification serves two purposes—to insure receipt and to confirm the address as correct and up-to-date.

While the wire is going out, a letter giving all known details on the casualty is being typed. It is on its way air mail as soon as receipt of the original telegram has been confirmed. Simultaneously a casualty report, based on details of the incident plus the man's Pentagon records, is made up and copies are forwarded to all interested govern-

An Air Force Personal Services Officer is always on call to help next of kin with the bewildering problems of bereavement.

ment and non-government agencies, including the man's insurance companies and the VA.

The Casualty Branch also follows up with a letter of condolence signed by the Air Force Chief of Staff. And it assists in making the necessary arrangements for burial with full military honors, if the family requests it.

If the man's death is unconfirmed and he is reported missing in action rather than killed, the Casualty Branch's job becomes more complicated. In this respect it is much tougher than during World War II. Then a man reported missing had a pretty good chance of turning up as a prisoner of war, which was duly and eventually reported through the International Red Cross. His wife and relatives could write him and even send him packages.

The situation in Korea is considerably different. The North Korean and Chinese Communists have consistently refused to furnish complete lists of war prisoners and have flatly refused to work through the Red Cross. As a result the next of kin have no channel of communication with their loved one except through Communist channels, and this fact has been exploited viciously by the Reds. (AIR FORCE, February 1953.)

This makes the task of handling information on missing persons difficult but the Air Force still operates on the principle that the wife or parents are entitled to know all the information that is available—as it becomes available. A military service has a peculiar responsibility in this respect. It is not like civilian life where a man is more or less master of his own destiny and can move about as he pleases. An airman may

(Continued on following page)

THE AIR FORCE TAKES CARE OF ITS OWN

be in Wichita one day and in Korea the next, and the AF is duty-bound to keep track of him for his kin.

So, as scraps of information on a missing man filter in from the field his family is notified immediately—usually by air mail, often by wire or telephone. If there just isn't any information, Casualty Branch still keeps in touch with periodic letters. In these it informs the family of its rights under the Missing Persons Act and any other information that might be pertinent. Casualty Branch, in these letters, also takes the initiative in combatting Red propaganda directed at next of kin. Relatives are warned that they may be approached by unscrupulous individuals spouting the Red party line and are asked to report any such attempts to the FBI and to forward to the branch copies of any correspondence containing propaganda.

A missing man's file may be kept open almost indefinitely, as long as any shred of hope of his survival remains. Sometimes they are closed out comparatively quickly, as in the case of Col. Al Schinz, the F-86 pilot who was marooned for weeks on an isolated island off the Korean coast. Colonel Schinz was eventually rescued, but while he was missing his wife and parents were kept constantly advised of his status through Casualty Branch.

The extent of the task is indicated by a rundown of the workload of Colonel Springfield's office for a typical month. It lists 1,500 telegrams and 5,000 letters sent, and more than 8,000 incoming and outgoing telephone calls. This kind of personalized attention is what makes the work of the office stand out. It is not what it does, it is the way in which it is done that is impressive. One simple rule is foremost—"If there's anything at all we can do to help, we'll give it a try." The entire program is an island of personal warmth and sympathy in the relatively cold and impersonal vastness of a huge military organization.

Just down the hall from Colonel Springfield is another part of the Personnel Services Division—the Personal Affairs Branch, headed by Lt. Col. R. J. Downey. Colonel Downey was away on business when I stopped by but his exec, Maj. James P. Howard, outlined the functions of their branch for me.

You might say the Personal Affairs Branch takes up where the Casualty Branch leaves off. Let's go back for a moment to the pilot who was killed in Korea. One copy of the casualty report was air mailed to the Personal Services Officer of the Air Force installation nearest the residence of the next of kin. He checked the address and telephoned the pilot's wife. He offered condolences on behalf of the Air Force and asked what he could do to help. He explained that he was available for a personal interview, at her convenience, to assist in preparing the multitude of forms which must be filled out in case of an untimely death. Government and private insurance, the six months' gratuity pay, pensions, all must be applied for in the proper way. Very often the man has not left his personal affairs in the best possible shape.

Many tragedies could have been averted if a man had only done the obvious things, like changing a beneficiary. One flyer had married three times without bothering to get a divorce. Wives one and two were hardened souls. Wife number three was a lovely girl, who had borne his children. But nothing could be done. He hadn't changed beneficiaries and wife number one got the money. Much of this sort of thing could be avoided by filling out Air Force Form 381, which keeps your personal affairs up-to-date.

The most tragic cases of all are those who refuse to believe that their son or husband isn't coming home, even though all official hope is long gone. It's hard to dash cold water on even the faintest glimmer of hope. And in many cases the relatives end up blaming the Air Force, even though every possible effort has been made.

One of the first things the Personal Services Officer wants to know is "Do you need money?" The bank balance might be low or may even be inaccessible if the checking account was not a joint one. If she does need money, and the Red Cross, Community Chest, or other organizations are not in a position to help, the Personal Services Officer is authorized to make an immediate grant of up to $250 from Air Force Aid Society funds. This can be called a loan if she wishes but the money is there, whether or no, and repayment is not expected. This money, incidentally, doesn't come out of your taxes but from funds voluntarily contributed to the Aid Society, mostly by people in Air Force uniform.

Once any immediate financial crises have been met the Personal Services Officer waits for a call to help out with the paper work. If the man is reported missing, rather than dead, the same general procedure is followed, financial and otherwise. The only difference is that death gratuity, pensions, and insurance are not involved. But the Personal Services Officer must make sure that enough money is allotted from the man's pay, which continues while he is missing, to take care of the family.

He reports periodically on action taken to the Personal Affairs Branch back in Washington, once at the end of thirty days, and once at the end of six months. Sometimes a case may drag on for a year or more if an unforeseen complication arises.

These are the bare mechanics of the procedure. Actually, each case is as individual as the people who are involved. And that is exactly the impression you get when you visit the office of the Personal Affairs Branch—one of deep concern with the hopes, the fears, the needs of the families who have been left behind. As Major Howard put it, "You get a big lift knowing you've helped someone."

The whole casualty program is an outstanding example of what can be done morale-wise when red tape is slashed and the personal touch is employed. It is living evidence of a statement that Gen. Hap Arnold used to like to make—"The Air Force takes care of its own."—END

The benefits of the kind of program described on these pages cannot be measured in dollars and cents for they have to do with human values. But in no area of the AF's program does the taxpayer get so much worth for his money

Lockheed's C-130 marks this country's first departure from reciprocating engines in the transport field

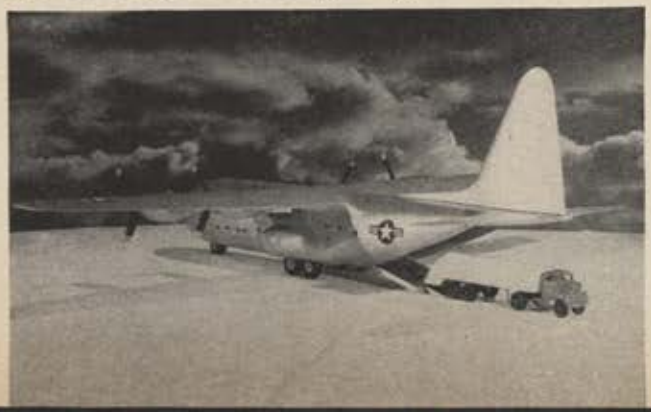
Cover painting shows operation on improvised strip

FIRST TURBO-PROP TRANSPORT

DESIGNED for use both as a long-range cargo and troop-carrying aircraft and as an assault transport in support of ground operations, Lockheed's C-130 is a high-wing plane with the tail section upswept to allow loading and unloading through a rear door. It will be powered by four Allison turbo-prop T-56 engines, each rated at 3,750 hp, turning three-bladed Curtiss-Wright Turboelectric propellers. Lt. Gen. Joseph Smith, MATS Commander, has described the C-130 as a major step in transport production in the US and predicted commercial operators will find it a capable cargo-passenger carrier. Prototypes are being built by Lockheed at Burbank, Calif. The AF already has ordered an unspecified number, which will be built at Lockheed's Marietta, Ga., plant. It can take-off and land in an unusually short distance for a plane its size. The tandem-wheel, tricycle landing gear will allow it to operate on unfinished airstrips.—END

New aircraft is powered by four All'son T-56 turbo-prop engines with Curtiss-Wright props.

C-130 is ninety-five feet long, wingspread is 132 feet.



This monkey survived a flight 200,000 feet up

Weightless mice

A "Moby Dick" balloon

XH-26—One-man, collapsible, jet helicopter

"Aeroplast" spray-on dressing

Largest known helicopter, XH-17

T-1 high altitude suit

Take-off of the F-86D that set world's speed record of 699.9 mph

Taxi radar in action

First flight of the eight-jet, Boeing YB-52

RIDING HERD ON USAF RESEARCH

A look at some of ARDC's top developments of the past year as the Air Force's newest major command struggles to keep our airpower the world's best

Directing traffic at Idlewild Airport, N. Y.

AIR RESEARCH and Development Command has come of age. Though just two years old this month, the USAF's research and development outfit is going all out to keep American airpower the best in the world.

ARDC was created in January 1950 and became a major air command in April of the following year. By 1952 it had reached a point where its research and development operations could be measured alongside those of industry, independent research organizations, and university laboratories—as well as other major Air Force Commands, the sister services, NACA, and government agencies—in solving the AF's thorniest problems.

What were some of these? Among the top unclassified accomplishments of this "teamed" R & D effort in 1952:

- The development of a new emergency pressure suit that will enable pilots to survive the near vacuum of upper atmosphere altitudes above 45,000 feet. The T-1 high altitude suit inflates automatically when cabin pressurization is lost. The University of Southern California helped the Aero Medical Laboratory develop it.
- Mammals (two monkeys and two mice) were recovered alive and unharmed on July 26, 1952, after being fired to about 200,000 feet in the upper atmosphere in an Aerobee rocket at Holloman Air Development Center. This research gave evidence that humans could possibly survive and function under no-gravity conditions.
- A technical report, "Standard Values in Blood," containing probably the most complete and authentic information available on blood and its characteristics ever assembled was published in a project report of the Aero Medical Laboratory as a manual for AF medical officers.
- The first balloons were successfully flown for extended periods at controlled constant altitudes in the upper atmosphere under project "Moby Dick." This project of the Cambridge Research Center seeks data on the state of winds, temperatures, atmospheric pressures, turbulence, and types of cloud formations above 50,000 feet.
- The Douglas X-3, a research vehicle featuring new aircraft design, made its first flight at the AF Flight Test Center, Edwards, Calif., October 20, 1952.
- The eight-jet, Boeing YB-52 Stratofortress, planned successor to the B-36, made its first flight (April 15, 1952) and was ordered into production.
- The American Helicopter Company's XH-26 pulse-jet, one-man, collapsible helicopter, first flew March 24, 1952. Its development was supervised by the AF.
- The Hughes XH-17, largest known helicopter, made its first flight October 23, 1952. An experimental, heavy-lift machine, the ungainly H-17 is expected to be the forerunner of powerful cargo helicopters designed to lift and deliver heavy equipment to inaccessible areas.
- "Aeroplast," an experimental "spray-on" plastic surgical dressing for possible use in an atomic attack or other large-scale disaster, was developed by the Aero Medical Laboratory with the help of Protective Treatments, Inc., of Dayton, Ohio. The transparent plastic dressing is applied directly to burned or injured areas of the body from an aerosol-type dispenser and provides instant protection without bandage dressing.
- A new world's speed record of 699.92 mph was set November 19, 1952, by Capt. J. Slade Nash of the AF Flight Test Center in a combat-equipped North American F-86D, all-weather interceptor version of the Sabrejet which whipped over the Salton Sea, Calif.
- "Taxi radar," automatic surface detection equipment, was developed by the Rome Air Development Center and Airborne Instruments Laboratories, L.I., N.Y., to enable airports to operate during zero visibility. The device is now being tested at Idlewild Airport, N.Y.

(Continued on following page)

North American F-86D

Martin B-57A

Convair C-131A

RESEARCH PAYS OFF IN PLANES

The lion's share—eighty-seven percent—of the AF's research and development money ($525,000,000 for fiscal '53) goes to sponsor activities by non-AF agencies under R&D contracts. The rest is used in ARDC labs for both projects with "outside" agencies and for "in-house" R&D. Some 160 non-profit organizations, 1,480 industrial organizations, and 290 government units are working on Air Force research and development. Part of that money, time, and brainpower goes into planes. Some that appeared last year:

F-84F, Republic's Thunderstreak, long-range, swept-wing version of the F-84 series; primarily for tactical use as a fighter-bomber; powered by a Wright J-65 Sapphire turbojet.

F-86D, North American's Sabre, rocket-firing, all-weather, one-man interceptor, with GE's J-47 and afterburner; has a major role in the future air defense of the US.

XF-91, Republic's research plane with inverse-tapered wings and Reaction Motors rocket engine plus the GE J-47 and afterburner; has flown faster than sound.

XF-92A, Convair's delta-wing research plane, the forerunner of the XF-102; will soon go to NACA for more tests; operates over 45,000 feet at high sub-sonic speeds; has an Allison J-33 engine with afterburner.

F-94C, Lockheed's Starfire, all-weather interceptor and first combat-type aircraft with all-rocket armament (twenty-four 2.75 rockets); has Pratt & Whitney J-48 power plant with afterburner.

XF-101, McDonnell's twin turbojet, long-range fighter for attacking distant targets, providing close support, and bomber escort; developed from XF-88A; in production.

XF-102, Convair's development of the XF-92A; first supersonic, delta-wing, one-man, all-weather interceptor; designed for very high speeds in the stratosphere; will have significant improvements in electronics and armament.

B-52, Boeing's eight-jet, long-range bomber; YB and XB models being tested by the AF; can be refueled in flight; has Pratt & Whitney J-57 engines.

B-57A, Martin's night intruder version of the British-developed English Electric Canberra; in production; has two J-65 Wright engines.

YB-60, Convair's eight-jet version of the B-36 design; made its first flight and underwent research testing by the AF; has Pratt & Whitney J-57 turbojet.

RB-66, a Douglas plane, being developed from the Navy's XA3D as a tactical recon plane; has twin turbojet power plant; for all-weather operations and has light bomber possibilities.

XC-120, Fairchild's twin-engine, detachable-cargo-pod transport; modification of the C-119; no production now planned but research is continuing in conjunction with the Army; "pallet pack" and "roadable pack" being tested.

C-123B, Chase medium assault transport with twin engines (Pratt & Whitney R-2800s) and high-wing and tail-loading ramp; for air-landing troops and cargo on unprepared strips during Phase I combat operations.

C-130, Lockheed medium cargo and troop carrier transport (see page 27).

C-131A, Convair's Samaritan, air evac transport based on the design of the 240 Liner and the T-29; pressurized and will have 20 rearward-facing seats plus 16 litters and provision for an iron lung and oxygen for all passengers.

XH-16A, Piasecki twin-tandem-rotored helicopter; under development, jet-powered and expected to carry 40 troops over long distances.

Republic F-84F Thunderstreak

Martin B-61 Matador in flight

Chase C-123B

Convair YB-60

Republic XF-91

Douglas RB-66 (sketch)

Cessna T-37 (sketch)

Piasecki YH-21

XH-17, Hughes' experimental heavy-lift helicopter; has two Allison J-35 engines.

YH-21, Piasecki tandem, twin-rotored helicopter designed for arctic rescue; has made its first flight and been accepted by the AF; has 20-foot heated cabin that can hold 16 people or 12 litters plus a medical attendant, and a two-man crew.

XH-26, American Helicopter's collapsible 'copter for transportation in a jeep trailer or for air-drop.

XL-19B, Cessna; world's first turbine-propeller lightplane; made first flight November 5, 1952; AF worked with Cessna, Boeing, and the Navy to develop it; turbine eliminates cooling problems and virtually all vibration.

T-37, Cessna's twin-jet training plane expected to be capable of 400 mph; in Phase I development; will be the first jet designed for training purposes.

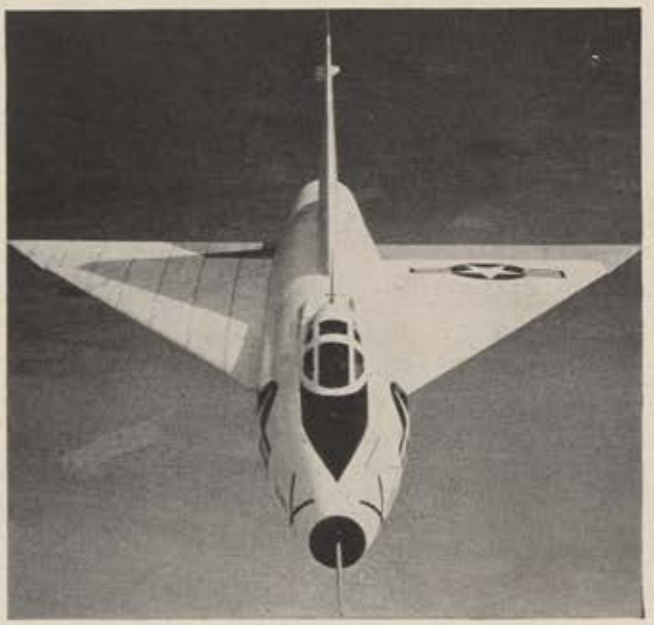
Supersonic bombers: Convair is preparing a detailed design study at the AF's request; no contract awarded.

