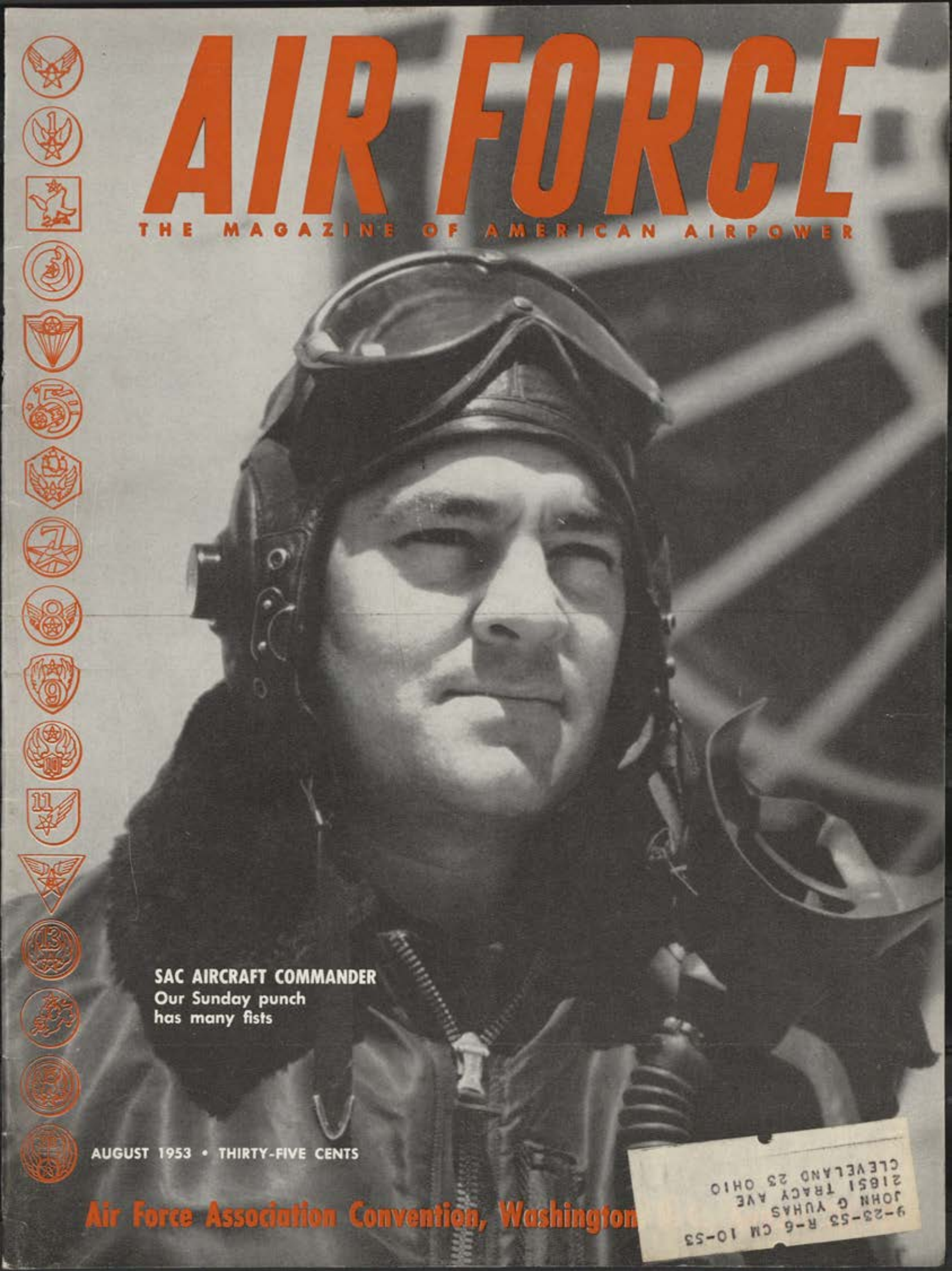
AIR FORCE

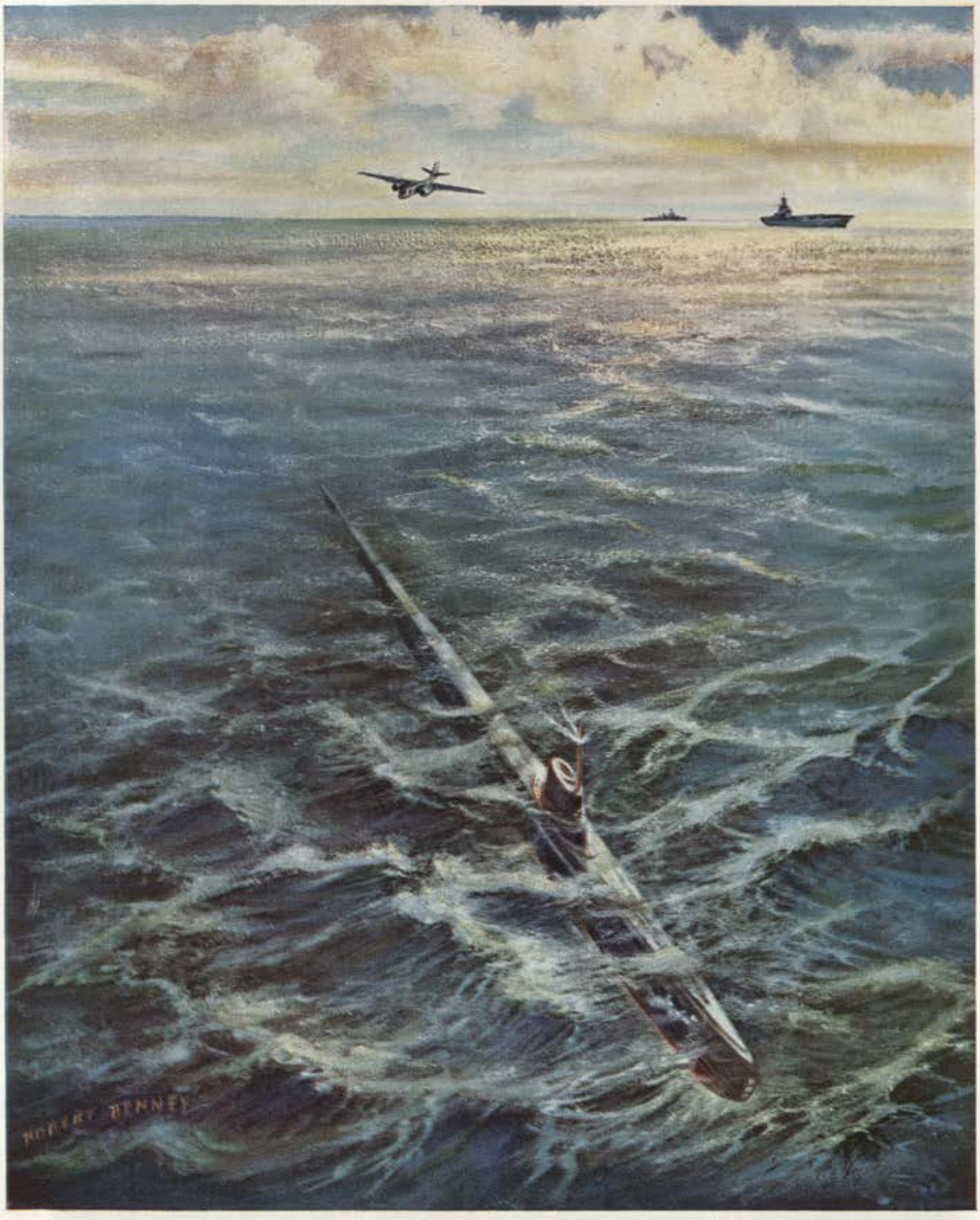
THE MAGAZINE OF AMERICAN AIRPOWER



SAC AIRCRAFT COMMANDER
Our Sunday punch
has many fists

AUGUST 1953 • THIRTY-FIVE CENTS

Air Force Association Convention, Washington



HAMILTON STANDARD . . . . leader for years in propeller design and production, is supplying Hydromatic propellers for such outstanding aircraft as the Navy's new Grumman S2F-1 anti-submarine airplane.

Wherever Man Flies.

HAMILTON STANDARD

Propellers • Starters • Air-Conditioners • Fuel Controls • Auxiliary Drives • Hydraulic Pumps

HAMILTON STANDARD, WINDSOR LOCKS, CONNECTICUT

That's the younger generation moving in

Bomber wings at three Strategic Air Command bases are now flying Boeing B-47 Stratojets, and other bases will soon have them. These swift new jets are replacing an older generation of Boeing bombers, the renowned B-29s which during the last war helped write valiant chapters of air history.

The newly equipped Air Force units are headquartered at bases in Florida, Arizona and California. Each unit also has a complement of companion Boeing KC-97 aerial tankers. Other SAC wings, overseas and in the United States, are equipped with Boeing B-50 medium bombers.

The Stratojet flies ten miles a minute, and is capable of operating at altitudes well above 40,000 feet. It's classified as a medium bomber, yet carries a bomb-load of ten tons. Pilots report that it "handles like a fighter."

Revolutionary design gave the Stratojet a performance not previously equalled by aircraft of its dimensions. It was the first bomber to enter the over-600-miles-an-hour class. The B-47's pioneering design, its jewel-like tolerances called for equally advanced manufacturing methods. Those methods were devised and perfected by Boeing production and engineering experts.

Today in its B-47 program, Boeing is turning out even more pounds of aircraft per man-hour than during its World War II production of the B-29s.

Like earlier Boeings the B-47 Stratojet is imaginatively engineered, ruggedly built. It adheres to the uncompromising design and construction standards that, for 36 years, have made the name Boeing stand for dependability.

Boeing is now building a prototype jet transport, designed to be adaptable for either military or commercial use. The new plane has the benefit of Boeing's unparalleled experience in multi-jet aircraft. It will fly in 1954.

BOEING

MILLIONS OF HOURS TO

DEVELOP THE J-57 TURBOJET

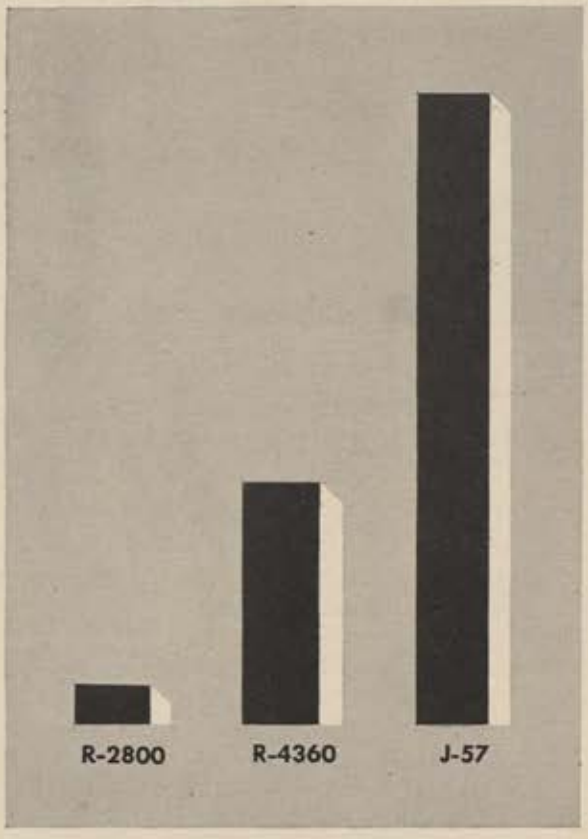
Models and mockups of detail parts and assemblies aid development engineers in design improvement work.