Atomic-powered airplane: Convair is working on the airframe development; GE on the nuclear-powered engine; Boeing (in cooperation with Pratt & Whitney) on a study of the application of nuclear power plants to aircraft.

Convertiplane: McDonnell, Sikorsky, and Bell have AF contracts for continuing development of a liaison convertiplane for the Army that will take-off vertically and fly faster than helicopters; AF also working with the Transcendental Aircraft Corp. on convertiplane project.

Pilotless aircraft: Martin's B-61 Matador, turbojet pilotless bomber, a tactical weapon; going through intensive tests at the AF Missile Test Center, Fla.; in production. The 1st Pilotless Bomber Squadron is in training with Matadors. The B-61 is ground-launched, assisted by a rocket booster, from roadable launchers and controlled electronically in flight. A number of other projects are underway.

(Continued on following page)



Convair XF-92A

Martin B-61 Matador being launched

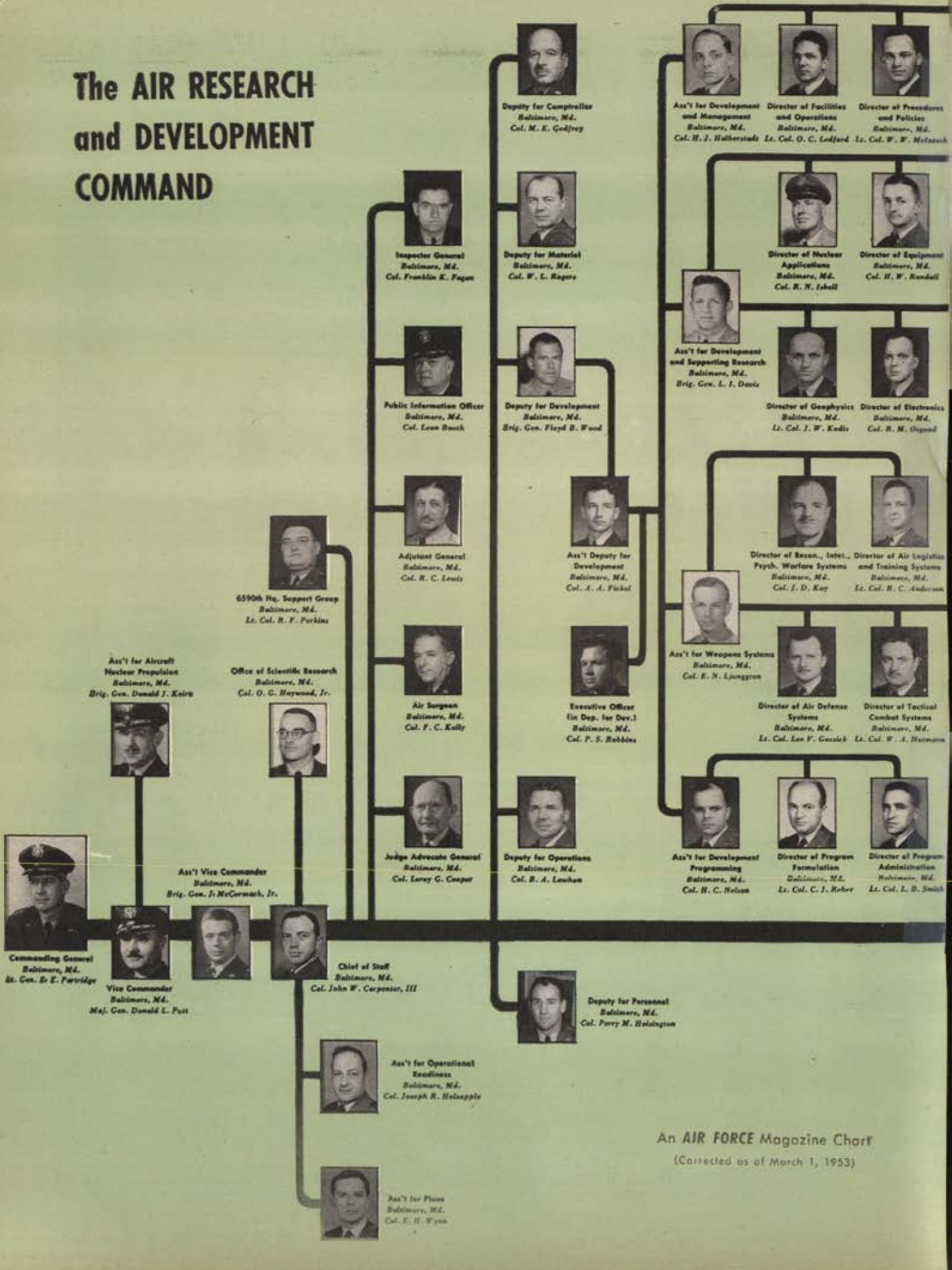
Lockheed F-94C Starfire

McDonnell XF-88A (will be XF-101)

Cessna XL-19B

Fairchild XC-120

The AIR RESEARCH and DEVELOPMENT COMMAND



An AIR FORCE Magazine Chart

(Corrected as of March 1, 1953)

Director of Field Liaison
Baltimore, Md.
Col. C. E. Jackson

CG, Wright Air Development Center
Dayton, Ohio
Maj. Gen. Albert Boyd

Engineering Standards Div.
Dayton, Ohio
Col. John J. Smith

Director of Laboratories
Dayton, Ohio
Col. Daniel B. White

Director of Flight and All-Weather Testing
Dayton, Ohio
Col. Hugh S. Munson, Jr.

Director of Procurement
Dayton, Ohio
Lt. Col. J. R. Byers

Director of Research
Dayton, Ohio
Col. Marcellus Duffy

Director of Support
Dayton, Ohio
Col. William L. McCulla

Director of AF Tech. Museum
Dayton, Ohio
Mr. Mark Sloan

Director of Human Factors
Baltimore, Md.
Col. Dan Flickinger

CG, AF Missile Test Center
Patrick AFB, Fla.
Maj. Gen. William L. Richardson

Technical Systems Laboratory
Patrick AFB, Fla.
Mr. N. Hudson Bullard

6550th Air Base Group
Patrick AFB, Fla.
Col. Robert B. Good

6550th Maintenance and Supply Group
Patrick AFB, Fla.
Lt. Col. Alex T. McNamin

6541st Operations Group (Range)
Patrick AFB, Fla.
Col. Harold W. Norton

6555th Guided Missile Group
Patrick AFB, Fla.
Col. Jack S. DeWitt

6550th Air Installations Group
Patrick AFB, Fla.
Lt. Col. William G. King

Director of Armament
Baltimore, Md.
Col. R. E. Jarman

CG, AF Special Weapons Center
Kirtland AFB, N.M.
Maj. Gen. John S. Mills

4901st Support Wing (Atomic)
Kirtland AFB, N.M.
Col. Henry G. Hamby, Jr.

4925th Test Group (Atomic)
Kirtland AFB, N.M.
Col. Osmond J. Ritland

4935th Air Base Squadron
Indian Springs AFB, Nev.
Lt. Col. Marion R. McCrackin

CG, Arnold Eng. Dev. Center
Tullahoma, Tenn.
Brig. Gen. S. R. Harris, Jr.

Director, ASTIA, WADC
Dayton, Ohio
Mr. Leslie E. Neville

Human Factors Operations Research Lab.
Bolling AFB, D.C.
Dr. Karl Kryter

Director of Aeronautics and Propulsion
Baltimore, Md.
Lt. Col. D. H. Heaton

CG, Rome Air Dev. Center
Griffiss AFB, N.Y.
Brig. Gen. Daniel C. Doubleday

Deputy for Research and Development
Griffiss AFB, N.Y.
Col. William S. Heaster

Equipment Development Division
Griffiss AFB, N.Y.
Mr. Allen A. Kunze

Engineering Support Division
Griffiss AFB, N.Y.
Mr. Oliver T. Tallman

Electronics Warfare Division
Griffiss AFB, N.Y.
Mr. Reuben O. Schlegelmilch

Systems Division
Griffiss AFB, N.Y.
Mr. Warren S. Dunn

Director of Strategic Combat Systems
Baltimore, Md.
Col. T. S. Jeffry

CG, AF Flight Test Center
Edwards AFB, Calif.
Brig. Gen. J. S. Holtzner

Flight Test and Development Division
Edwards AFB, Calif.
Col. Fred J. Ascani

6510th Air Base Wing
Edwards AFB, Calif.
Col. Robert W. Hedleston

6511th Parachute Development Test Group
Edwards AFB, Calif.
Col. Lee C. Moon

6512th Test Pilot Tng Squadron (Exp)
Edwards AFB, Calif.
Maj. John R. Amann

CG, AF Cambridge Research Center
Cambridge, Mass.
Maj. Gen. James F. Phillips

Geophysics Research Director
Cambridge, Mass.
Dr. Helmut E. Landsberg

Electronics Research Center
Cambridge, Mass.
Dr. Edwin G. Schneider

Atomic Warfare Director
Cambridge, Mass.
Col. Jean A. Jack

6520th Test Support Wing
Cambridge, Mass.
Col. Michael J. Ingelido

CG, AF Armament Center
Elgin AFB, Fla.
Brig. Gen. Edward P. Mechling

Armament Test Facilities Lab
Elgin AFB, Fla.
Lt. Col. Frithjof K. Serkland

Technical Support Division
Elgin AFB, Fla.
Maj. Louis I. Schafer

Test Operations Division
Elgin AFB, Fla.
Lt. Col. Clifford J. Kronauer

6571st Support Squadron
Elgin AFB, Fla.
Lt. Col. Gilbert G. Smith

6570th Chemical and Ordnance Test Group
Aberdeen Proving Ground, Md.
Maj. Edward J. Wiede

CO, Holloman Air Development Center
Alamogordo, N.M.
Col. Dan R. Ostrander

6580th Missile Test Group
Alamogordo, N.M.
Lt. Col. Clarence M. Mangum

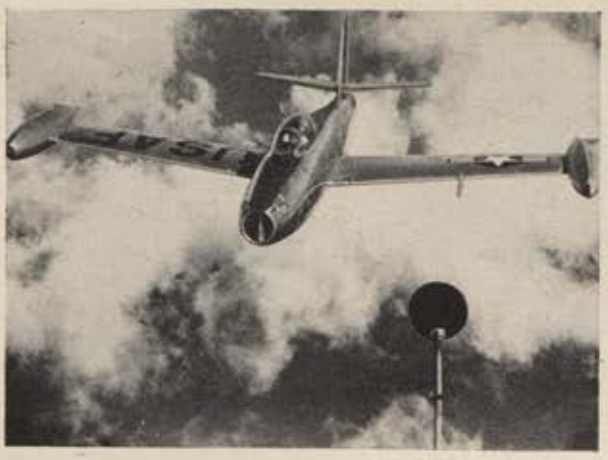
6580th Air Base Group
Alamogordo, N.M.
Lt. Col. James Giannatti

6580th Installations Group
Alamogordo, N.M.
Maj. Fred J. Stanio

6580th Air Support Sqdn.
Alamogordo, N.M.
Capt. Frank M. Hafer

6580th Medical Group
Alamogordo, N.M.
Maj. Richard D. Martin

Left, Martin E-27 flexible gunnery trainer



Improved in-flight refueling techniques

Automatic-opening 'chute

RESEARCH & DEVELOPMENT

ARDC, still growing, in 1952 added the AF Special Weapons Center, Kirtland AFB, N.M., the AF Armament Center, Eglin AFB, Fla., and Holloman Air Development Center, Holloman AFB, N.M., to its six existing centers. The Human Resources Research Laboratories, Bolling AFB, Washington, D.C., also joined the ARDC family.

ARDC works hand-in-hand with manufacturers on many projects beside airplanes. Equipment is just as important. With Link, the first jet bomber (B-47) flight simulator was developed last year, and Goodyear worked on a 30-foot, all-metal tow target for jet fighter gunnery practice. WADC and Bendix announced two new altimeters to clock altitudes from 25 to 95 miles up. Martin's E-27 flexible gunnery trainer was developed to train gunners in the use and operation of the remote control turret system on B-29s, B-50s, and other aircraft. An ultrasonic radar bombing-navigation trainer was developed with the American Machine & Foundry Co.

Another development was a radar proximity scorer for missiles fired at aerial targets, developed with the Armour Research Foundation, while American LaFrance-Foamite Corp. and ARDC came up with the O-11 fire truck to combat crash fires involving large aircraft. A Douglas litter and cargo lift for use with air evac planes, cargo tie-down nets developed with help from Eastern Rotorcraft Co. and Gordon D. Brown and Associates, and an automatic restraint and extraction system for C-119s were among other innovations in 1952.

In-flight refueling techniques continued to improve as ARDC worked with Flight Refueling, Inc., and an F-84G at the AF Flight Test Center remained in the air twelve hours and five minutes during development tests. A WADC 22-pound, automatic-opening parachute with low opening shock and virtually free from oscillation was developed and is in final jump tests. The Bolsey N-9 recording camera appeared, fast enough to be synchronized with the firing mechanism of 500-mph jets and to "freeze" a plane moving at a relative speed of more than 2,000 mph.

Studies in geophysics included projects on polar ice, observation of a complete solar eclipse in Africa and Saudi Arabia, studies of the "jet stream" at high altitude, photography of the sun's spectrum from 50 miles up, and studies of the formation of the earth's atmosphere by means of rocket flights of up to 70 miles. Data on the activity of the sun is being collected at the Upper Air Research Observatory on Sacramento Peak, N.M., to aid in atmospheric forecasting.

In electronics, ARDC concentrated on improving performance, reliability, and serviceability of communications, radar, and navigation equipment. Air defense radar systems got particular emphasis. (ARDC also is working on many classified projects which, of necessity, cannot be included in this report.—The Editors)—END

Flash-blindness recorders in "flying laboratory" during A-bomb test

Meteor-photographing equipment

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REPUBLIC AVIATION

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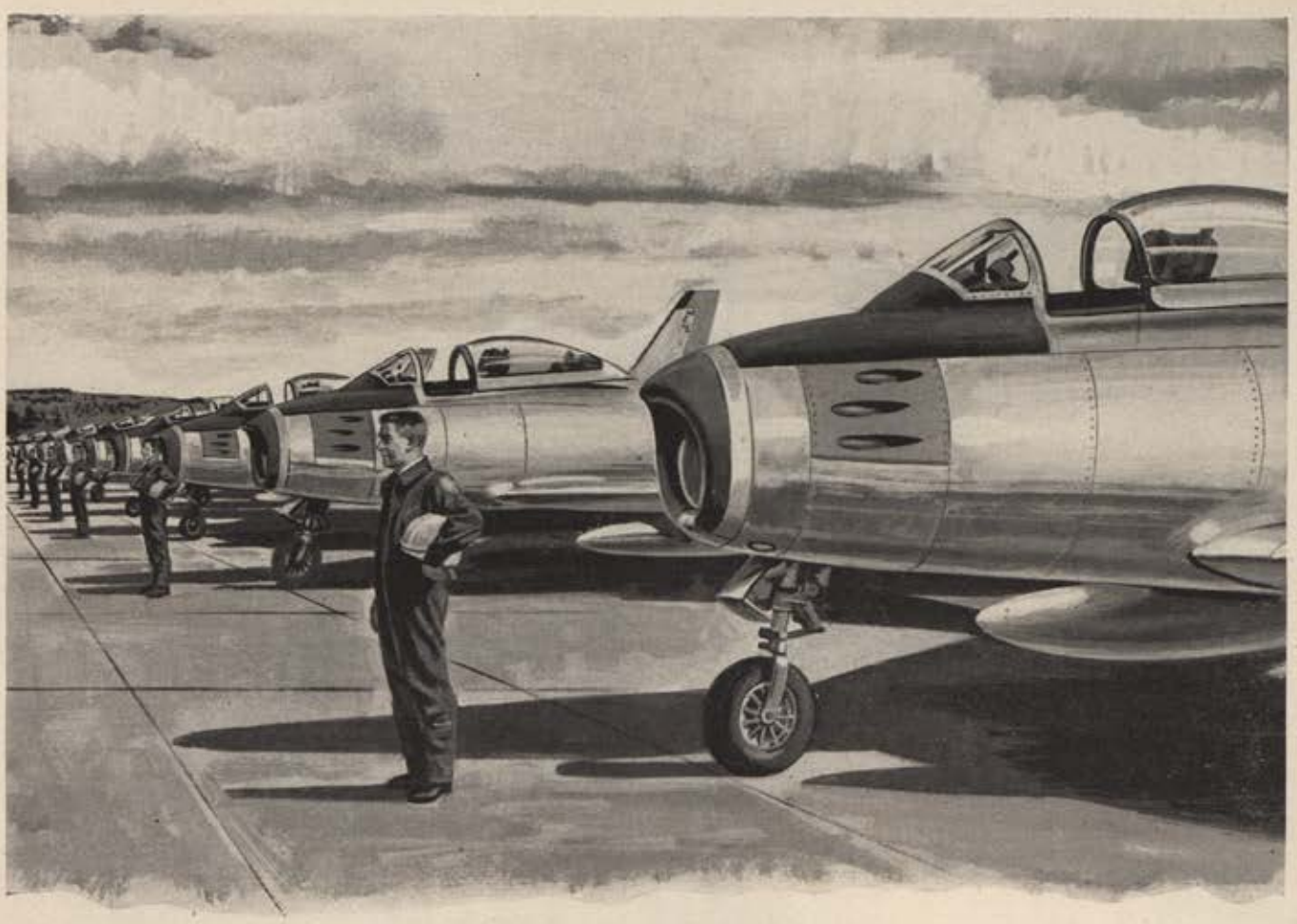