Since World War II, the aircraft industry has gone through a technical revolution. Advanced turbojet engines now provide aircraft with flight capabilities considered fantastic only a few short years ago.

But many men, even those close to aviation, do not appreciate the vast effort needed to fulfill the promise of truly great engine performance inherent in these turbojet designs.

As just one measure of that task, take the engineering effort required to bring Pratt & Whitney Aircraft's mighty J-57 turbojet to its present stage of development. So great were the technical problems that almost three times as many design and development man-hours were needed for the J-57 as for the world's most powerful aircraft piston engine, the 28-cylinder R-4360 Wasp Major . . . and almost *fifteen times* as many man-hours as for the R-2800 Double Wasp, one of the most powerful piston engines of World War II.

While design and development time is only one phase of jet engine production, it illustrates an entire industry problem. It also helps demonstrate why—today as always —*dependable engines take time to build.*



The above chart illustrates the tremendous increase in design and development man-hour requirements from the 18-cylinder R-2800 Double Wasp piston engine to the mighty axial-flow jet, the J-57. Design and development is, of course, only one phase in engine production. But the relationships illustrated here are typical of all phases of manufacturing the advanced, complex aircraft engines required today.

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

AIR MAIL

Back to the Basement

Gentlemen: As a retired member of the USAF and a charter member of the AFA, I'm writing you and hoping you can find space for this item in your fine magazine if you think is worthy of publication. I have never had reason to write you before, but it seems now that every member of our organization should speak out.

If the things I read in the daily papers are an indication of things to come, we really have a fight on our hands to keep the Air Force up top where it belongs.

It seems that after seeing the light of day we are now about to be put back into the basement and be replaced with an atomic cannon that has a firing range of twenty-eight miles or less, or by costly battleships that carry a battery of such guns, and, of course, no longer range, neither of which could ever be brought in close enough to fire on an enemy that hasn't already been beaten by long-range aerial bombardment. I just can't possibly see how our good President can stand by and let this happen, when he knows very well that he wouldn't have made it to the mainland of Europe had it not been for the relentless bombardment our bombers poured into Germany and its allies. That is history.

Maybe I am unduly alarmed at the present situation, but I seem to be one of many who feel the same way, many in high positions. For after all, we the people are just as good and no better than the protection America has from her enemies.

M/Sgt. Samuel P. Freeman
USAF (Ret.)
Riverside, Calif.

June Issue Comments

Gentlemen: I wish to make the following observations of the editorial in the June issue of AIR FORCE entitled "Put Defense in the Defense Budget!"

The present administration is accused of passively recognizing the false policies of the Truman administration regarding airpower defense requirements. This judgment, inherent in the article, seeks support from such statements as "So long as the survival of the country is endangered, no one at any level has the right to place solvency above security." This statement would reach to the heart of any American endowed with a small bit of national pride. However, pride or self-respect reaches deeper than mere survival. And I believe that we cannot honestly buy ourselves into bankruptcy for the sake of survival.

The only reason we were hard put to "contain" communist aggression under the Truman administration was because that administration refused to accept the basic tenents of a communist philosophy. The proper application of our forces, including airpower, in various stages of the Korean war could well have been decisive for us.

I believe in airpower; I believe also that unbridled spending will prove fatal to the United States just as it does to the family, which is the basis of the society we seek to secure from the dangers of war. For this reason, I lend support to a cut in Federal spending, even in defense expenditures. I do not expect, however, that we will lie down in the proper application of funds provided for defense, and especially airpower.

I submit the above to the honest reasoning of any true American.

Stanley J. Mohr, Jr.
Bellevue, Ky.

Gentlemen: I have read with the keenest interest the article by Lt. Col. Robert Kahn, "What's Happened to the Squadron Commander?" After careful study, I feel that he has only scratched the surface. He has not gone back to the basic principles of why a man

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joins the Air Force. In World War I, and also in World War II, the young men of America joined the Air Force to fly and to become combat pilots. Why do they join today?

A boy entering college faced with a draft call may have one idea—how can he get away from the draft? He looks the courses over and decides on joining the AF-ROTC. He does this because he knows that if he can graduate as a senior ROTC student, he will get a reserve commission as a second lieutenant. He also knows that if he joins the Air Force and does not apply for flight training he can serve his time and never get closer than the rear echelon of any combat organization. This is his choice mainly because his mother hates to see him go.

I have heard recent statements to the effect that of the entire officer strength of the Air Force, only twenty-three percent are rated officers. Therefore, it stands to reason that *that twenty-three percent* are doing all the fighting for the Air Force. The seventy-eight percent are doing ground duty and therefore are not subject to combat orders.

Morale and *esprit* are a question of understanding the mission which you are ordered to perform. It cannot be built by regulations; it has to be instilled in a man by a desire to become a part of an organization and not just hold a temporary job. He must be willing to accept the responsibilities placed on him and work at it conscientiously and energetically with a definite object in view. Even a washed-out student has some conception of a rated officer's problem and therefore should be able to perform his ground work with more interest and enthusiasm. Basically, all officers in the Air Force should be rated officers.

Lt. Gen. George H. Brett
USAF (Ret.)
Orlando, Fla.

A-Bomb

Gentlemen: Why, in the name of accuracy and common sense, do you insist on forgetting that the A-bomb did not win the war? I refer to your May article on Air Defense. You know damn good and well it didn't—those bombs were merely the *coup de grâce* to a fallen, dying enemy. And you also know that inaccurate, over-dramatic claims such as that do almost irreparable damage to the fight for understanding what *air force* is and means.

I am honestly stung by your laxity in allowing such erroneous statements to be published in AIR FORCE. Please get back on the beam. My subscription means little to you, but the effect of your magazine means a great deal to me.

Col. S. D. Kelsey
APO 970
San Francisco, Calif.

• *When the Manhattan Project was begun, best evidence was that a successful A-bomb, plus the ability to deliver it, could end the war.—The Editors.*