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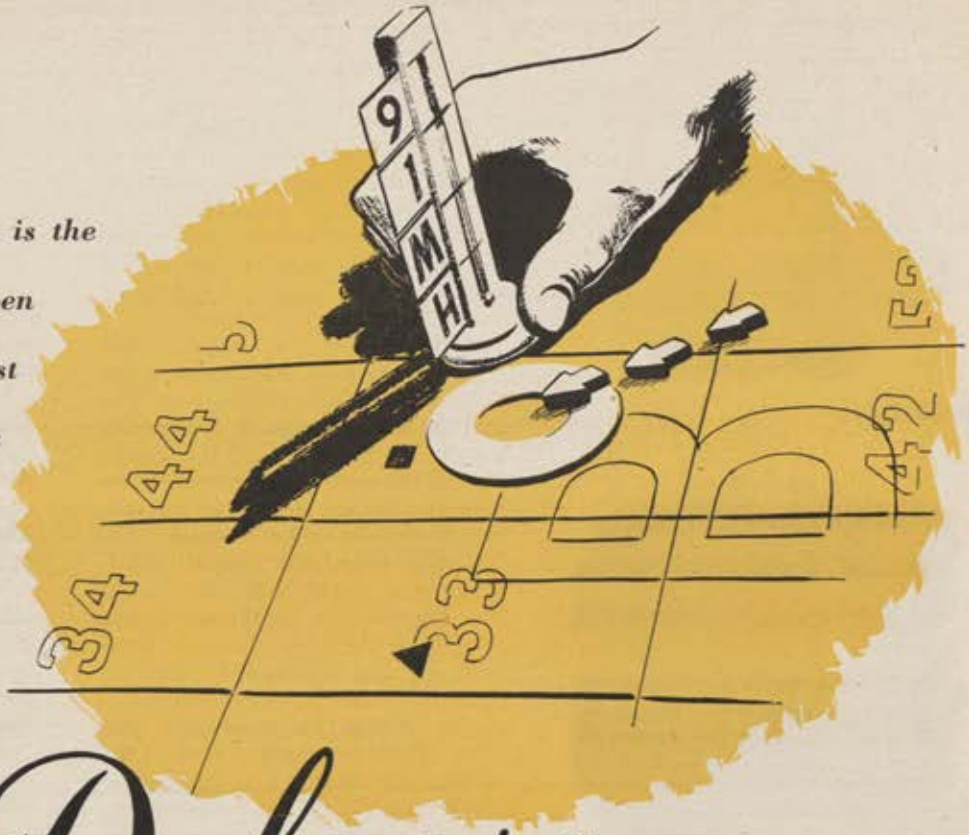
CA53-7UST

Unceasing vigilance is the price we must pay for even partial security against the threat of air attack



THE Air Defense COMMAND

HOW WOULD you like to be handed a job and then be told that, hard as you may try, you'll never be more than thirty percent successful at it? And that the thirty percent figure is, at best, an optimistic one. Mighty discouraging prospect, you'd probably say. And you'd be right. But the job would have to be done, or at least attempted. Chances are you'd grit your teeth and do your best.

That's just about the spot the Air Defense Command finds itself in. ADC is charged with the protection of the continental United States against enemy aerial attack. It's a big job. Just how big is partly indicated by the extent of the area to be guarded—10,500 miles in length, eight to ten miles high, and 3,000,000 square miles in area.

In those terms the thirty percent effectiveness, which is the most optimistic voiced to date by our defense leaders, begins to make sense. During World War II Great Britain, with a tight little island to defend and with a highly integrated warning system, managed to shoot down less than ten percent of the Luftwaffe's attacking planes. With long-range supersonic bombers and intercontinental guided missiles yet to put in their appearance on the operational scene, any thought of an eventually impregnable air defense become naive in the extreme.

Actually, air defense is a two-pronged affair. While the Air Defense Command moves into action to knock down as many enemy attackers as it can, the Strategic Air Command must be hitting at his airpower-in-being – the bases from which he is launching his attack. This combination is air defense in its true sense—both close to the chest and as far out as our air arm will reach. "Close-to-the-chest" defense is the mission of the Air Defense Command, commanded by Gen. Benjamin W. Chidlaw, with headquarters at Ent Air Force Base, Colorado Springs, Colo. It became a major command something more than two years ago, when Continental Air Command was broken up into ConAC, Tactical Air Command, and ADC.

Organizationally, the keystone of the command is decentralization. With the vast territory which must be defended and the speed with which this must be accomplished once an enemy flight is identified, centralized control would be fatal. It wouldn't make sense if the entire system could be paralyzed by a determined attack on Colorado Springs. So the nation has been split geographically into three Air Defense Forces—Eastern, with headquarters at Stewart Air Force Base, Newburgh, N. Y.; Central, with headquarters in downtown Kansas City, Mo.; and Western, with headquarters at Hamilton Air Force Base, San Rafael, Calif. Each Air Defense Force is further broken down into Air Divisions (Defense), each with its own quota of radar stations, interceptor bases, ground observers, filter and control centers, and anti-aircraft artillery units in support.

By function the air defense system consists of four distinct but interrelated phases—DETECTION, IDENTIFICATION, INTERCEPTION, and DESTRUCTION. Let's take them, and their problems, in order.

DETECTION

As bombers fly faster and farther the need for early warning of an

(Continued on following page)

DETECTION

IDENTIFICATION

INTERCEPTION

DESTRUCTION

enemy raid becomes more and more acute. The radar fence being built in this country and in Canada is still full of holes. Most of the planned installations are well on the way to completion as far as construction is concerned but much of the equipment is of obsolescent World War II vintage. And radar is expensive, much too expensive to consider attempting to build an impenetrable fence of it. Like television, it operates on a line-of-sight principle, and its effectiveness is limited by terrain obstructions and the curvature of the earth. It is especially ineffective against low-flying aircraft, which come in under its beam.

Cheap, relatively simple, short-range sets, would help take care of the low-altitude weakness. These should be designed to work automatically and unattended. Their information could be channeled into a master station for assessment and relay. There is a crying need at the moment for this kind of equipment, which now isn't even in development.

Until something of the sort is developed, however, the chinks in our early warning armor must be plugged by hundreds of thousands of volunteer civilian observers. To do the job, the Ground Observer Corps (see AIR FORCE, December 1952, pg. 73) has been established and a quota of 500,000 members set for it. Of that number, about 200,000 have been recruited to date. We need so many because bringing our air defense system to peak efficiency calls for the establishment of 20,000 observation posts scattered throughout thirty-six states. These are to report to forty-nine filter centers, also voluntarily manned, strategically located in cities with adequate communications facilities.

Recruiting ground observers on a volunteer basis is a tough problem at best. It is doubly so in remote areas where, during his two-hour tour an observer may not spy so much as a single aircraft. It has proved relatively simple to man posts along established airways, where there is something to report, but in the monotony of the boondocks an observer's sense of urgency faces tough competition from sheer boredom.

The sole reason for the elaborate radar network and the Ground Observer Corps is to spot the enemy before he can reach a target, and the earlier the better. But while radar can tell us the range, location, and approximate speed of aircraft, it cannot identify it as friend or foe. Neither, in most cases, can a comparatively inexperienced observer. All of which brings us to the second phase of air defense.

IDENTIFICATION

With the cooperation and assistance of the Civil Aeronautics Administration, certain zones around the perimeter of the country, and also in the interior, have been established as Air Defense Identification Zones (ADIZ). All military, private and commercial planes must file advance flight plans before they are allowed to fly in these zones. The CAA monitors and reports all such flights.

An Air Defense Direction Center correlates the flight plans and checks them against reports from radar stations and Ground Observer posts. If they check, the aircraft is considered identified. If not, the aircraft is an "unknown" and must be intercepted. Air defense has entered its third phase.

INTERCEPTION

Fighter scrambles are costly in time and money. Yet for every unknown there must be a scramble or a darned good reason why the controller in the ADDC doesn't call one. These controllers ordinarily are junior officers, yet they shoulder a heavy burden of responsibility in the air defense pattern.

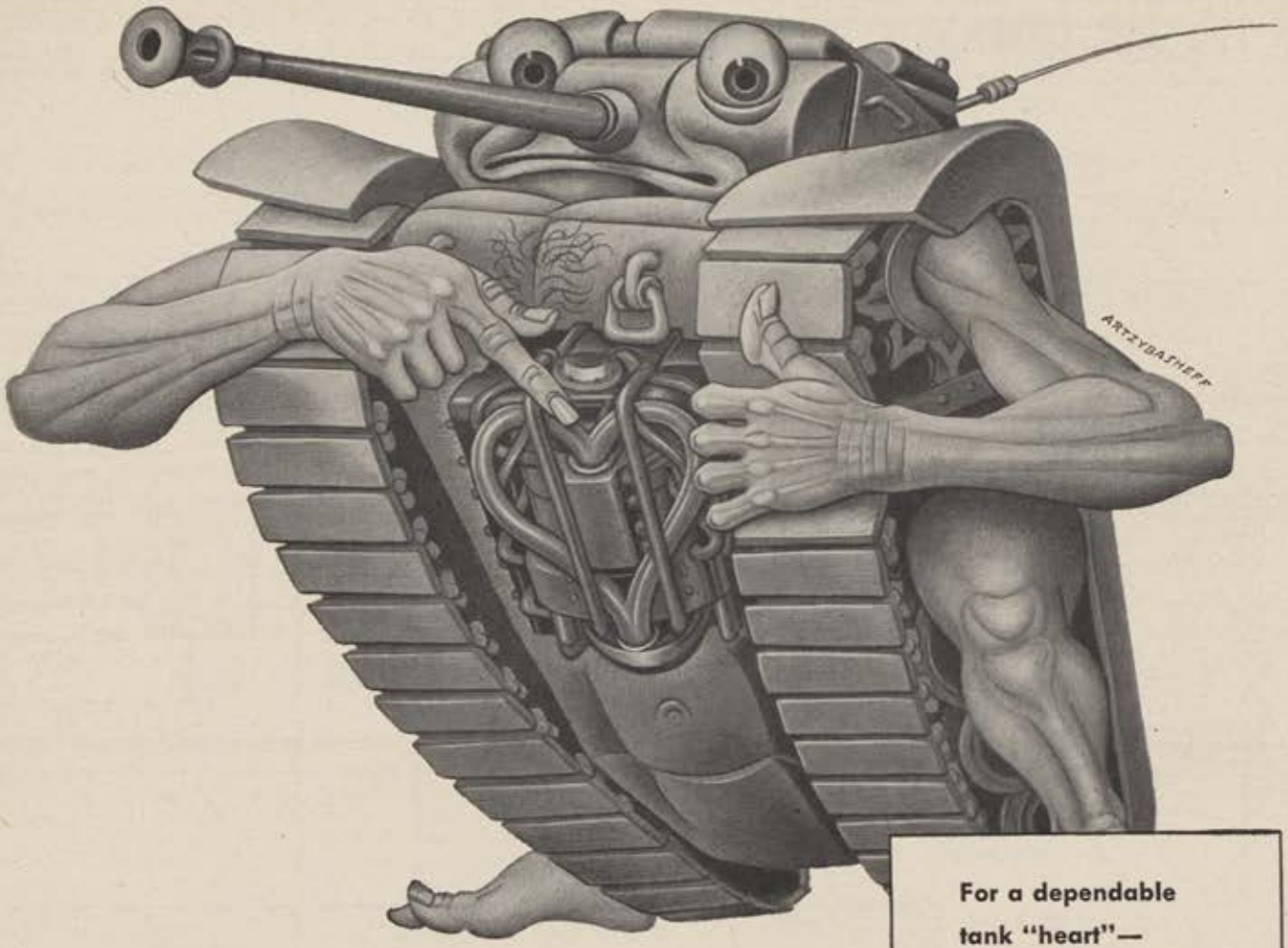
While the fighters are taking off the report is being funneled to an Air Defense Control Center, at Air Division headquarters. Here all unknowns in the division's jurisdiction are plotted on a huge board. The control center can follow the progress of all unknowns in its territory, and order more interceptors into the fray, or divert them into areas that appear to need them worse.

Further up the ladder the regional Air Defense Forces are plotting unknowns on still larger boards, each covering the third of the nation assigned to the particular Defense Force. And the same process is going on at Air Defense Command headquarters, which monitors all unknowns nationwide.

DESTRUCTION

If the unknowns are positively identified as hostile, the air defense system swings into its fourth, and final, phase—destruction. This is the be-all and end-all of air defense. If it is not accomplished, then all pre-

(Continued on page 42)



New "ticker" for tanks

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Col Emmett F. Yost

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HQ AIR DEFENSE COMMAND
Commanding General
General Benjamin W. Chidlaw

Chief of Staff
Maj Gen Jarred V. Crabb

Adjutant General
Col Walter W. Robinson

Vice Commander
Maj Gen Frederic H. Smith, Jr.

Public Information Officer
Col William E. Persons

Surgeon
Brig Gen
Albert H. Schwichtenberg

DCS/Comptroller
Brig Gen Robert S. Macrum

DCS/Personnel
Col John C. Horton

DCS/Operations
Brig Gen Kenneth P. Bergquist

DCS/Intelligence
Brig Gen Woodbury M. Burgess

DCS/Materiel
Brig Gen Clinton D. Vincent

An ***AIR FORCE*** Magazine Chart
(Corrected as of March 1, 1953)

EASTERN AIR DEFENSE FORCE

Commanding General
Maj Gen Morris R. Nelson

Vice Commander
Brig Gen George F. Smith

Adjutant General
Col John L. Warren

Inspector General
Col Barton M. Russell

Judge Advocate
Col George O. Hanford

Public Information Officer
1st Lt Theodore W. Goodman

Surgeon
Col Charles C. Scamahorn

Comptroller
Col Kennard W. Gephart

Deputy for Personnel
Col Jack T. Bradley

Deputy for Operations
Col Carrol W. McColpin

Deputy for Materiel
Col Henry A. Sebastian

CENTRAL AIR DEFENSE FORCE

Commanding General
Maj Gen Delmar T. Spivey

Vice Commander
Brig Gen Frank H. Robinson

Adjutant General
Lt Col John G. Rooks

Inspector General
Col Edmond R. Goss

Judge Advocate
Col Paul Boucher

Public Information Officer
Maj Charles A. Harris

Surgeon
Col Clarence A. Tinsman

Comptroller
Col William W. Converse

Deputy for Personnel
Col Richard F. Weltzin

Deputy for Operations
Col Charlie B. Overacker

Deputy for Intelligence
Col Roy E. Weinzettel

Deputy for Materiel
Col Paul S. Deems

WESTERN AIR DEFENSE FORCE

Commanding General
Maj Gen Walter E. Todd

Vice Commander
Brig Gen Hugh A. Parker

Adjutant General
Col Wilfred B. Newman

Inspector General
Col Robert L. Baseler

Judge Advocate
Col Jerome L. Loewenberg

Public Information Officer
Capt Eldon M. Johnson

Surgeon
Col Paul C. Gilliland

Comptroller
Col Eugene W. Phillips

Deputy for Personnel
Lt Col John R. Taylor

Deputy for Operations
Col Harrison R. Thyng

Deputy for Materiel
Col Andrew J. Reynolds

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vious efforts will have been in vain. That is the objective—to blast the enemy out of the sky.