Leadership Demands Constant Achievement

Lockheed's huge Marietta, Georgia, factory speeds output of U.S. aircraft

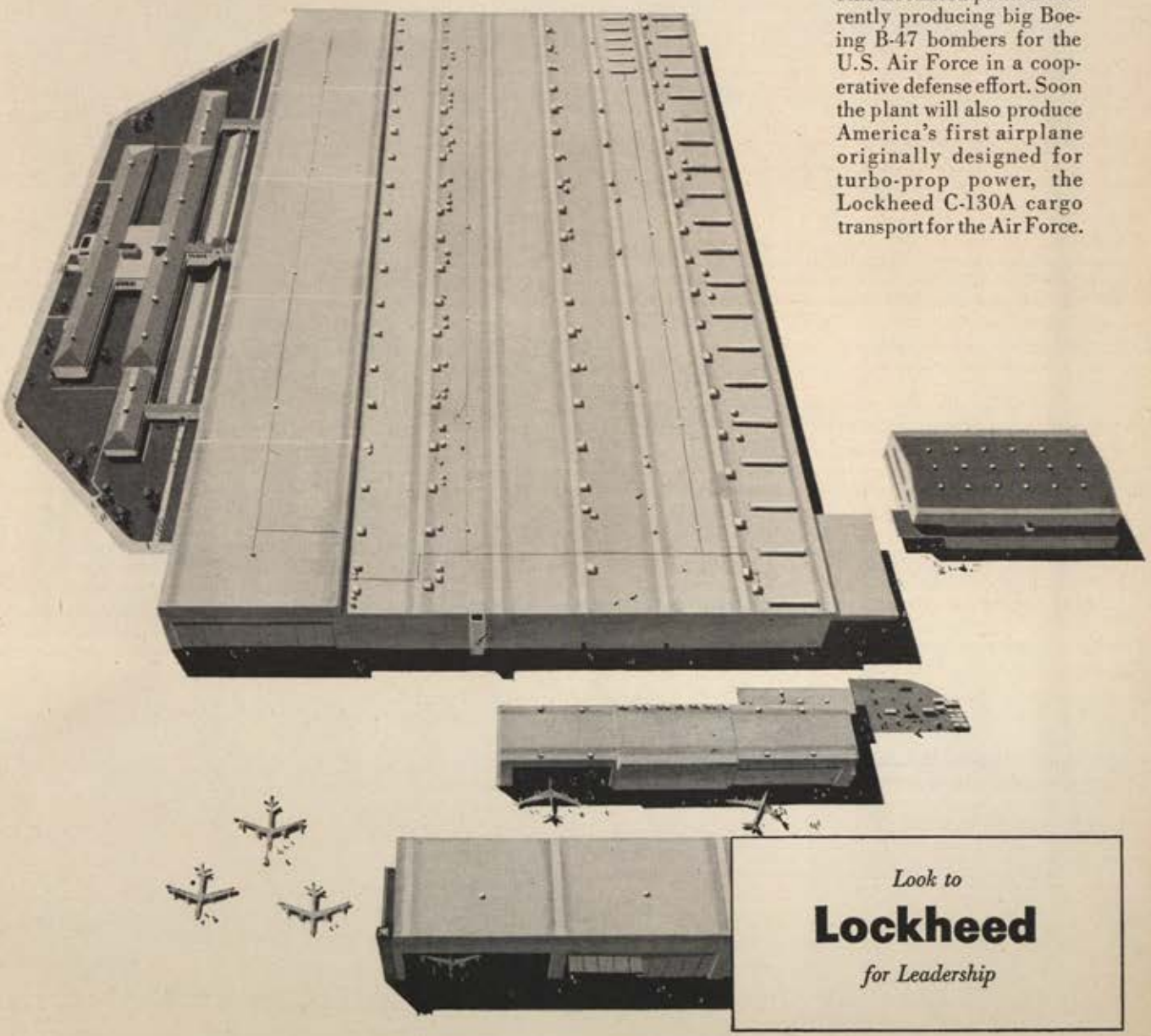
EXPANDS DEFENSE PRODUCTION IN INDUSTRIAL SOUTH

Lockheed and the growing Industrial South today provide the U.S. with one of the world's largest aircraft factories—Lockheed's huge Marietta, Georgia, plant.

A short distance from Atlanta, this factory complements Lockheed's California Division, providing the industrial dispersal now considered vital to U.S. defense.

Lockheed's Georgia Division employs over 13,000 people and has an $800 million backlog of plane orders. That's big business—and an excellent example of new production in the fast-growing Industrial South.

This Lockheed plant is currently producing big Boeing B-47 bombers for the U.S. Air Force in a cooperative defense effort. Soon the plant will also produce America's first airplane originally designed for turbo-prop power, the Lockheed C-130A cargo transport for the Air Force.



Look to

Lockheed

for Leadership

LOCKHEED AIRCRAFT CORPORATION • MARIETTA, GEORGIA, AND BURBANK, CALIFORNIA

Lockheed

C-130A Transport— One Plane for 3 Jobs

Soon in production at Lockheed's Marietta, Georgia, plant, the U.S. Air Force's new turbo-prop transport, the Lockheed C-130A, will fly higher and faster than any other military transport and perform a great variety of missions.

The C-130A is the first transport specifically designed for turbo-prop engines, which harness jet power to propellers.

Air Force Competition Winner

Winner of an industry-wide Air Force design competition, the C-130A transport will perform three different jobs:

1. Carry soldiers, paratroops, patients and all types of ground force equipment up to items weighing twelve to twenty tons.

2. Fly high-altitude, high-speed missions as a tactical airplane for the Air Force.

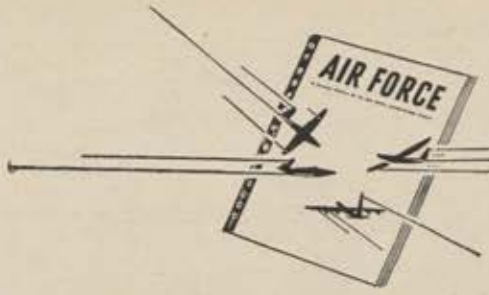
3. Transport passengers on long-range flights for the Air Transport Command.

Unique Construction

The C-130A has a floor as strong as a concrete warehouse floor a foot thick. Its fuselage is only 45 inches off the ground—level with truck-bed height for easier loading and unloading. The pressurized cabin permits ground-level comfort for military personnel at high altitudes.

Of special importance to the Air Force, the new transport will require only short take-off and landing runs. Special tandem-wheel tricycle landing gear permits it to use emergency landing fields in forward areas, or even unfinished air strips.

Prototypes of the airplane are nearing completion at Lockheed's Burbank, Calif., plant. The plane will go into quantity production at Lockheed's Georgia Division, in Marietta, where giant B-47 jet bombers are currently being built.



RENDEZVOUS

Where the Gang gets together

ANOTHER REUNION: We will hold the eighth annual reunion of former Hobbs Army Air Force members and their wives in Portland, Ore., on August 15. All those interested in attending please contact *Granville Shannon, Sec'y, 6855 N. Atlantic Ave., Portland 17, Ore.*

WANTS REUNION: I'm very much interested in a group reunion for the old 3d Bomb Grp. (L) pre-war outfit or the 3d Attack Grp. during the war under the 5th AF, having served with the 3d Grp. from 1939 to 1944. Let's hear from others who would like to have a get-together. *T/Sgt. Edwin L. Parsons, Box 253, Wheelersburg, Ohio.*

SERVICE RINGS: When I graduated from AAF Navigation School in the class of 43-12 at Selman Field, Monroe, La., on Sept. 4, 1943, class rings were available. I'd like to know where I can obtain one of these rings now, and the price of same. *Lawrence P. DeFeo, 74 Revere St., Revere 51, Mass.*

WANTED: Stories of incredible and miraculous escapes from certain death by combat air-crew members during flight in any theater of operation during World War II. We would like to hear the "horror stories" of ex-POWs. As an ex-kriegie myself (Stalag Luft I, Barth, Germany), I have heard many. A colleague and I plan a book based on experiences of WW II airmen, so please send stories or names of persons involved to *Robert J. Flood, 85 Vermilyea Ave., New York 34, N. Y.* (Stories from Navy-types also welcome.)

35TH FIGHTER GROUP: Has there ever been a group history of the 35th Fighter Grp. or of the 41st Fighter Sqdn. of that Group? They were in New Guinea and the Philippines during World War II. *Walter R. Haims, 29 South St., Stamford, Conn.*

MRS. McADAMS: Will Mrs. Otto D. McAdams please get in touch with us? We have a letter for you from the Australian magazine *Walkabout.* AIR FORCE *Magazine, Attn. Mrs. Law, 1424 K St., N. W., Washington 5, D. C.*

RESCUER IN USA: The two American fliers pictured here were rescued in 1944 in Hercegovina Province, Yugoslavia. I served with the Chetniks under General

Mihailovich and helped rescue these boys. I am now working here in Oakland and would like to correspond with them. Can anyone identify them for me and give me their addresses? *Nikola Saraba, 579 25th St. Oakland, Calif.*

1946 ISSUES: I would like to buy or trade for the July through December 1946 issues of AIR FORCE. My set is complete except for these. *Wm. G. Haney, 1239 Rimpau Blvd., Los Angeles 19, Calif.*

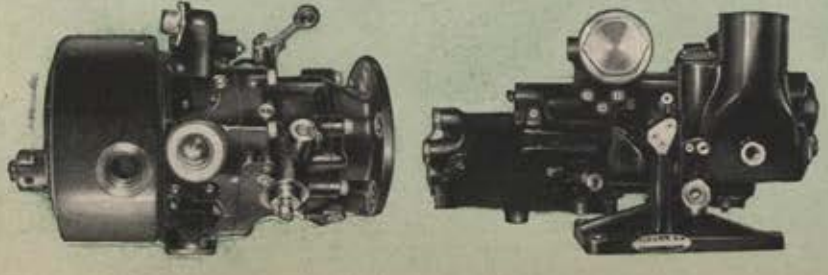
718TH BOMB SQDN., 15TH AF: Can anyone advise me of the availability of any books or periodicals pertaining to the 718th Bomb Sqdn., 449th Bomb Grp., 47th Wing, 15th AF in Italy? *T/Sgt. J. F. Burke, Jr., 39 Fulton Ave., Hicksville, L. I., N. Y.*

US AIRMEN IN BRITAIN: I am writing a book about American airmen in Great Britain during WW II. I'd be happy to correspond with former members of the 8th and 9th Air Forces who were stationed there during those days. I would like to borrow some memories to supplement my own. I am particularly interested in hearing from anyone who served with the 305th Bomb Grp. (H), at Chelveston, England. *R. A. Ballard, 217 Stratford, Houston, Tex.*

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

Within Seconds After Warning . . .

the Lockheed Starfire is in the air and on its way to altitudes of more than 45,000 feet. Holley designed and manufactured the turbine fuel control and the afterburner fuel control used on the F-94C's Pratt & Whitney J-48 Jet Engine.