Here again the picture is improving but it is far from what we need. We are only just beginning to get interceptors with the electronic capability of seeking out and destroying the enemy in darkness or foul weather. Northrop's F-89 and Lockheed's F-94C are both two-place "all-weather" interceptors, with the second man acting as radar observer. North American's F-86D (see AIR FORCE, January 1953, pg. 36) will also have an "all-weather" capability, with the pilot doubling as radar man. All of these planes are armed with rockets. Coming along is Convair's F-102 (AIR FORCE, December 1952, pg. 31), which will fly faster than sound and will fire air-to-air guided missiles. And unmanned interceptors are in the mill but are years away from being operational. Meanwhile older day fighters, like the F-86A, E, and F, Republic's F-84G and Lockheed's F-80, are being used, together with F-51s and F-47s of World War II vintage.

Backing up the Air Force's interceptors in defense of certain critical areas are the guns of the Army's Antiaircraft Command. It, too, is gradually improving although its present equipment consists largely of World War II 90mm and 120mm guns, modernized somewhat with new fire control equipment. The Army's new "Skysweeper," a radar-controlled 75mm gun, was recently unveiled. It is particularly adapted to low-flying targets and will gradually become available over the next eighteen months or so. An Army guided missile, the Nike, is in the mill for point defense but many bugs remain to be ironed out before it becomes operational.

The sad fact is that it will take quantities of this new equipment, with all their wizardry of electronics and rocketry, to make even the thirty percent interception figure attainable. And the offense meanwhile is moving along at a rapid pace. Long-range supersonic bombers, intercontinental guided missiles, and snorkel-equipped, missile-firing submarines may not be a threat tomorrow or next year, but they will be along eventually. The Air Force has always maintained that no determined attack can be stopped completely. But thirty percent or less is better than none. And that's why the Air Defense Command has to stay in business.—END

IMAGINATION IN ACTION!

the "Janus"

Two decades ago, Marmon-Herrington designed and built a large fleet of Janus-faced armored cars for the Iranian army. With two front ends, and no rear, these unique vehicles traveled with equal speed and ease in either direction—thus licking the problem of roads too narrow and steep to permit turning around.

● The "Janus" is but one of hundreds of examples of how Marmon-Herrington's engineering ingenuity has successfully solved some of the most vexing problems of military transport. No matter how difficult your own requirements may seem, if mechanization is involved, the chances are strong that Marmon-Herrington can help you find the right answer. Let's talk it over.

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SH

Military supplies that never reached Communist troops at the front. USAF fighter-bombers and Superforts finished off this supply center near Pyongyang, the Reds' capital city in North Korea. Bombs and napalm did the job of turning the supply build-up into rubble. The picture was snapped from low level by an RF-80 pilot of the AF's 67th Tactical Reconnaissance Wing.

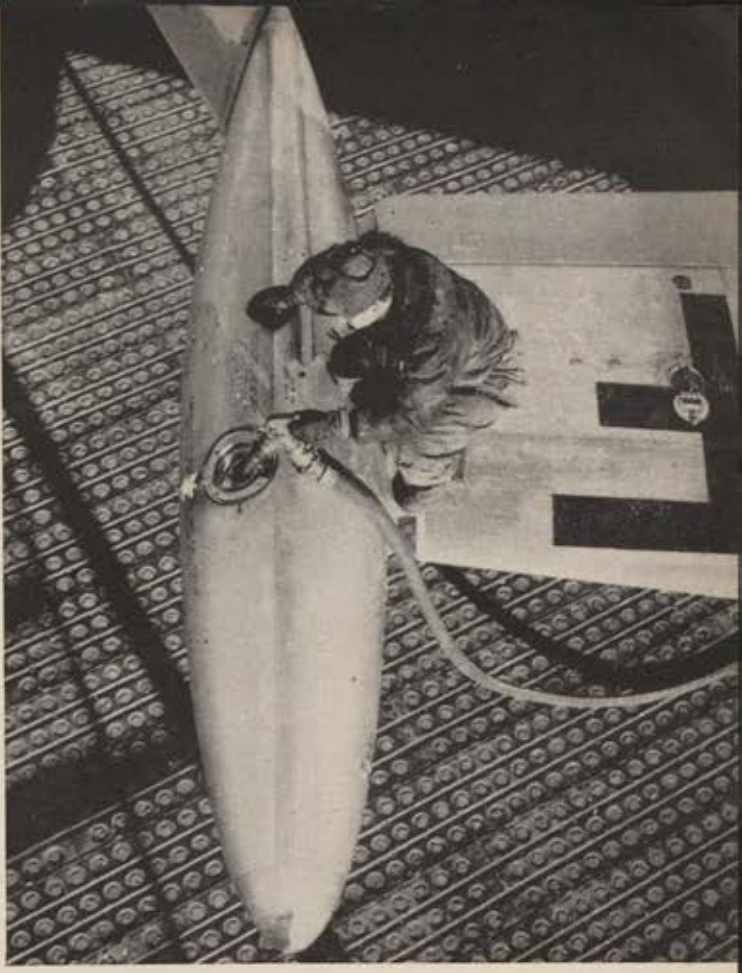
Midnight vigil. The F-86s of the 4th F-I Wing are bedded down for the night. They're watched over by A/3C Robert Ryan, air policeman from Detroit.

Kinsey reports. That's a victory grin on 1st Lt. Raymond A. Kinsey's face. The F-86 pilot just shot down a Red TU-2 bomber.

OOTING WAR IN KOREA

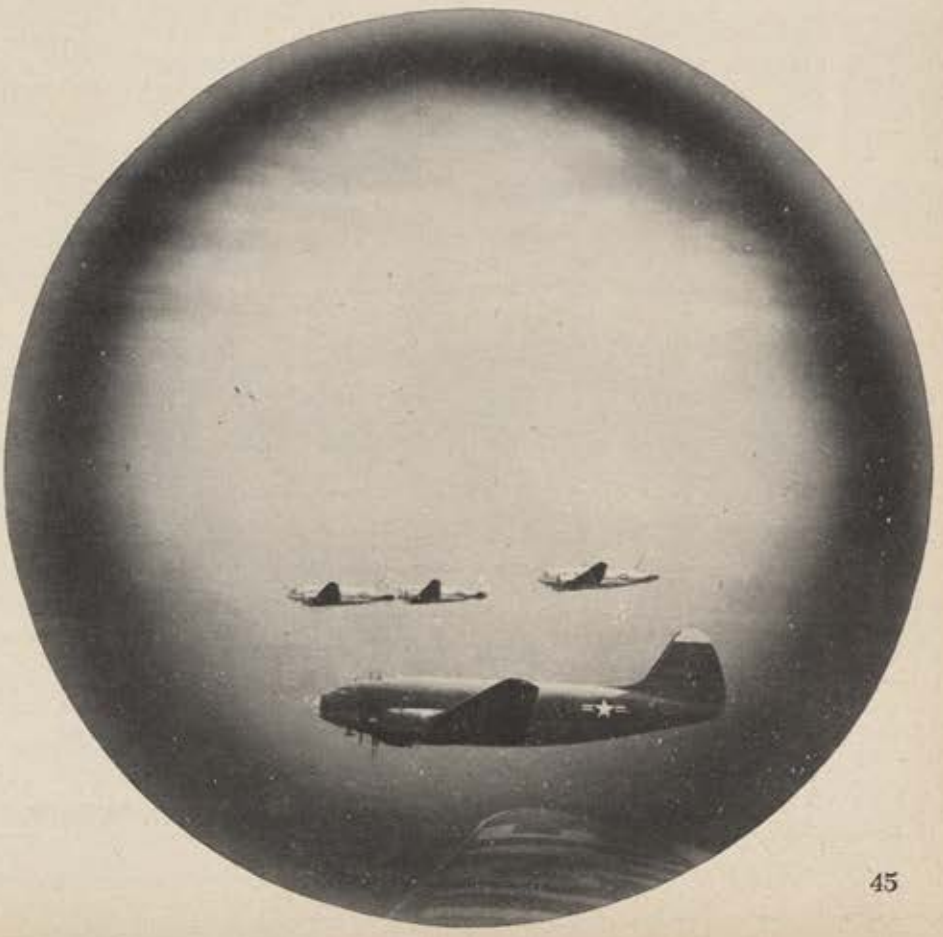
The MIG-hunters and the railsplitters carry the air war to the Reds up north

Airpower stretchout. A Sabre gets a new tail section. The 86s have downed more than 600 MIGs since the enemy jets first appeared in Korea.



Pattern of war. A ground crewman of the 49th Fighter-Bomber Wing fills an F-84's wing tank before the Thunderjet roars off for another strike against the Communists.

Thunderjets can take it and dish it out. Above, Lt. John Glina whose F-84 caught some flak over North Korea. He landed safely with a smashed vertical stabilizer.



Four C-46s of the 315th Air Division drone toward Korea as they airlift men and supplies to the fighting front. An air hole in a window of a fifth Commando provides the "halo" around the rest of the formation.

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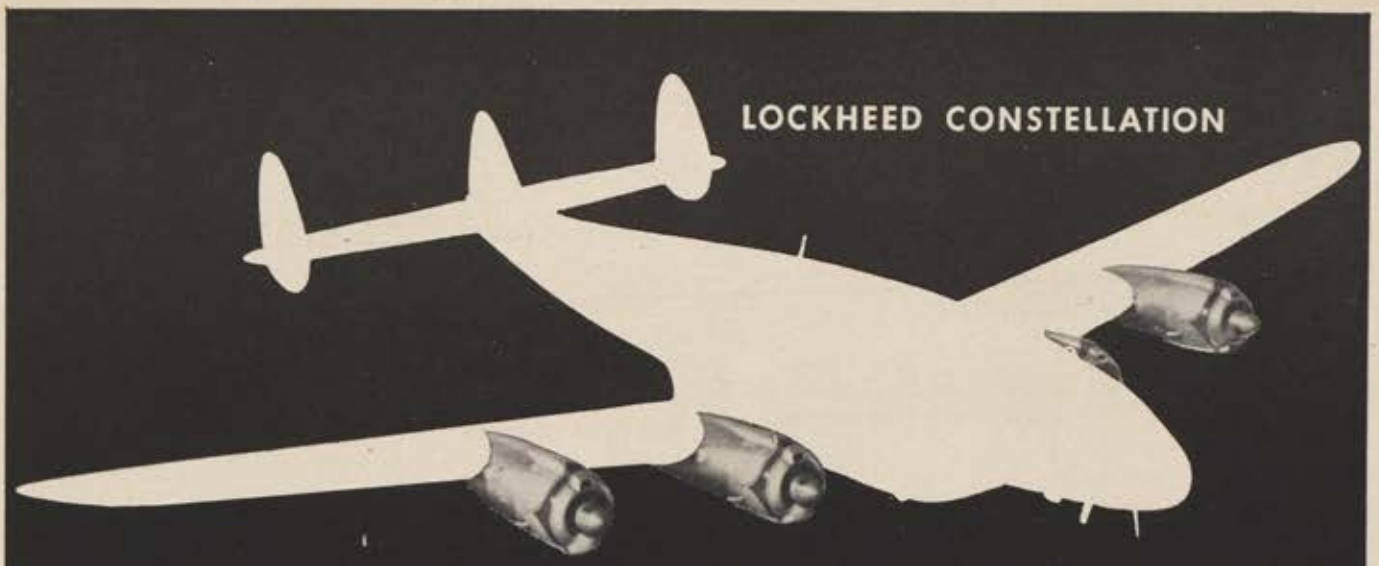

We show you this picture of the Lockheed Constellation this way — to illustrate to you what Rohr is famous for: Building power packages — power packages for the Lockheed Constellation and other world-famous commercial and military planes. Of course, the Rohr aircraftsmen do more than this. Currently they are producing more than 25,000 different parts for all types of airplanes.

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THE NAVIGATOR TYPE

A sidelight from World War II

(Reprinted from the Providence, R. I., Journal)

WORLD WAR II is long gone and more old-fashioned in seven years than World War I was in 27. But its more frivolous moments endure as they do with any war.

In the vastly enlarging Air Force of 1942 it was inevitable that something like the ludicrous relationship of the new trades—such as navigators—should make trouble. Odd creatures they were, thrust into a military service still operating in the tradition of the lone pilot in a Flying Jenny. The Coca-Cola chromos in the operations building still showed heroic biplanes bringing the enemy down in flames.

Pilots, of course, were the glamorous figures in the trade. This was completely justified by their job and responsibilities, but it was no comfort to other men in the crew who were making up the early air teams.

We had seen pilots train—marching in brown leather flying jackets and white scarves, singing "Off We Go Into the Wild Blue Yonder," peeling off smartly as they approached their fabulous basic trainers on the line, crying "Switch On!"

Navigators were a different breed. Sociologists after the war admitted they selected a "navigator type," a man who may have been a liberal arts major or an accountant. There was no smart stepping along the flight line for them.

We usually wore in winter no flying jacket but a heavy woolen short coat. We carried an incredible burden, not incredible in weight since infantrymen marched much farther much faster with much heavier loads, but incredible for a group told it should march like a crew second only to West Point.

As we marched to the flight line we carried in our right hand a brief case stuffed with folded maps, pencils, charting tools, computers, calculating tables, almanacs. There was not enough room inside the brief case, so outside the brief case under the straps there were extra celestial books covering likely latitudes to be reached and a long flexible plastic spline made, as I recall, in a place called Sheboygan.

In the left hand we carried an octant, the more complicated aerial version of the nautical sextant. These were designed to make it impossible for a marching man to carry it with dignity. One type was in a large flat box which banged the knee at every step unless it was carried at arm's length. The other was a large, heavy black box which loosened the arm in its socket after five minutes.

Held under slight pressure under the right arm—not the left since that was carried away from the body so the octant box would not demolish the kneecap—was the great rolled Mercator chart which could not be folded. This was on stiff white paper perhaps two feet by four feet. Even rolled up and held under the arm it tended to expand and slide down.

In front of operations we had to have an inspection by a pilot before our briefing, a ceremony by which the authorities hoped to repair our deplorable military appearance. Awaiting the inspection we rested the brief case against the right leg, the octant on the ground to the left and the rolled Mercator squeezed between the brief case and the ankle.

One day, typical of many, a bright, young second lieutenant pilot marched out of operations and said briskly to the cadet lieutenant, "Mister, call your men to attention." The cadet barked, "Attention!" The pilot waited calmly for the usual clicking "stir-snap!" of feet and arms coming to snappy attention.

The first impulse of most of the cadets was to reach down and grab the brief case. This released the rolled Mercator which flew open to its full eight square feet and shot outward among the scrambling feet. There was desperate reaching downward and outward among men in mutual distress. When a man captured his flying Mercator he quickly rolled it into submission, tucked it under his arm and turned quickly to regain his place in formation. The quick turn with the rolled Mercator under his arm like a length of pipe usually caught the man behind him stooping down for his octant, knocking off his hat. The hatless man would drop his brief case to retrieve his headgear, thus releasing his Mecator . . . There were thirty-two men in the formation.

The pilot obviously thought the war was lost right then and there. He watched with horror and disgust, as though he were witnessing an act of cannibalism. It was not unusual to take two full minutes to come to attention. When we did achieve a loose interpretation of this pose it was not worth the effort, if you can imagine what it would look like if four rows of one-man bands were suddenly ordered to stand up.

But the war wasn't lost, maybe because they later used something besides the damned Mercator.—END

By Ben H. Bagdikian

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New AiResearch ram air turbine does a 250 pound job for jets... *weighs only 17 pounds!*

At last a *light weight* emergency power source to operate power controls in case of single engine failure! The new AiResearch ram air turbine develops a minimum of 3.4 hp at air speeds from 130 knots to above Mach I... *at any altitude.* It is now in production.