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

Shooting the Breeze

THIS is the last issue of AIR FORCE Magazine before AFA's annual convention, which, as you know, will be held this year in Washington, D. C., Aug. 20-23.

We think our words from last year about the same time are just as apropos today as then. We said:

"Besides all the obvious reasons for holding an annual get-together, this year's conclave will endeavor to answer some of the questions that becloud our preparedness picture in general and that of airpower in particular."

As at last year's meet, there'll be an Airpower Preparedness Symposium with top representatives from industry, labor, Congress, and the military. One of the features for the distaff side will be the Ladies' Fashion Luncheon, featuring latest fall fashions from five of Washington's leading stores.

Miss Airpower of 1953 and her court of airline hostesses will be at the Airpower Ball. Sunday morning there'll be Sunrise Memorial Services at Arlington National Cemetery. You'll find the full program for the convention on pages 70 and 71 of this issue.—END

CREDITS

Front cover—made from a Kodachrome transparency by S/Sgt. Harvey L. Harris, 1501st Air Transport Gp. (MATS), Travis AFB, Calif.; page 65—S/Sgt. Morton D. Rosenfeld; page 87 (Capt. Ralph Parr)—Wide World Photos.

AIR FORCE

THE MAGAZINE OF AMERICAN AIRPOWER

Vol. 36, No. 8 • AUGUST 1953

FEATURES

DEPARTMENTS

THE COVER

The man on the cover is Capt. Joe Schlenker, an aircraft commander with the 31st Strategic Reconnaissance Squadron, 5th SR Wing, 15th Air Force, based at Travis AFB, Calif. Schlenker has been in SAC since 1948, has 4,500 hours in the air. He's thirty-four, married, has two sons. For more about the job of a SAC aircraft commander, see page 25.

MEMBERSHIP IN AFA

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

CUT OUT AND MAIL TODAY

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Washington 5, D. C.

8-53

Sign me up as marked below. I enclose a check or money order for the amount indicated.

- ☐ Membership in AFA (includes year's subscription to AIR FORCE Magazine) $5
- ☐ Service Membership in AFA (includes magazine subscription) $5
- ☐ Associate Membership in AFA (includes magazine subscription) $5

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AIRPOWER IN THE NEWS

BY JAKE CULPEPPER

SCOREBOARD — Late FEAF tallies (after three years of war in Korea): Enemy aircraft losses (MIG-15)—738 destroyed, 138 probably destroyed, 887 damaged; USAF jet losses—81 air-to-air, 232 to ground fire, 85 other causes. Other USAF totals: sorties flown, 675,592; vehicles destroyed, 72,087; railcars destroyed, 9,111; bridges destroyed, 762; tanks destroyed, 1,144; and troop casualties, 114,913.

CONTRACTS — AF small business survey shows that of 15½ billion dollars in hands of prime contractors, 5½ billion goes to subcontractors employing fewer than 500 persons. Of the remainder, about twenty percent ultimately goes to small business too. . . . ADRC has eighteen new research contracts with colleges and universities throughout the US for research in the mathematical, physical, and life sciences which support air technology. . . . AF Secretary Talbott has terminated contract with Willys Motors, Inc. (formerly Kaiser Manufacturing Co.), for production of C-119s at Willow Run, except for completion of work in final assembly stages. . . . A reduction in the AF heavy press program has been announced by Mr. Talbott. Total number of presses to be completed will be reduced from seventeen to ten.

AF HISTORY — Air Force Historical Foundation, Inc., has been set up in Washington, D. C., to preserve items of particular interest to the AF. Gen. Carl A. Spaatz, USAF (Ret.), was elected to head the foundation. Membership in the privately supported, non-profit organization is open to civilians as well as to the military.

THE ANIMAL ELEMENT — Twenty-one husky sled dogs, replaced by helicopters in rescue operations, have been dropped from morning report of 54th Air Rescue Squadron, Goose Bay Air Base, Labrador. . . . Geronimo, ground safety goat of Bergstrom AFB, Tex., is assigned for a three-day stay at each base squadron that reports an accident.

STAFF — New assignments: Lt. Gen. Earle E. Partridge, Deputy C/S for Operations, Hqs., USAF; Lt. Gen. Leon W. Johnson, ConAC Commander, senior AF member of UN military Staff Committee (additional duty). . . . Col. Russell W. Tarvin, Air Training Command's PIO, recently resigned his Regular AF commission to direct public relations for Ohio Manufacturers Association, Columbus, Ohio. . . . John M. Ferry, former building engineer for the N. Y. Telephone Company, has been appointed Special Assistant for Installations to Undersecretary of the AF, James H. Douglas, Jr.

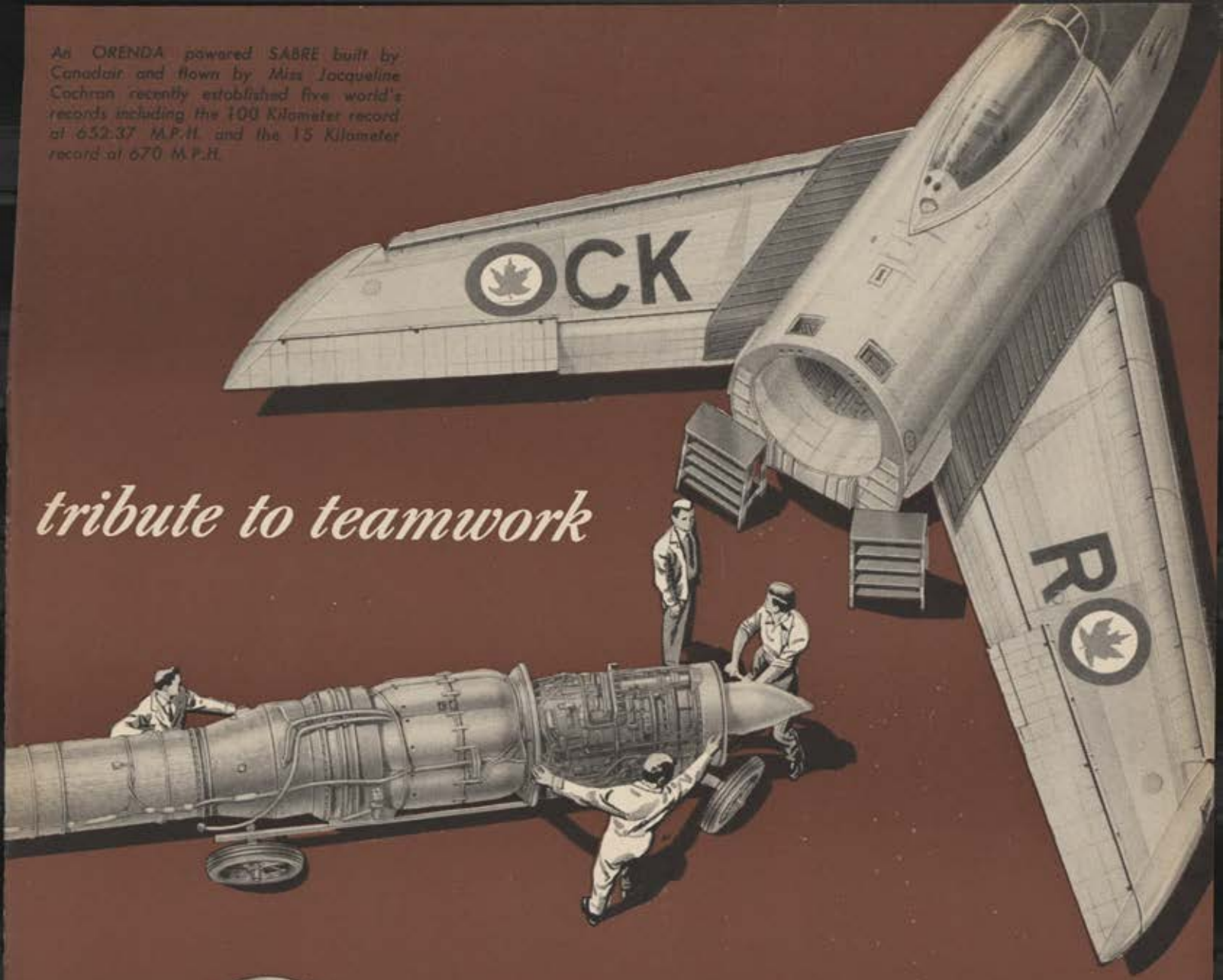
STRANGE THINGS — A compact fire and crash-proof, airborne tape recorder designed to log everything that happens during an airplane or missile flight has been developed by North American Aviation, Inc. . . . A Chicago sociologist, armed with a recording machine, has gone to Korea in hopes of finding out what servicemen think about.

TRANSITION — A new law allows Post Office Department to name enlisted men of Army and AF as postal clerks. . . . A new program enabling every airman at Scott AFB, Ill., to get an orientation flight in Scott-based aircraft is underway. . . . Airman's Credit Association, first of its kind, has been formed by Austin businessmen to aid military personnel of Bergstrom AFB, Tex. . . . New York City has inaugurated a city

(Continued on page 13)

An ORENDA powered SABRE built by Canadair and flown by Miss Jacqueline Cochran recently established five world's records including the 100 Kilometer record at 652.37 M.P.H. and the 15 Kilometer record at 670 M.P.H.

tribute to teamwork



Two years of constant association on the top-priority project of perfecting the ORENDA-SABRE for the R.C.A.F. has fostered teamwork of a high order between Canadair and AVRO Canada.

Installation of the ORENDA in SABRES for the R.C.A.F. being built at Canadair is now underway. This successful combination of two Canadian Jet Age products makes the ORENDA-SABRE the world's outstanding fighter aircraft in volume production.

Canadair's capacity to produce this new SABRE, one of which flew from Toronto to Montreal in 28 minutes, is assured through regular delivery of ORENDAS from AVRO Canada's Gas Turbine Division.

Current and planned ORENDA output is sufficient to meet all present and future production of SABRES and CF100's, as well as spares for the R.C.A.F. and NATO bases.

GAS TURBINE DIVISION

A.V. ROE CANADA LIMITED

MALTON, ONTARIO

AVRO CANADA

MEMBER OF THE HAWKER SIDDELEY GROUP

"Dialed Flight"

for the REPUBLIC THUNDERJET

Flying at near sonic speed on a long-range ground support or bombing mission, the F-84 Thunderjet pilot needs a break, and gets it—welcome relief provided by his Lear Autopilot.

On the straight-away flight he can sit relaxed, conserving his energies for procedures requiring human decision. He changes course simply by "dialing" the kind and degree of change required on one of three knobs on his autopilot controller, or permits his Lear Autopilot to take over completely on the straight and level course. To a Lear Servo Unit, his Lear Autopilot transmits a signal—and smoothly, automatically, his craft takes on the desired attitude of flight.

Lear precision-engineered Control and Actuating systems and components, used extensively in military aircraft of all types, and in aircraft operated by major airlines, are aiding in the development of smoother, more economical and safer flight.

LEAR AUTOPILOT SYSTEMS— compact, light weight, automatically perform any normal flight maneuver. Used in commercial and military single, multiple-engine and jet aircraft.

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•

LEAR-ROMEC DIVISION, ELYRIA, OHIO
LEARCAL DIVISION, LOS ANGELES, CALIFORNIA
LEAR, INCORPORATED, GRAND RAPIDS 2, MICHIGAN

OTHER INSTRUMENT PRODUCTS:
Automatic Approach Couplers and Flight Controls.
Control Mechanism Gyros • Remote Reading Gyro Instruments.
Missile Flight Controls • Rate Gyros.