Features:

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- *Saves more than 200 pounds!*

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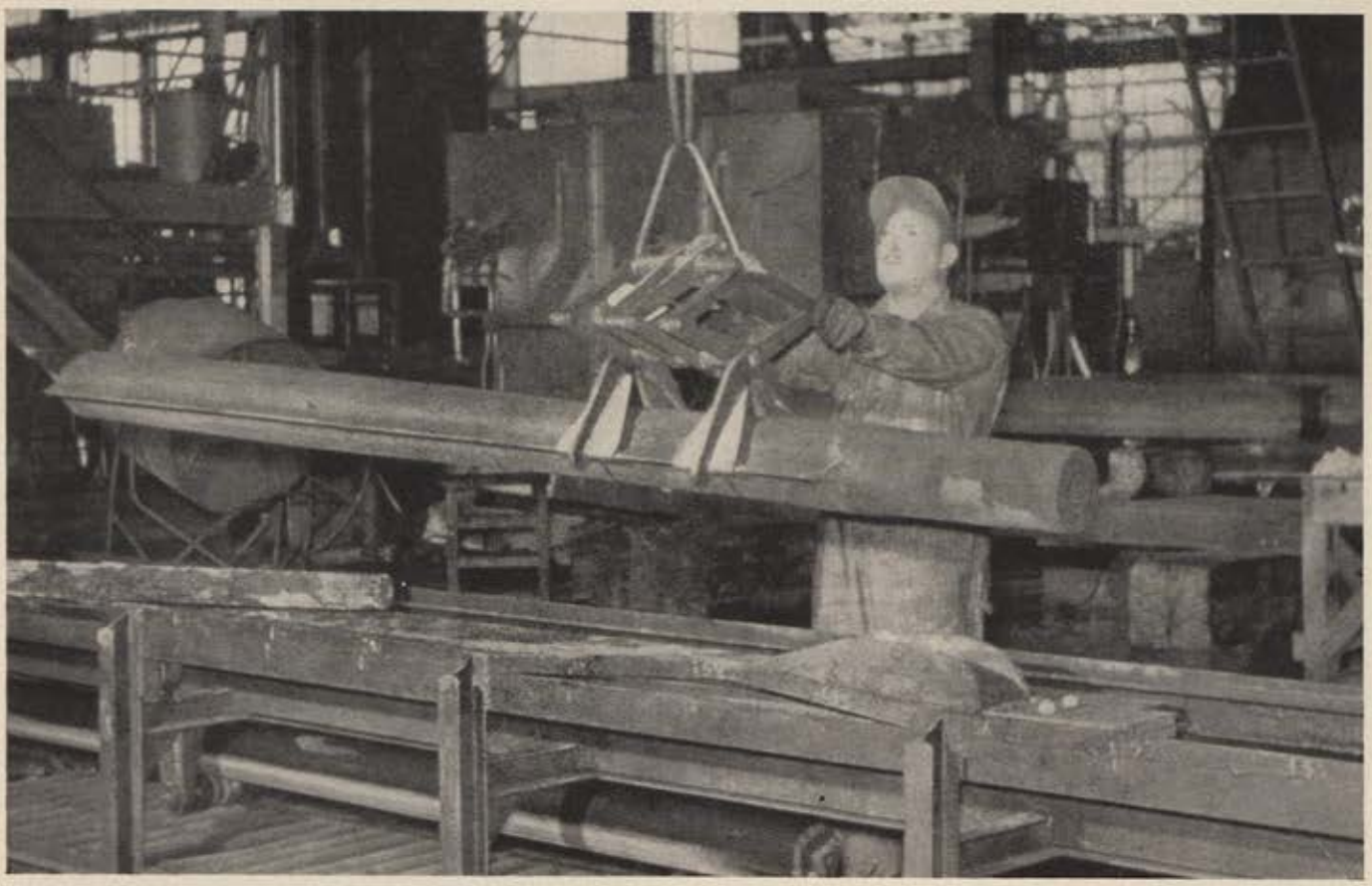

Helping America's fastest moving industry forge ahead!

You're looking at a good reason why top plane builders are attaining faster, greater production.

This photo shows a seamless tube hot-extruded by Curtiss-Wright from a forging of Barium's Industrial Forge & Steel, Inc. (the tube will become a hollow steel propeller blade). It's this ability of suppliers to provide plane producers with vital raw materials, parts, complete assemblies, that helps boost aircraft output.

Other Barium subsidiaries supply the industry with the key components described in the captions below, gearbox assemblies, cylinder liners, Fiberglas and magnesium wings, and many more.

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"FLYING BOXCAR" (C-119), carrying 10,000 lbs. of cargo or equivalent weight in passengers, is made by Fairchild Engine and Airplane Corp. with gear blanks produced by Barium's Globe Forge, Inc.

"STRATOFORTRESS" (B-52), heavy bomber, with inlet (for filling oil, fuel, water-alcohol tanks) protected by a filler cap, made by Barium's East Coast Aeronautics, Inc. Boeing Airplane Co. makes B-52s.

"THUNDERJET" (F-84F), fighter-bomber, speeding on swept wings at 650 mph plus, uses hydraulic assemblies, manufactured for the builder, Republic Aviation Corp., by Barium's Jacobs Aircraft Engine Co.

World's Busiest Airport Praises Gilfillan GCA Radar

"...the biggest advance ever taken to control aircraft safely and expeditiously,"

says Clarke L. Croft, Chief Airport Traffic Controller.

IN REPLY ADDRESS
DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION
Airport Traffic Control Tower
Cleveland (Hopkins) Airport
Cleveland 11, Ohio

IN REPLY REFER TO
FILE

December 9, 1952

Mr. Warren C. Miles
Export Sales Manager
Gilfillan Bros., Inc.
1815 Venice Boulevard
Los Angeles 6, California

Dear Warren:

It was a pleasure to get your note, and I am most happy to forward a few comments regarding Gilfillan ASR-1 and PAR-1 to you.

The installation of radar at Cleveland Hopkins Airport was the biggest advance ever taken to control aircraft safely and expeditiously. According to our records, of the total instrument approaches made here, we average 50%, plus or minus very little from month to month, of the approaches made utilizing radar only. Of the 50%, at 95% are surveillance approaches. If we have surveillance minimums, we never go to precision because our prevailing wind is southwest. The operators feel bad if they have an aircraft more than 100 feet right or left of the runway at one mile on surveillance runs, even though the equipment isn't designed for that accuracy. The accuracy of the PAR-1 is remarkable. We have never had any failure of equipment during instrument weather. A few minor changes in location of controls on the ASR-1 should be made with which, I'm sure you are familiar.

Again, may I say, we are very happy with the Gilfillan equipment. We believe we make more use of radar than any other location, and have practically eliminated delays to arriving aircraft. I'll be looking forward to your next visit.

Very truly yours,

Clarke L. Croft

Clarke L. Croft
Chief Airport Traffic Controller

CLC:no

Civil Aeronautics Administration reports that during the last fiscal year CAA control towers handled a record 16,673,562 landings and takeoffs. Busiest of all was Cleveland tower, with a total of 327,943 operations.

Gilfillan is the only GCA radar in operation at CAA airports in the United States.

Gilfillan is exclusive supplier of latest, proven, GCA radar to the USAF, USMC, USN and the air forces of England, Canada, Italy, Australia, Belgium, Denmark, the Netherlands, Norway, Portugal and the Union of South Africa.

Only Gilfillan GCA Radar is standard equipment among 24 nations of the free world.

There can be no substitute for Gilfillan's 40 years of highly specialized experience.

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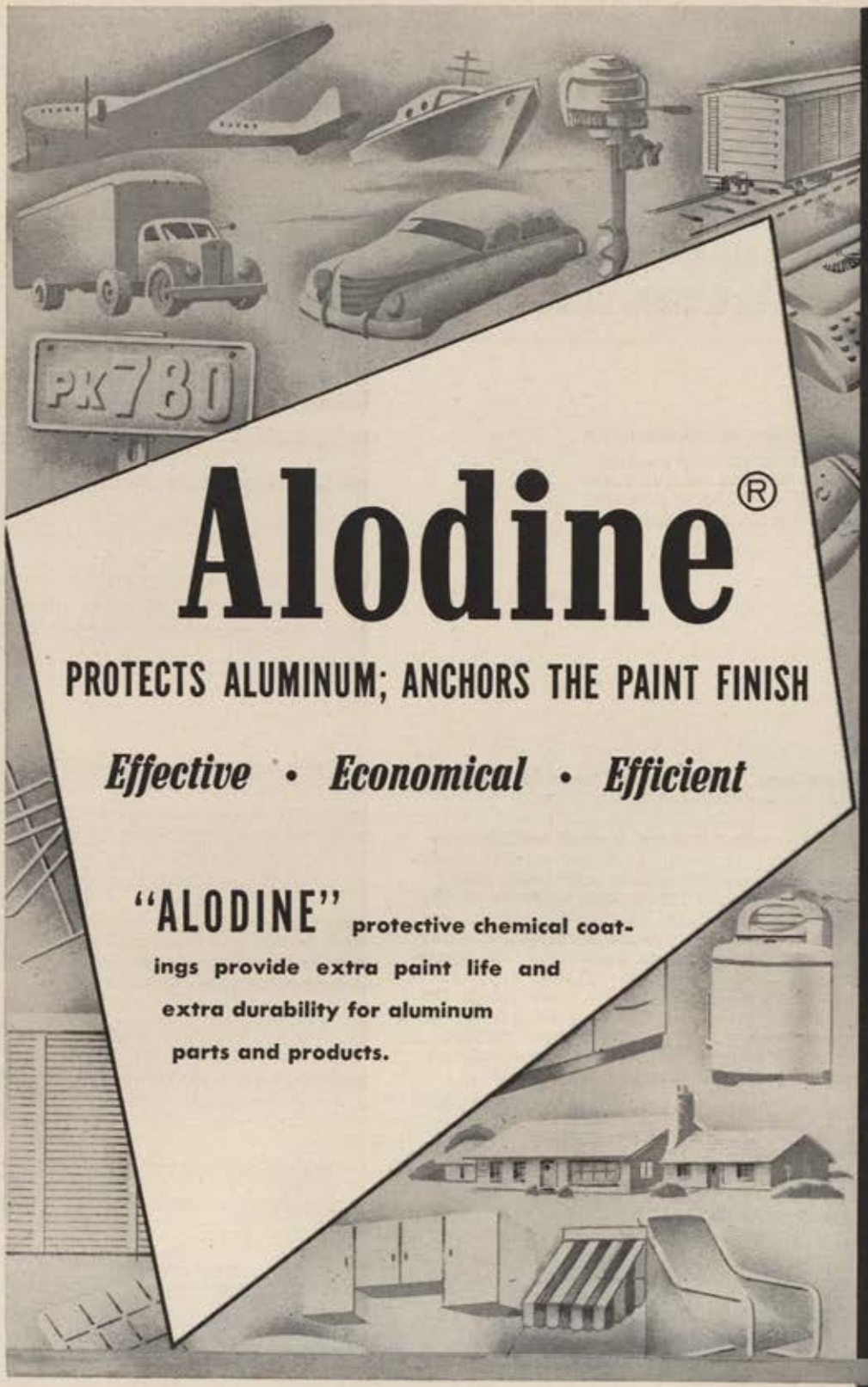

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TECH TALK

By Richard Skinner

Jot this down: May 14 through 17—ninth annual forum of the American Helicopter Society, in Washington, D. C. Mayflower Hotel is headquarters. The usual fine helicopter air show will climax the forum.

Military planes of the future may be immune to radar. They'd be made of reinforced plastic material, lighter than most metals and better able to stand the thermal barrier of supersonic flight than steel alloys or aluminum. Or so said William Braham, chief engineer of the Zenith Plastic Company, who described to the Society of the Plastics Industry a new plastic resin coated on fiberglass cloth as being "electronically transparent." He estimated airframes of the new material could be turned out in mass production at one-fifth the cost of metal frames.

The Navy's North American AJ-2, largest carrier plane ever built, has made its first flight. It's described as an A-bomb carrier. Rundown: two conventional engines plus a turbojet, crew of three, announced speed of 425 mph, span of 75 feet, 65-foot length, and 21-foot height.

Savings for the Air Force will result from an antenna-detector device developed by M. John Heffernan, an RCA field engineer. The device eliminates the need for long and expensive antenna arrays and will cut down some land purchases for antenna towers and other equipment.

Weathermen are getting bolder. They're now calling the turn on weather on Mars, and most of the predictions are gloomy. Dr. Jean I. F. King of the Air Force's Cambridge Research Center reports that Martian surface temperature is about 28 below zero. But you'd have other problems too—there's no oxygen. Still it's better than Jupiter, whose atmosphere is methane and ammonia gas, with traces of nascent hydrogen and helium—a stinking climate.

You probably don't need to be told, but the School of Aviation Medicine warns against watching an A-bomb explosion without protective glasses. Even if you're four or five miles away, beyond radiation and blast, the heat of the bomb will still blind you. That's because the eye acts as a lens and would focus on the image of the nuclear fireball the way a magnifying glass would. Even the automatic blinking or turning away from the blinding light wouldn't save you since the eye takes 1/10 second to blink while the bomb's heat reaches its peak in 1/10,000 second.

Pan American World Airways pilots take advantage of the "jet stream" winds in flying the 3,900 miles between Tokyo and Honolulu non-stop on a regularly scheduled basis. That's the world's longest non-stop scheduled flight. The hop takes 11 hours with planes averaging 355 mph. The old route, stopping at Wake Island, took 18 hours. The so-called jet stream blows along the route in winter at seventy to eighty mph at flight levels of about 23,000 feet. Some jet streams are known to hit 200 mph, but these heavenly hurricanes have never been accurately mapped. Tell-tale cloud formations sometimes show their presence.

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Tiny Tube . . .

A HARVEST OF HAND RADIOTELEPHONES

The subminiature tube, a Raytheon development, made possible this lighter, more compact hand transmitter-receiver AN/PRC-6. Raytheon developed and is mass-producing this equipment . . . another Raytheon contribution to improve the effectiveness of our Armed Forces.

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THE H-6B GYRO-HORIZON

DESIGNED FOR HIGH-SPEED AIRCRAFT

The new Sperry H-6B Gyro-Horizon provides *accurate indications—up to the speed of sound.* This significant advance has been achieved through the development of special temperature compensated parts, stainless steel gimbals, and stepped up gyro efficiency.

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Again Sperry's advanced research and engineering is meeting the demands of increased speed . . . *with speed.* Our Aeronautical Department will be glad to supply complete information upon request.

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Improved bezel presentation . . . with maximum reduction of parallax to eliminate angular distortion, improved reference airplane and adjustment, increasing cone of visibility, and elimination of working parts affecting visibility. **Three phase circuit protection indicator** **Minimum of turning error** • **Non-Tumbling** **Freedom of roll through 360 degrees**

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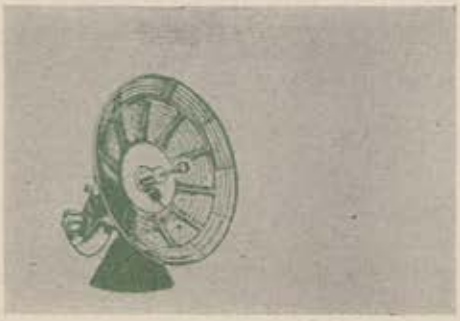
Tongues with the speed of light . . .

Tongues with the speed of light
Challenge all things in flight
And search the good and evil in the dark

And when the echo's heard
Ears grip the electric word
And measure the hidden journey of a spark

And the ear becomes an eye
Over the sea and high
As falcons climb and man shall stand aware

Of approaching foe or friend
Beyond the horizon's bend
And in the darkness he shall meet them there.



Radar — from "Stars and Atoms have no size", by A. M. Sullivan (*by permission*).

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Our instrument engineers, with more than 25 years of specialization in this field, could well put an end to your search for more effective automatic controls. There's no obligation, of course. Why not write for more information to Dept. G.

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ACTUAL SIZE

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101A2D SYNCHRO
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Ketay Part No.	D—14450
Voltage rating	11.8v/0.4 v per deg.
Operating frequency	400 cps
Input power	0.4 w max.
Input current	140 ma max.
Input impedance	61 /77° ohms
Secondary voltage	23.2 ± 1 v
Total null voltage	40 mv max.
Fundamental Component of Null voltage	30 mv max.
Time Phase Shift	7°
Moment of Inertia	8.8 × 10^{-5} slug in^2
Frictional Torque	.05 oz. in.
Electrical Accuracy	—max. 10′

WHEN USED AS A
CONTROL TRANSMITTER

Voltage rating	26/11.8 v.a.c.
Input power	0.4 w max.
Input current	65 ma max.
Input impedance	475 /77° ohms
Output voltage	11.8 v ± 0.3 v
Time phase shift	7.3°

Ketay

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• MAGNETIC AMPLIFIERS • AUTOMATIC CONTROL SYSTEMS

• ELECTRONIC EQUIPMENT

ANGuard ANGLES

A new Air Force *department. The author, an ANGUS major, is Wing Director of Personnel, 113th F-B Wing, D. C. Air National Guard.*

TWENTY-FIVE wings plus five additional squadrons are scheduled for two-week training this year. They'll train at 11 sites—eight in the US, one each in Alaska, Hawaii and Puerto Rico.

Here are dates and locations. All are wings unless otherwise noted:

June 6-20—136th, Texas, at Travis AFB, Savannah, Ga.

June 13-27—142d, Washington, at Boise, Idaho; 140th, Colorado, Casper, Wyo.; 133d, Minnesota, Camp Williams, Wis.

June 14-28—103d, Connecticut, Spaatz Field, Reading, Pa.

July 5-19—137th, Oklahoma, Casper, Wyo.; 122d, Indiana, Camp Williams, Wis.; 123d, Kentucky, Grayling, Mich.; 106th, New York, Syracuse, N. Y.; 111th, Philadelphia, Reading, Pa.; 117th, Alabama, Travis, Ga.; 122d Squadron, Louisiana, Travis, Ga.

July 19-August 2—198th Squadron, Puerto Rico, Roosevelt Roads Naval Air Station, P. R.

July 25-August 8—131st, Missouri, Casper, Wyo.; 128th, Wisconsin, Camp Williams, Wis.; 121st, Ohio, Grayling, Mich.; 107th, New York, Syracuse, N. Y.; 113th, District of Columbia, Reading, Pa.; 116th, Georgia, Travis, Ga.; 102d, Massachusets, Grenier AFB, Manchester, N. H.

August 1-15—146th, California, Boise, Idaho.

August 15-29—108th, New Jersey, Syracuse, N. Y.; 112th, Pennsylvania, Reading, Pa.; 101st, Maine, Grenier, N. H.; 169th and 170th Squadrons, Illinois, Camp Williams, Wis.

August 16-30—127th, Michigan, Grayling; 118th, Tennessee, Travis, Ga.; 156th Squadron, North Carolina, Travis.

August 22-September 5—144th, California, Boise, Idaho.

November—144th Squadron, Alaska, International airport, Anchorage.

Not included in this schedule are Iowa's 132d Wing; two squadrons—108th and 168th—and headquarters of the 126th Wing, Illinois; Kansas' 127th Squadron, and South Dakota's 175th Squadron. Their training plans will be announced later.

• • •

Nevada promises to be the strongest ANG state in the US in ratio to its population when its authorized units reach full strength. With a population of 160,000, Nevada will have 661 ANG officers and airmen—one for each 250 Silver Staters.

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US average is one to 1,800, based on total ANG strength of 12,704 officers and 74,236 airmen.

By Al Scholin

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MOBILIZATION NEWS

BY JAKE CULPEPPER

PAY — Don't count on the economy-minded 83d Congress to adopt the flat eight percent increase in base pay recommended by Defense Department for members of the Armed Forces. . . . Centralized finance center has been opened by ConAC at Floyd Bennett Field, Brooklyn, and will service ROTC, ANG, and non-EAD Reserve units in the northeastern area of US.

UNIFORMS — VART unit officers and airmen may now buy AF uniform items (except raincoats, underwear, shoes, socks, and towels) if available in Clothing Sales Store stocks. . . . Reservists recalled since Korean war are sweating out service regulations setting in motion uniform allowance payment as authorized by Armed Forces Reserve Act.

TRAINING — Air Reservists may receive credit for training in a non-flying status with a Reserve component of other services. . . . Reservists and Air Guardsmen who complete the six volumes of the Industrial College of Armed Forces' correspondence course, "Emergency Management of the National Economy," may chalk up forty-eight points. . . . Summer active duty training periods for Reserve wings are being reshuffled to pool training center aircraft and personnel. The 435th Troop Carrier Wing will train at Miami International Airport, July 5-19. The 94th Tact Recon Wing will report to Dobbins AFB, Ga., Aug. 2-16.

PROMOTIONS — Second lieutenants may now be promoted after completion of a combination of twenty-four months' active federal commissioned service and service in the AF Reserve or Air National Guard as a commissioned officer, of which at least six months has been served on current tour of active duty. . . . The term "time in grade," long linked with promotions directives, has given way to the expression "promotion service." . . . AF Reserve officers below brigadier general's rank who are not in active status and fill a unit position vacancy of higher grade now are considered for promotion regardless of points earned.

AIRMEN — Reserve airmen not on active duty may enter the AF OCS School at Lackland AFB, San Antonio. Under this program, Reservists are returned to their Reserve units after graduation. Applicants must be assigned to a Reserve Combat or Flying Training Wing, Combat Support Wing, Specialist Training unit on pay status, or hold a mobilization assignment. . . . Non-EAD airmen who belong to any type of AFR or ANG unit and have at least one full year of service are eligible to apply for preliminary exam for entrance to West Point in July of 1954.

RECALL — 258 Reserve officers who are now serving on active duty as airmen or who hold mobilization assignments or designations will be recalled to active duty before the end of this month. This quota consisted of 102 pilots, eighteen observers, and 138 non-rated officers in selected skills. . . . AF needs 11,135 Reserve officer volunteers to meet its manpower goal prior to June 30, 1953. Total need consists of 3,601 pilots, 766 observers, and 6,668 non-rated officers.

INVENTORY — ConAC's inventory of AF Reserve personnel, more than one-third completed, has been extended to all major commands. A total of 87,421 officers and 33,366 airmen have been interviewed to date under this program which is scheduled to be completed by June 30, 1953.

VETERANS — April 9, 1953, is the deadline for filing Prisoner of War claims under Public Law 303, 82d Congress. . . . The number of World War II veterans in civilian life is 15,424,000, including approximately 700,000 who have also served since the Korean war started.

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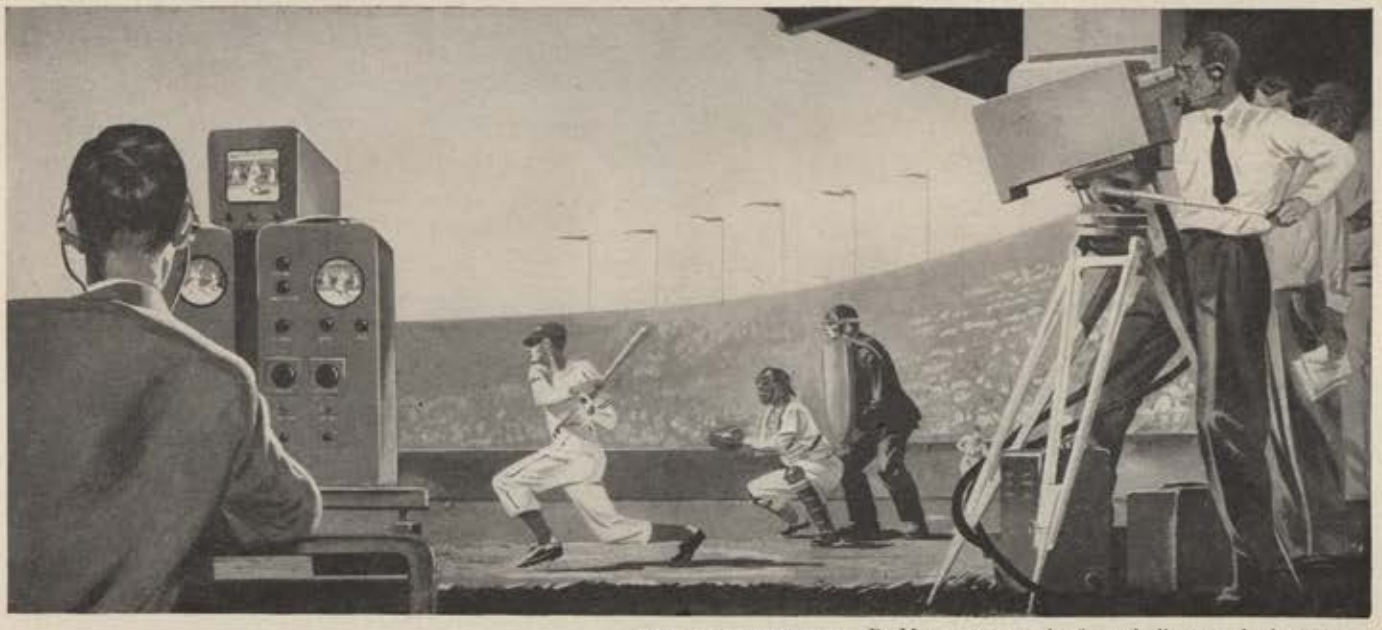

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REPORT TO THE READER

TWICE in the past few months we have departed from the traditional editorial path of aviation magazines. The first time was last November when we published "It Could Have Been You," in which Col. John J. Driscoll revealed for the first time that American flyers accused by the Reds of participating in biological warfare in Korea had been tortured into making phony confessions. The second time was in February, in an article called "Target: Mom," which revealed publicly, also for the first time, that the Communists were practicing emotional blackmail upon the families of US airmen captured in Korea.

In both instances the connection with our fight for adequate airpower for this nation was indirect. Airmen were involved in both cases but they could have been soldiers, sailors, or marines. The common denominator is the basic inhumanity of the Communist conspiracy. And we feel that continuous exposure of the tactics and techniques of this conspiracy is a legitimate aspect of the airpower story. For, in the last analysis, that is the only reason we need military aviation—to cope with this threat.

The public reaction to these exposures has been most encouraging. We discussed the response to the first in our December issue. Now we'd like, in a sort of report to our readers, to tell you about "Target: Mom," and the editorial by AFA President Art Kelly which accompanied it. The story was picked up and distributed by the major wire services to newspapers throughout the country and was also quoted by both radio and television newscasters. Kate Smith talked about it at length on her NBC television show. *The Reader's Digest* has requested, and received, permission to condense and reprint it. And a major radio show has asked for permission to use it as the basis for a script.

We were also pleased by the reaction of persons in public life who read the article and were kind enough to pass along their comments. Here's a sampling:

From FBI Director J. Edgar Hoover: "Both the editorial and the article were very interesting and I think in this

(Continued on page 65)

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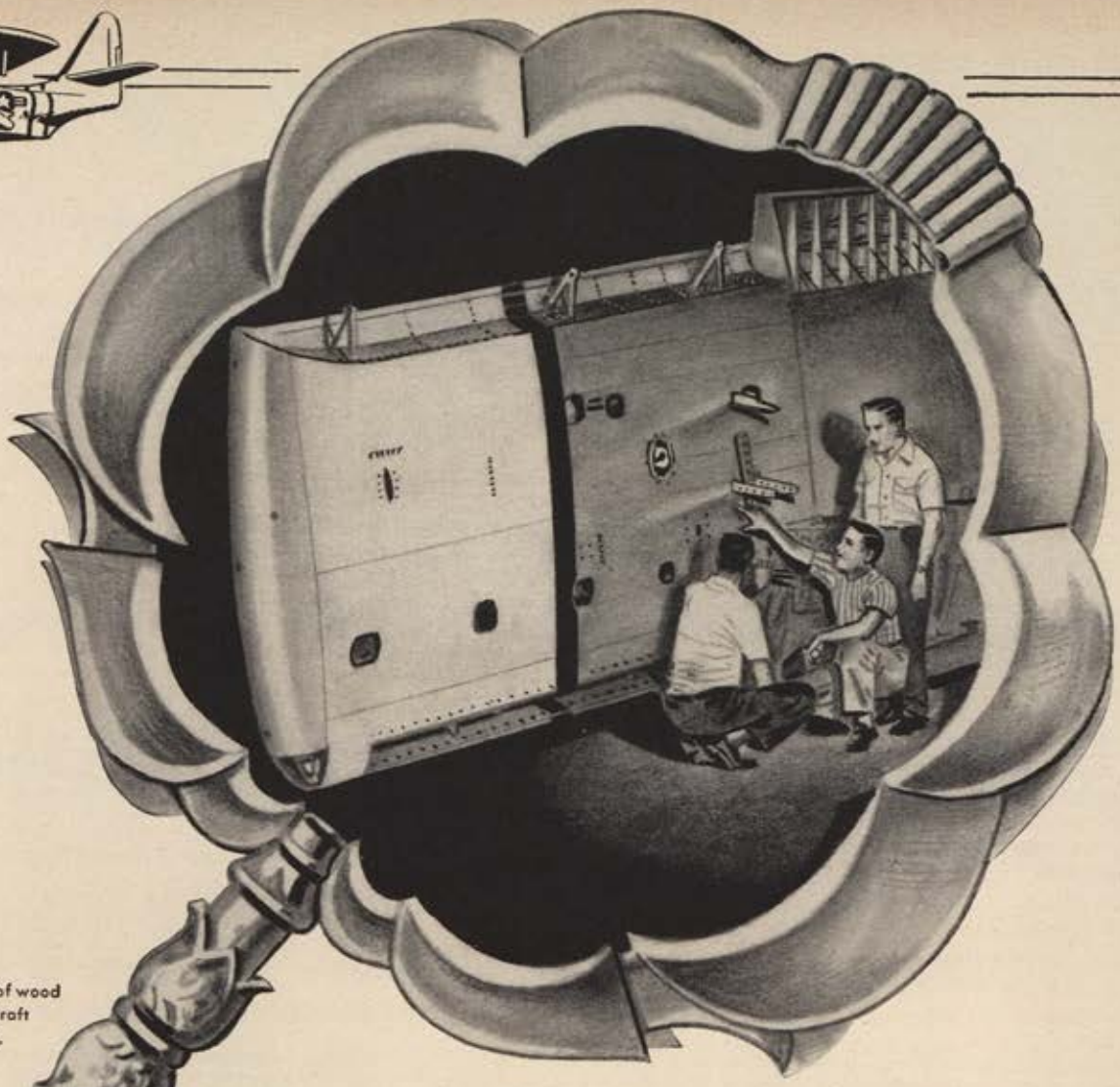

Steven Chojnacki, general foreman of wood tools and dies, has been in the aircraft industry almost since its inception. Starting with the famous Flying Jenny he has spent 37 years in the industry, over 6 of them with Twin Coach.

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REPORT—CONTINUED

respect that it is most important for the people of this country to be aware of the true nature of the work of the Communist propaganda and psychological warfare forces."

Rep. Oakley Hunter (R., Calif.): "I appreciate very much the editorial and the article which exposes this insidious propaganda and I only wish that it could be required reading for every wife and mother whose husband or son is in Korea."

Sen Frederick G. Payne (R., Me.): "This is certainly in keeping with the most informative material that AIR FORCE Magazine continually presents."

Gen. Curtis E. LeMay, USAF: "AIR FORCE Magazine is to be commended for exposing this attempt to use families of captured servicemen as tools of the Communist propaganda machine. Both the editorial and the article constitute a timely warning."

Sen. Richard B. Russell (D., Ga.): "I have read with more than usual interest the editorial and article concerning the vicious use of war prisoners for propaganda. The scheme is diabolically clever in that no concerted action can be taken against it but rather we must depend upon the strength of individuals involved."

Rep. Laurie C. Battle (D., Ala.): "The article shows very clearly that the Communists have no sense of morals or decency and will resort to any tactics in an effort to gain their point. Also it points up the importance of unwavering moral and spiritual strength in our fight to prevent the spread of this ruthless and godless Communist doctrine."

Rep. Clair Engle (D., Calif): "You have performed an important service to the country in printing this article and calling the insidious nature of the Communists' campaign to the attention of the American public."

Maj. Gen. Charles I. Carpenter, Chief of AF Chaplains: "I think you are making a valuable contribution to our country by calling attention to the fact that the struggle against Communism is not confined to military action, and consequently our people must realize that the family of the serviceman must be constantly alert to its share in the defense of freedom."

Rep. Lloyd M. Bentsen, Jr. (D., Tex): "The Air Force Association should be highly complimented for the job they are doing and for the excellent and informational magazine they publish."

Rep. J. Vaughan Gary (D., Va.): "You have done a real service to our country by publication of this article."

—END

CREDITS

Front cover and page 27—Charles deM. Barnes; page 14 (Airman Leming) — The Washington Evening Star; pages 19, 37, and 38—Arlo Greer; pages 32 and 33—Watson Holley; page 48—H. Speigel.

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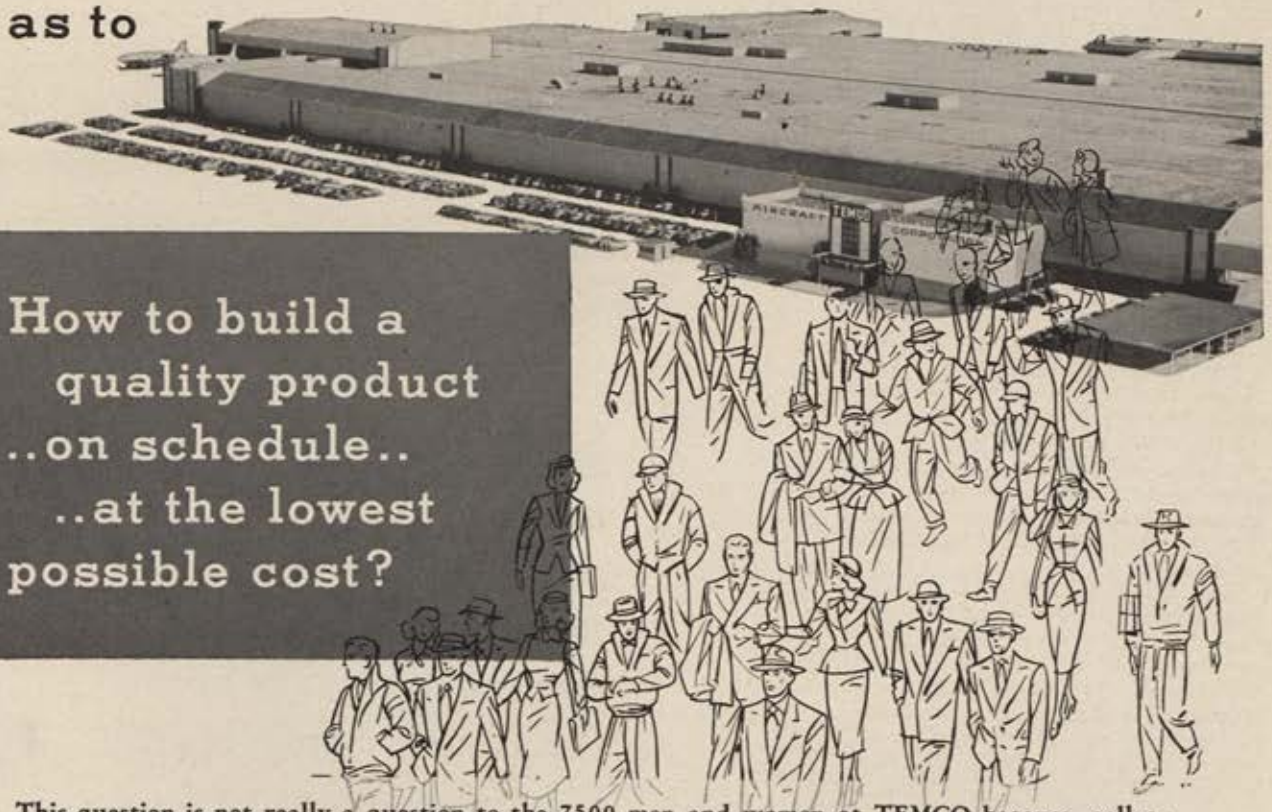

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REUNIONS TO HIGHLIGHT '53 CONVENTION

MORE than a score of Air Force unit reunions are expected to be held in conjunction with the 1953 AFA National Convention in Washington, D. C., on August 20-23. These reunions are actually little conventions and feature such social functions as luncheons, banquets, dancing, and cocktails. Among the groups which meet with AFA each year are ATC, AMC, Night Fighters, Chaplains, Medics, WAFS, 13th and 15th Air Forces, and the Air Commandos. AFA cordially invites such groups to meet with it and will arrange for the meeting place and help publicize the reunion. Details can be obtained by writing to AFA at 1424 K Street, N. W., in Washington, D. C.