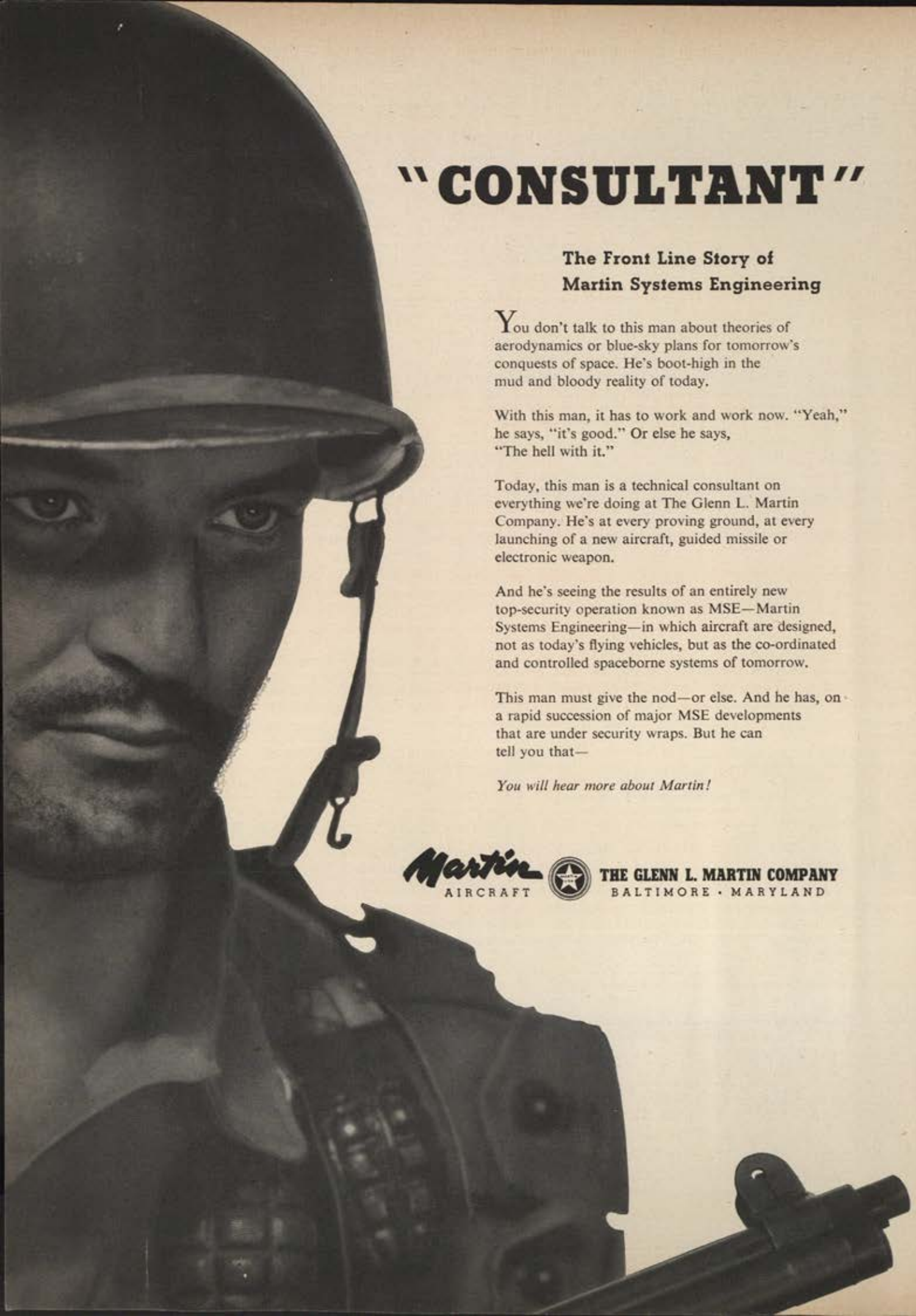
helicopter police patrol to keep an aerial eye on the waterfront and waterways.

AF BASES — Family housing conditions at AF bases in US continue to improve. Those installations that lately jumped to USAF's favorable "A" category are: Amarillo AFB, Tex.; Alexandria Mun. Airport, La.; Bartow AFB, Fla.; Campbell AFB, Ky.; Carswell AFB, Tex.; Castle AFB, Calif.; Godman AFB, Ky.; Luke AFB, Ariz.; and March AFB, Calif. . . . President Eisenhower was on hand at ceremonies in which Rapid City AFB, S. Dak., was renamed Ellsworth AFB in honor of Brig. Gen. Richard E. Ellsworth, who was killed in B-36 crash in Newfoundland this year. . . . Out-of-state college tuition fees are no longer asked of Gary (San Marcos) AFB, Tex. airmen engaged in "Operation Bootstrap." . . . The 66th Tact Recon Wing from Shaw AFB, S. C., has arrived in US Zone of Germany for NATO duty. . . . Airmen and officers currently assigned to Boulhaut, Casablanca, Nousseur, or Rabat-Sale must sweat out eighteen-month tours of duty before returning to the States. . . . Barking Sands AFB, Hawaii, has been renamed Bonham AFB in honor of the late Maj. Carlos W. Bonham, B-17 commander during WW II. A member of the Hawaiian ANG, he was killed on June 15, 1952, while leading a training flight from the base.

SHORT SNORTS — A bill giving green light to US military personnel wearing foreign decorations awarded in Korea now has blessing of Defense Department. . . . "Aviation education for entire nation" is banner under which second national Aviation Education Workshop was launched at University of Colorado late last month. . . . Trip insurance may now be bought as extra protection by passengers on AF aircraft. . . . Nancy Shea's revised "The Air Force Wife" will spotlight overseas living. . . . Headquarters has given the word for all-out AF cooperation with Kiwanis Clubs of US, Alaska, and Hawaii in holding open house on National Kids' Day, September 26. . . . Entertainers who put on outstanding shows for service personnel have been authorized a new award, Certificate of Esteem, by Department of Defense. . . . Robert A. Lovett, former Defense Secretary, has been elected a director of North American Aviation, Inc. . . . Capt. Joe McConnell's life story is being written for a movie to be called "Triple Jet Ace." . . . By the end of this month, USAF Band and Symphony Orchestra will have presented twenty-two concerts in its Washington, D. C., summer series.

OBSERVERS — AF officials are unable to fill quotas for current aircraft observer classes. Two steps have been taken to remedy a shortage that has haunted cadet procurement people for some time. First, civilian youths with high school credits are being accepted for observer training. Second, to add prestige to the observer position, AF has announced a new senior observer rating with wings to match.

AF CAREER — Many career-minded young airmen are in for a disappointment when they read AF Regulation 36-72, which sets warrant officer status as the main career goal for enlisted men. The new "WO bible" offers no opportunity for an NCO to break through the commissioned rank barrier by gaining experience in a particular specialty. Defined as less than an officer and more than an NCO, the AF warrant officer will continue to cause raised eyebrows when he enters either the NCO or officers' clubs. The 1,700 M/Sgts now awaiting WO status will soon receive reserve warrants, but no immediate WO duty, USAF Hqs. says.