The serious theme of the AFA Convention will embrace the 50th Anniversary of Powered Flight, which is being observed across the nation throughout the year. Though the Convention program has not yet been completed, AFA members and their friends can expect to enjoy the annual Reunion Cocktail Party, Airpower Ball, Airpower Banquet, and the Dawn Patrol Breakfast, which have become established events of the Convention.

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CONVENTION HEADQUARTERS—STATLER HOTEL

Three famous Washington hotels have been reserved for AFA's 1953 Convention. They are the Statler, which will be Convention Headquarters, the Mayflower, and the Ambassador. AFA will not operate a housing bureau for the Convention. Delegates and Guests should request accommodations directly from the hotel of their first choice. A first and second choice of hotels should be listed.

HOTELS RESERVING ROOMS FOR AFA CONVENTION

Rates	Single Room	Double Room	Twin Room
Statler	$7.00-15.00	$10.50-15.00	$11.00-17.00
Mayflower	6.50-16.50	12.50-18.50	13.00-19.50
Ambassador	5.00- 9.00	7.50-10.50	8.50-12.00
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August 20-21-22-23, 1953

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Washington, D. C.

(Please list two choices of hotels)

CHOICE: HOTEL DESIRED:

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TYPE ROOM DESIRED

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☐ Suite—Number of Bedrooms_____

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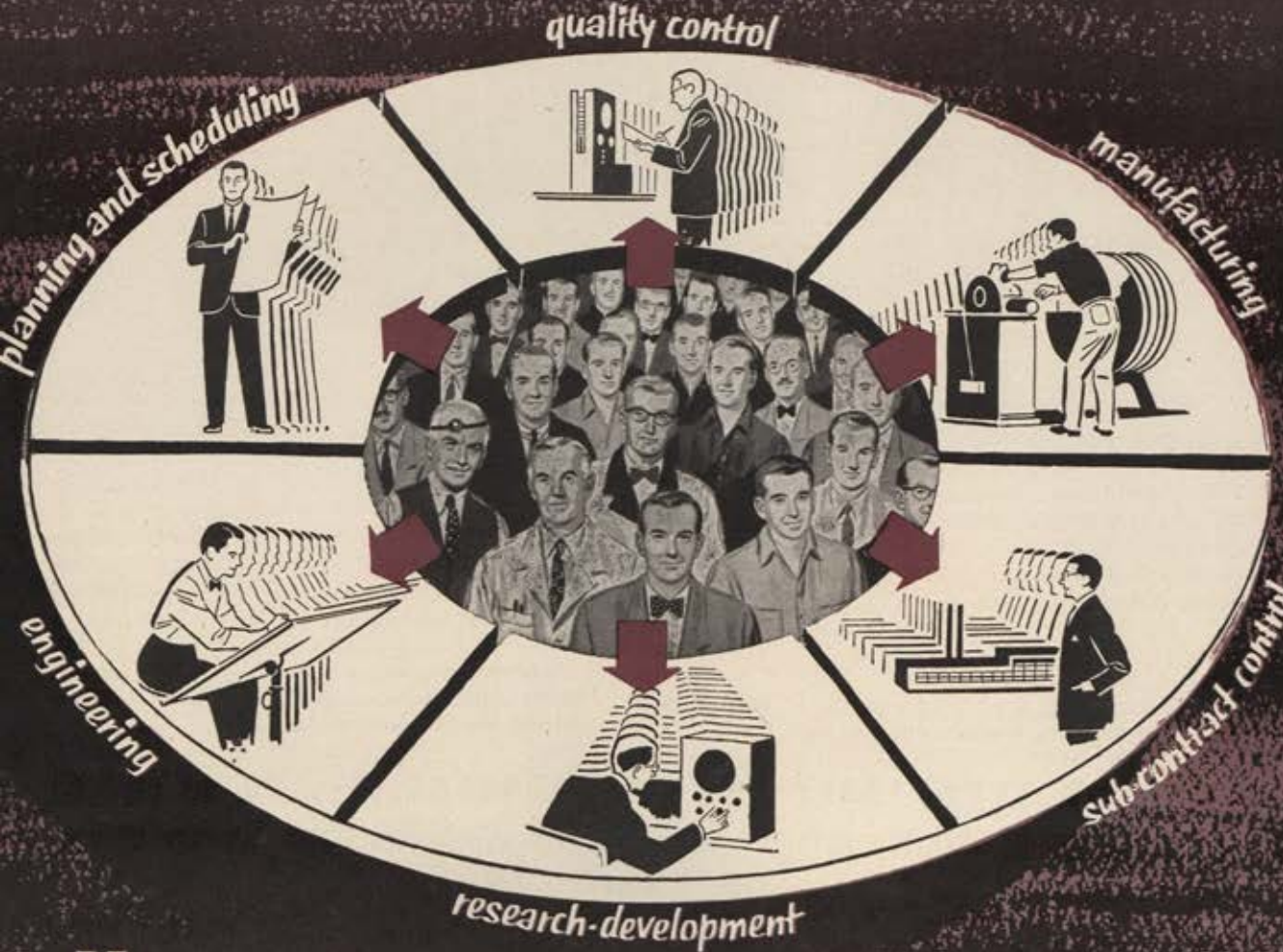

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BOARD OK'S ASSOCIATE MEMBERSHIP

Membership is opened to all supporters of airpower by Directors in special meeting. Dues set at $5 per year

The new category of Associate Membership, opened to all supporters of airpower regardless of military background, was established for the AFA by the Board of Directors at a special meeting February 7, in Washington, D. C.

Associate Members will have the same status in the Association as Service Members (those members currently assigned or attached to the USAF). Like Service Members, Associate Members will enjoy all rights and privileges of the Association, except the right to vote and hold office.

Dues for Associate Membership were fixed by the Board at $5 per year which will include a year's subscription to AIR FORCE Magazine. This dues structure is the same as that for both Active and Service Members.

The new type of membership replaces the non-membership category of the Associate, for which dues were $10 per year, plus a $5 initiation fee.

In creating an Associate Membership, the Board paid tribute to the growing importance of individuals without Air Force background in activities of the Association, and a recognition of the desire of field units to broaden the base of participation in local AFA programs.

The Board meeting climaxed two days of activities in Washington for AFA leaders, including briefings and conferences on current airpower subjects. The weekend program included a reception held February 6 at the Statler Hotel, at which the guests of honor were former members of the Air Force now serving in the 83d Congress.

The Board decided to hold the annual meeting of the Nominating Committee (composed of all officers, directors, and wing commanders) on May 16 in Washington, in conjunction with the regular Board meeting. At that time a slate of AFA leaders for the next fiscal year will be drawn up for presentation to delegates at the next national convention. All AFA units are asked to submit their recommendations for national offices and for AFA annual airpower awards to the Secretary, c/o National Headquarters, by the May 16 meeting date.

Committees Announced

President Arthur F. Kelly at the February 7 Board meeting announced

(Continued on following page)

SQUADRON OF THE MONTH

Chicago West Suburban Squadron

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Active support of the aims of Air Force Association through the sponsorship of a weekly radio program on airpower and the support of the Youth Aviation Education program in the Chicago area.

Armed Forces Chaplains Board honors retiring Ass't Defense Sec'y Anna Rosenberg at a dinner at the Plaza Hotel, N. Y. From left, Dr. David Pool, Maj. Gen. Charles Carpenter (AFA), Air Force; Bishop William Martin; Mrs. Rosenberg; RADM S. W. Salisbury, Navy; Francis Cardinal Spellman; Chaplain Francis McGann (AFA); Maj. Gen. I. L. Bennett, Army; and Chaplain Joshua Goldberg.

Lt. Gen. Edwin W. Rawlings, CG, Air Materiel Command, accepts Arnold Air Society Squadron plaque. The AF-ROTC students from University of Denver honoring him in Denver ceremony are (from left) Rodney Skutt, Virgil Prater, John Truzzalino, William Barnicoat, and Leroy Clarity.

Officers and councilmen of all six Los Angeles Squadrons and representatives of four Auxiliary units attend a Group dinner meeting in Van Nuys, Calif. Wing Commander James H. McDivitt is second from right, front row. On his right is Bernard Peters, LA Area Group Commander.

the following appointments for the current AFA year:

Executive Committee: Arthur F. Kelly, Chairman, Los Angeles, Calif.; James H. Doolittle, New York, N. Y.; C. R. Smith, New York, N. Y.; Carl A. Spaatz, Washington, D. C.; Harold C. Stuart, Washington, D. C.; Thomas G. Lanphier, Jr., San Diego, Calif.; Edward P. Curtis, Rochester, N. Y.; Julian B. Rosenthal (ex-officio), New York, N. Y.

Membership Committee: Carl A. Spaatz, Chairman; Jacqueline Cochran, New York, N. Y.; James H. Doolittle; George C. Kenney, New York, N. Y.; C. R. Smith; Jimmy Stewart, Hollywood, Calif.

Constitution Committee: Julian B. Rosenthal, Chairman; Randall Leopold, Lewistown, Pa.; Warren DeBrown, Red Bank, N. J.

Reserve Forces Committee: Lloyd H. Ruppenthal, Chairman, McPherson, Kan.; Frank T. McCoy, Jr., Nashville, Tenn.; John P. Henebry, Chicago, Ill.; Frank Ward, Battle Creek, Mich.; David T. Levison, Brooklyn, N. Y.; Harry J. Johnson, Jr., Erlanger, Ky.; Dr. Cortez F. Enloe, Jr., New York, N. Y.; Father William F. Mullally, St. Louis, Mo.

Squadron Activities Committee: Thomas F. Stack, Chairman, San Francisco,; Morry Worshill, Chicago, Ill.; N. Michael Kavanaugh, San Francisco, Calif.; Bernard Barrett, Campbell, Calif.; George D. Hardy, Mt. Rainier, Md.; Bert D. Lynn, Los Angeles, Calif.; James H. McDivitt, San Gabriel, Calif.

Airports Committee: Gill Robb Wilson, Chairman, New York, N. Y.; A. Richard Girkins, Toledo, Ohio; B. E. Fulton, Akron, Ohio; Hillford R. Wallace, Spokane, Wash.

Membership Promotion Committee: John R. Alison, Chairman, Redwood City, Calif.; Robert S. Johnson, Garden City, N. Y.; Merle S. Else, Minneapolis, Minn.; Dr. Cortez F. Enloe, Jr.

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Baltimore TV Series

The Baltimore Squadron of AFA has produced the first of a scheduled fourteen weekly telecasts that will feature local and national aviation figures plus discussions of some controversial airpower subjects. The series, similar to programs aired last year, is being presented to enable the community to better assess the nation's airpower defenses today. Last year's series was well received. Squadron Commander Meir Wilensky is handling the production. The 30-minute programs are presented over Baltimore TV Station WAAM.

Wing Conventions

Four AFA Wings have announced convention plans. The dates and places are listed below, along with the names and addresses of the persons to be contacted for more information.

California: April 18-19, Manor Hotel, San Diego, James H. McDivitt, 7461 E. Kenton Dr., San Gabriel, Calif.

Wisconsin: May 3, Milwaukee (hotel to be announced later). A. J. LaPorte, 4930 N. 53d St., Milwaukee, Wis.

Michigan: May 23, Lansing (hotel to be announced later). Stanley K. McWhinney, 6140 W. Saginaw St., Lansing, Mich.

New York: May 23, Hotel St. George, Brooklyn. Stanley Denzer, 1086 Ocean Ave., Brooklyn 30, N. Y.

Los Angeles Cooperates

During the last year, the AFA Squadrons in Los Angeles County have been looking for a cooperative plan whereby the ideas, programs, and solutions to problems one Squadron comes up with can be passed on to other units. One way of doing this is in the bimonthly dinner meetings the Squadrons hold on a "rotating" basis.

Another purpose of these meetings is

(Continued on page 72)

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- ☐ Engineer
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- ☐ Aircraft Electrician
- ☐ Sheet Metal Mechanic
- ☐ Sheet Metal Layout Man
- ☐ Aircraft Radio Installer
- ☐ Aircraft Radio Mechanic
- ☐ Inspector

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The planes shown above are typical designs that incorporate Aerotec Automatic Controls. The Republic F-84F Thunderjet, a combat-proven craft, uses Aerotec pressure switches and a new dual float switch suitable for tip or pylon mounted auxiliary fuel tanks. Boeing has long used Aerotec valves, float switches, and pressure switches on their famous planes.

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to talk over better ways of promoting the airpower mission of the Association and to devise more successful programs on a Squadron level.

Indications of the interest shown in these meetings can be proved by the attendance at a recent one when some sixty members of the six County Squadrons plus Auxiliary representatives of four different units were present.

Bernard Peters, Group Commander, presides at these meetings. All of the Squadrons, and the Wing, are well represented for the lively discussions which take place.

Morrell Appointed VP

During the recent meeting of AFA's Board of Directors, the appointment of Edwin T. Morrell as Vice President of the New England Region was approved by the Board. This appointment had been made by President Arthur F. Kelly on February 1.

Morrell, who resides at 41 Grove Street, North Attleboro, Mass., is serving at present as Commander of the Taunton Squadron and Secretary of the Massachusetts Wing. He is employed by the Plymouth Rubber Company as an industrial engineer. He is married and has two children. During World War II he served with the 486th Bomb Group in England.

Evansville Reactivated

One of the more active of the "older" AFA Squadrons was recently reactivated in Evansville, Ind., and has planned an ambitious program of activities for the coming year.

The first official program carried out by this Squadron was the promotion of the film "Above and Beyond." During the film's showing, the Squadron gave a check for $750 to the Deaconess Hospital expansion fund.

The check was presented jointly by Clifford Bicking, newly appointed Squadron Commander, and James Rutledge, past Commander.

New California Units

Long Beach, Calif., has simultaneously chartered an AFA Squadron and Ladies Auxiliary, and joins the San Fernando Valley Squadron in this select class of "double headers."

The new Squadron Commander is James P. Regan, 1115 Raymond Ave., whose wife was elected President of the Auxiliary. Daryl E. Irwin is Squadron Vice Commander; James H. Perry, Sec'y; Owen C. Carr, Treasurer; Raphael Baez, Fran Parsons, Irwin McElroy, and Donald Carson, Councilmen.

Other Auxiliary officers are Kathleen Irwin, Jeanne Dunn, Beverly Carlson, Jacqueline Perry, Grace Parsons, Zelpha Prince, and Lucy Yarnell.—END

Hughes cooperative plan for

MASTER OF SCIENCE DEGREES

Purpose **TO ASSIST** outstanding graduates in obtaining their Master of Science Degrees while employed in industry and making significant contributions to important military work.

Eligibility Eligible for application are members of the armed services being honorably discharged prior to September, 1953, holding degrees in the following fields:

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MECHANICAL ENGINEERING

Those chosen to participate in this plan will be from the upper portion of their graduating classes and will have evidenced outstanding ability. They must also have displayed some degree of creative ability and possess personality traits enabling them to work well with others.

Citizenship Applicants must be United States citizens, and awards will be contingent upon obtaining appropriate security clearance, as work at the Hughes Research and Development Laboratories may be related to National Defense projects.

Universities Candidates for Master of Science Degrees must meet the entrance requirements for advanced study at the University of California at Los Angeles or the University of Southern California.

Program Under this Cooperative Plan, commencing June 1953, participants will follow this schedule of employment at Hughes:

FULL TIME—from June, 1953 to Sept., 1953.
HALF TIME—from Sept., 1953 to June, 1954.
FULL TIME—from June, 1954 to Sept., 1954.
HALF TIME—from Sept., 1954 to June, 1955.

Recipients will earn five-eighths of a normal salary each year and attend a university half time during regular sessions working on their Master's Degree.

Salaries The salary will be commensurate with the individual's ability and experience, and will reflect the average in the electronics industry. Salary growth will be on the same basis as for full-time members of the engineering staff. In addition, the individuals will be eligible for health, accident, and life insurance benefits, as well as other benefits accruing to full-time members.

Travel and Moving Expenses For those residing outside of the Southern California area, actual travel and moving expenses will be allowed up to ten per cent of the full starting annual salary.

Sponsorship Tuition, admission fee, and required books at either the University of California at Los Angeles or the University of Southern California, covering the required number of units necessary to obtain a Master's Degree, will be provided by Hughes Research and Development Laboratories.

Number of Awards Approximately one hundred Cooperative Awards are made each year, if sufficient qualified candidates present themselves.

Selection of Candidates Candidates will be selected by the Committee for Graduate Study of the Hughes Research and Development Laboratories.

Application Procedure Application forms should be obtained immediately. Completed applications must be accompanied by college transcripts.

Address correspondence to

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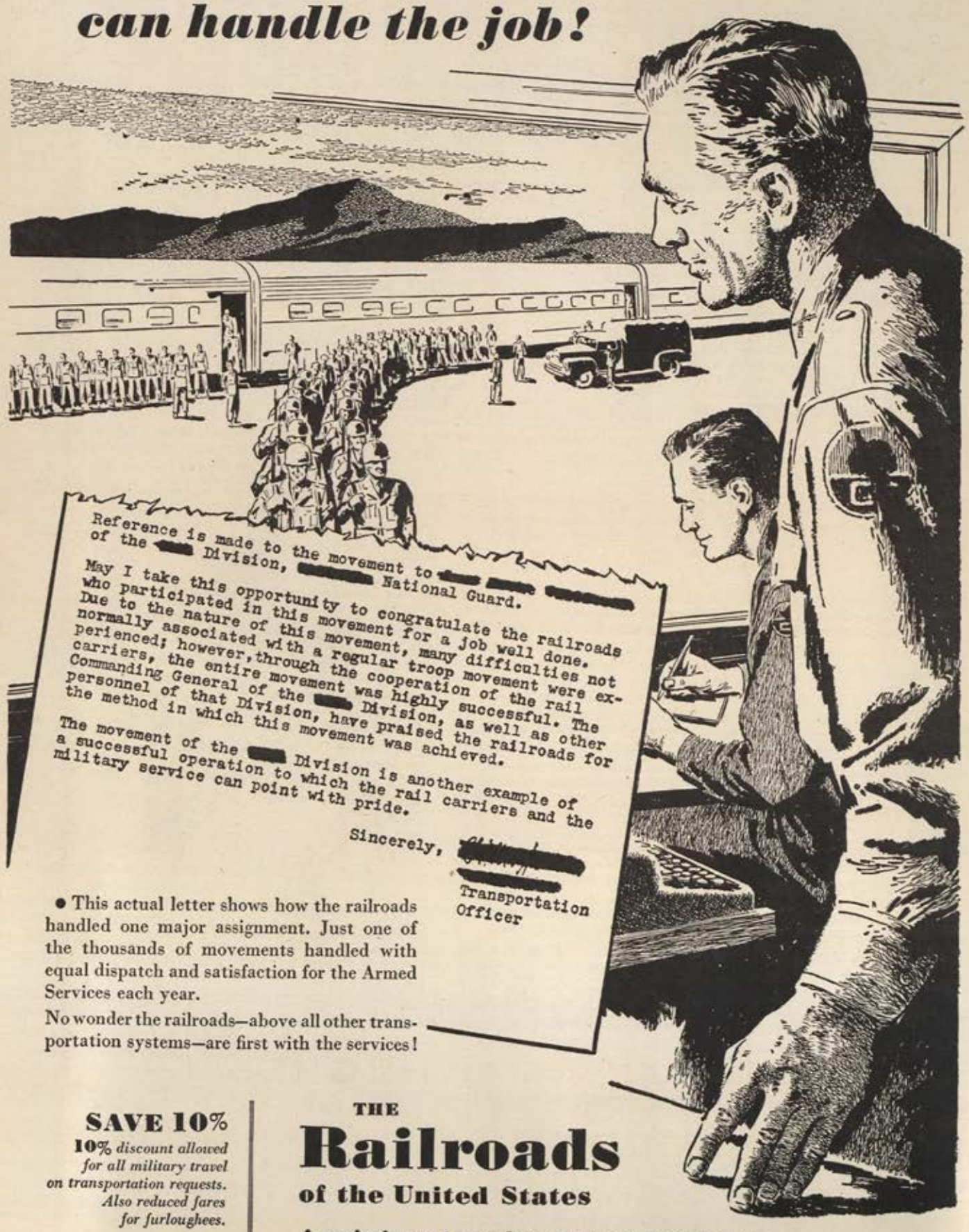

Reference is made to the movement to [redacted] of the [redacted] Division, [redacted] National Guard.

May I take this opportunity to congratulate the railroads who participated in this movement for a job well done. Due to the nature of this movement, many difficulties not normally associated with a regular troop movement were experienced; however, through the cooperation of the rail carriers, the entire movement was highly successful. The Commanding General of the [redacted] Division, as well as other personnel of that Division, have praised the railroads for the method in which this movement was achieved.

The movement of the [redacted] Division is another example of a successful operation to which the rail carriers and the military service can point with pride.

Sincerely,

[redacted]
Transportation Officer

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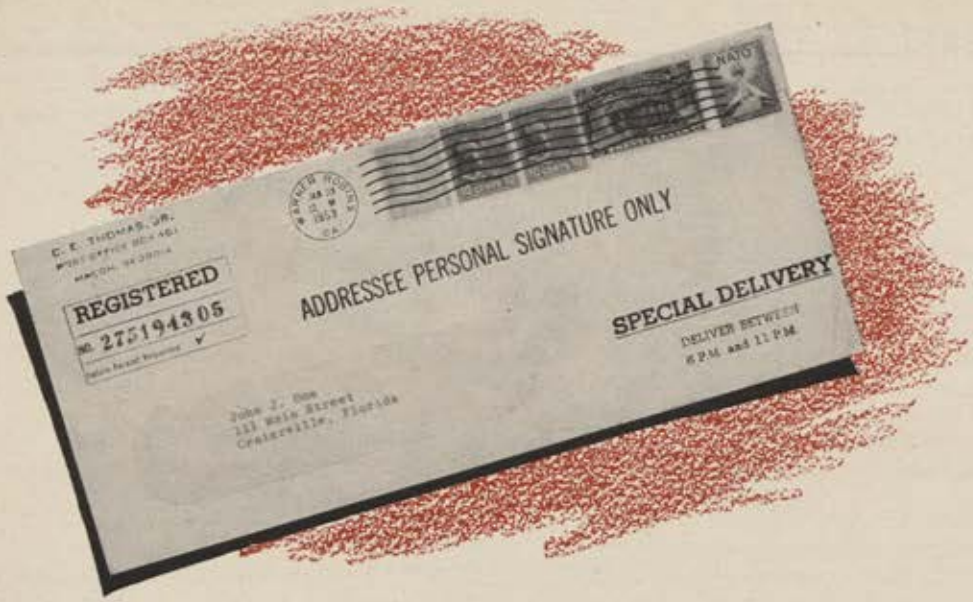

By Ralph V. Whitener

Has Your Postman Rung Twice?

Since last October a quarter of a million Reservists have been asked to accept indefinite appointments. Here's how and why

Since last October, Air Force Reserve officers, on and off active duty, have been asked to accept indefinite appointments in lieu of their current term appointments. This article is intended to help clarify the issue.—THE EDITORS.

IN THIS day of inflation and deflation, the price of butter and eggs may go up or down but Reserve officer appointments will remain stable. As of January 1, 1953, all Reserve officer appointments will be for an indefinite term. This means that all Reserve officers, both on and off active duty, who do not already hold indefinite appointments must convert their present term appointments to an indefinite status. This was brought about by Section 224 of the Armed Forces Reserve Act, approved by the Congress on July 9, 1952.

Those Reserve officers who now hold indefinite appointments need not take any action. Newly commissioned Reserve officers are automatically given indefinite appointments. But "old" Reservists must fill out a form. The conversion to an indefinite appointment will be made *only* if the Reserve officer agrees in writing. If he doesn't agree to accept, he will keep his present term appointment until it expires. Then it's gone. In other words, if Major John Doe has two years remaining on his present term appointment when he declines the indefinite offer, he will keep his present commission for two years and then become Mr. Doe. This applies to Reserve officers on and off active duty, world-wide.

THE PROCESS

The law requires that all Reserve officers be notified of the new policy and tendered an indefinite appointment by July 1, 1953. With several hundred thousand Reserve officers involved, the Air Force dared not wait until the effective date of the law, January 1, to send out the notices, if the July 1 deadline was to be met. So, last October postmen began delivering the notices. Eager Reservists filled out the forms and returned them promptly. Undecided and skeptical Reservists waited. Fed-up Reservists either said no, or tore it up. Displaced Reservists did nothing; they didn't know that the law had passed. Exactly how many Reservists were in each of these categories, the Air Force didn't know. The letter had not been registered.

As the end of January approached, it became apparent to some of the numbered Air Forces that a second notice should be sent to those who had not replied. Before January had passed, at least one Air Force had notice number two in the mails. This time it was done right. The letter was registered; it was to be delivered to the addressee only, between 6 and 11 p.m., when the Reservist was most likely to be home; the return address bore no military identification; and the rank was omitted in the address. This was to make sure the notice was delivered and that the Reservist would open the envelope. The writer would take his chances on the logic of his letter to produce a reply. It did. Eighty percent of those who had not replied to the first notice not only answered the second one, but accepted the indefinite appointment.

In spite of all this, the total results were not 100 percent, nor even ninety. Though the majority has replied, the percentage which hasn't is sufficient to weaken the officer strength of the Air Force, at a time when it is busily expanding to 143 wings. The percentage which rejected the indefinite offer also causes concern. Among these two groups are pilots, ground officers, technologists, and other types, some representing a $70,000 investment to the taxpayer. Some said why they were through with their commissions, some didn't.

THE WORD

Why did some Reserve officers take immediate action, others wait for a second prodding, or lie low? Two points are foremost. One is the interpretation of the word *indefinite*. Some say the word *permanent* should have

(Continued on following page)

been used, since that is actually what it means. Others argue that neither word is good. This reasoning seems justified. To the Reserve officer who likes to re-evaluate his position periodically, the word permanent indicated a "life sentence." To the officer who would rather invest his money in the building and loan association than buy Wall Street stock, the word indefinite meant the "death sentence."

The other point which helped turn a routine matter into an issue was *confusion*—confusing appointment with assignment. To illustrate, some Reserve officers said, "I don't want this indefinite appointment—I've had all the active duty I want for a couple years." Others said, "Cancel my appointment, I don't want to go to Korea again, I just got back." Actually, the indefinite appointment has nothing to do with active duty, inactive duty, recall, assignment, reassignment, or anything of the sort. It merely refers to your commissions, second lieutenants, majors, and colonels alike. It's the length of time during which you can call yourself an officer. The Air Force says it will affect you in no way that you could not be affected under your present appointment. All it does is to extend your present five-year appointment until you qualify for retirement, if you wish to keep it that long.

THE WAY—IN OR OUT

Those Reserve officers who fear the "death sentence" have insurance. Air Force Regulation 35-6, dated February 3, 1953, states: "An officer of the Air Force Reserve who has completed three years of service as an officer will not be *involuntarily* separated (from the Reserve, on or off active duty) except by the approved recommendation of a Board of Inquiry, or an approved sentence of court-martial. The officer will be afforded the opportunity to appear before the Board of Inquiry." This makes it pretty clear that the Air Force cannot kick you out without a good reason. For those who fear the "life sentence," there is a living example of how indefinite a definite appointment can be. Not one five-year appointment issued since December 7, 1936, has been renewed. They have merely been extended from time to time. When the December 1936, five-year appointments were due for renewal in December 1941, World War II was already in progress. The law extended them for the duration plus six months, which turned out to be October 28, 1952. By this time, the Korean war was in progress and a Presidential Order extended them again. The latest expiration date for these appointments is April 1, 1953. What started out in 1936 to be a five-year appointment is now seventeen years old. How indefinite can you get?

If you want the indefinite, or permanent, appointment, but are afraid that you might tire of it, go ahead and take it. AF Reg 35-6 also takes care of this. It states that the unqualified resignation of an officer not in the active military service may be accepted if he has completed ten years of service in the Reserve; or, has completed eight years of service in the Reserve, of which two years were in the active military service; or, has received a delay in reporting to active military service in excess of twelve months and has no unfulfilled commitment of obligated service; or, has held his current appointment for three years and is overage in grade. Just write date, and sign your resignation and mail it to the commanding general of the ConAC numbered Air Force in which you reside.

An officer on active duty may tender his resignation at any time, unless he has departed his last duty base in the zone of interior en route overseas, or is temporarily in the zone of interior from an overseas command for emergency reasons. Resignations are submitted to the officer's immediate commanding officer. This is covered in AF Reg 36-12.

SOMETHING OLD—NOTHING NEW

The indefinite appointment is new only to Army and Air Force Reserve officers. Appointments in the Navy and Marine Corps are, and have been for a long time, the indefinite, or permanent type. Appointments for Regular officers are permanent, and always have been. Those Reserve officers who have been fighting for equalization of benefits between Regulars and Reservists should be pleased.

When Congress was writing and approving the Armed Forces Reserve Act last year, it wanted to do everything possible to minimize expenses and standardize procedures and policies. This is exactly what the indefinite appointment does, thereby eliminating the effort and expense of printing, mailing and filing appointment renewals, and administering new oaths of office. To Congress, this sounded like good business.

THE DEADLINE AND THE LOSS

Approximately ninety percent of the commissions of all Air Force Reserve officers, on and off active duty combined, will expire April 1 of this year, unless they are converted. The need for thoughtful and speedy action by all concerned is best dramatized by the fact that approximately eighty-five percent of all officers now on active duty with the Air Force are Reservists.

The Reserve officer who isn't sure, and turns down the indefinite appointment, will lose every tangible asset he has built up for himself and his family through years of Reserve service. This includes his rights to retirement, military courtesies, on-base privileges, etc. For the Air Force it means the loss of badly needed leaders, some of whom might be SAC bomber commanders. In a budget-balancing period, money for training replacement officers will come hard. To the taxpayer it means a substantial loss, from $30,000 to $70,000 per officer.

Up to now, we have talked about what the Reserve officer can do for the Air Force. Let's look at the other side of the coin. The Air Force has lost the confidence of a lot of Reservists during the past eight years with its on-again-off-again Reserve program. Our defense depends heavily on our Reserve strength, and will for a long time to come. There have been many reasons for the ups and downs of the Reserve program, some good, some not so good. It is reasonable to believe that, if the will is there, the way will be found.

THE POLICY

There has been much discussion at Air Force Headquarters as to how many notices Reserve officers will be given regarding their appointments, when these notices will be sent out, how much time will be allowed for reply, and whether second offers will be made to those who say no. The first notices carried a sixty-day deadline. One numbered Air Force sent a second notice allowing twenty days for an answer. At first, AF policy required all officers to accept or decline the indefinite appointment by April 1, even though some appointments would not expire until later. The Air Force now says that officers whose appointments do not expire until after April 1 will get notices between 120 and 150 days before their appointments expire. Also, those who have already refused will be offered an opportunity to reconsider.

No matter what your decision might be, think twice, and answer promptly when your postman rings.—END

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Your Association offers this insurance as a result of many requests for it. There have been numerous instances in the past when beneficiaries of AFA coverage, suddenly confronted with tragedy, have expressed their gratitude to the Association for helping, at least partly, to relieve the financial burden imposed. We urge you to investigate this means of protecting your dependents.

ARTHUR F. KELLY,
President,
Air Force Association

* Exclusions: Available only to members and associates of the Air Force Association except paratroopers and airborne infantrymen. Insurance does not cover: *disappearance* unless officially declared dead by appropriate authority; death resulting from invasion, bombardment, or enemy action; death from injury resulting in any injured person being classified by the Dept. of the Army, Navy, or Air Force as killed, wounded, or missing in action during a declared or undeclared war or an international policing activity; death resulting from operating or riding in any prototype or experimental aircraft, or any aircraft used in such manner or for purposes prohibited by law, or any aircraft taking part in a record attempt or any kind of race.

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