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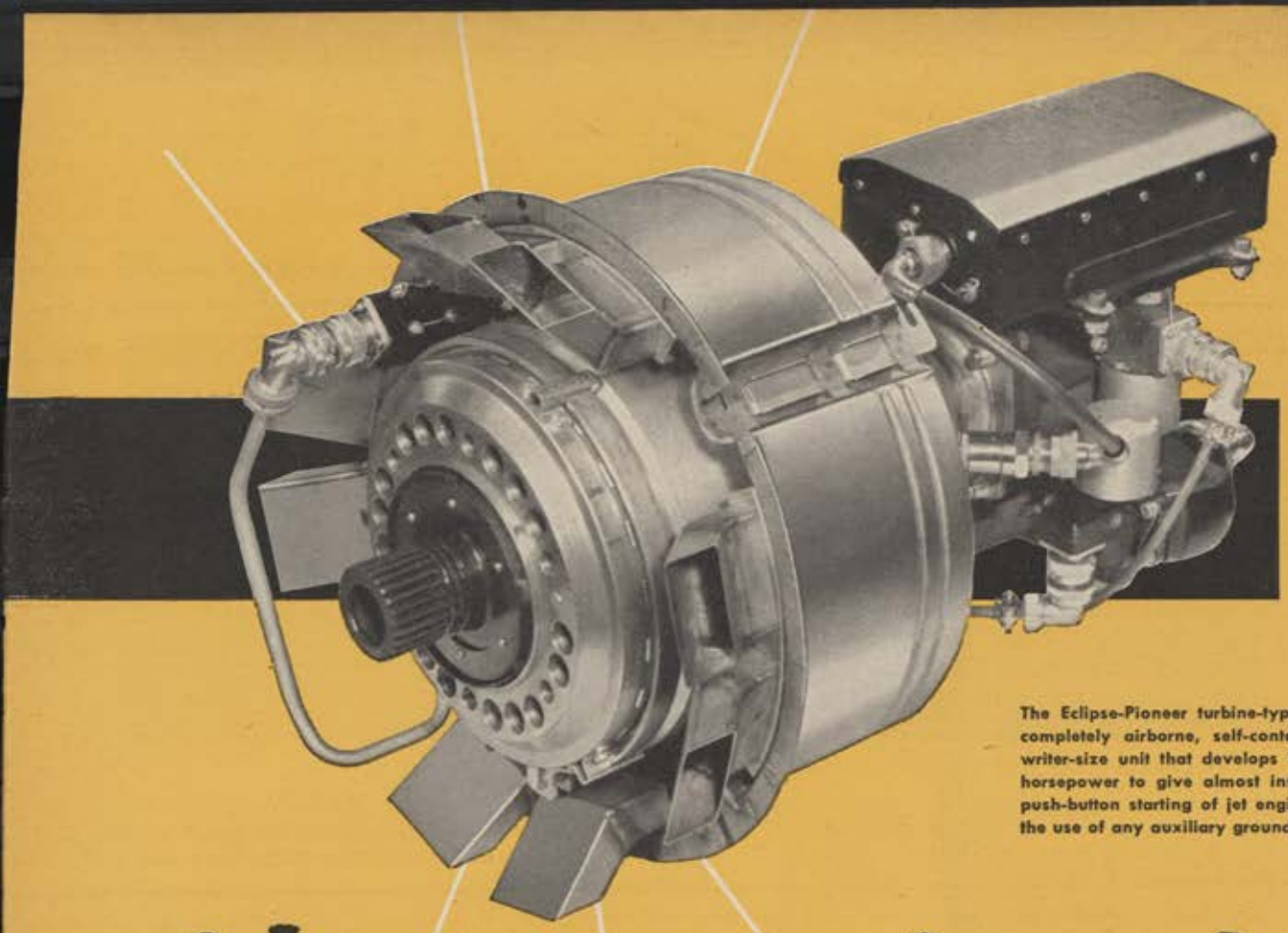

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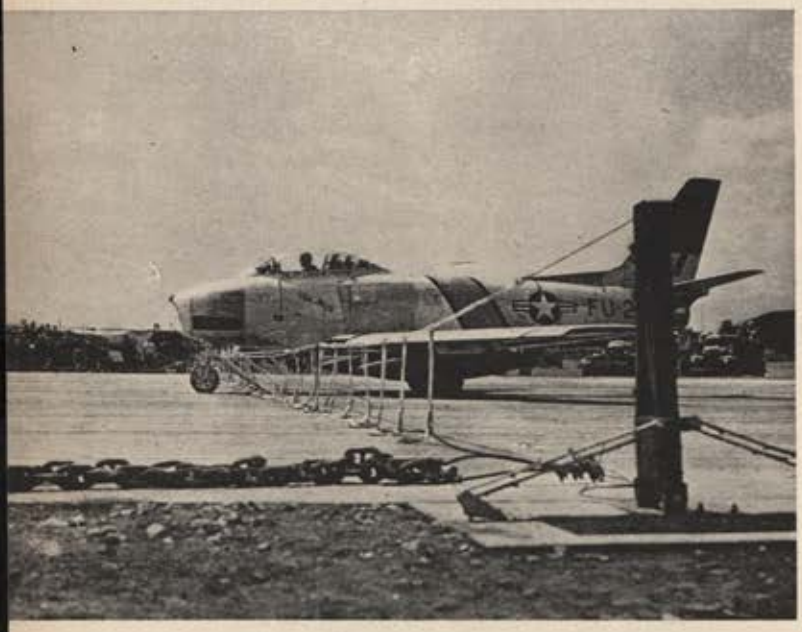
CRASH BARRIER SAVES SABRES

Pilots of damaged F-86s in Korea need no longer fear over-running runway. Net, arresting cable, and chains halt Sabres in their treads

Crash barrier looks like this to oncoming F-86 pilot at touchdown.

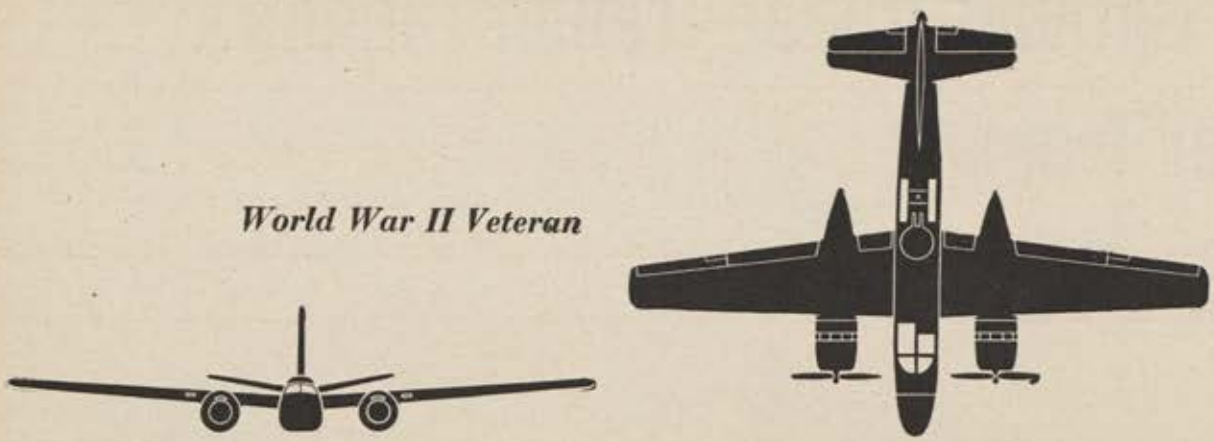


Camera catches F-86 (top) as it contacts runway net, while (below) it trips the arresting cable which engages the main landing gear. Dragged along ground, the chains in foreground finally stop plane.

A CRASH barrier for Sabrejet pilots returning to their Korean flight strips with wing flaps shot out, devised by the 6400th Maintenance Group of the Far Eastern Air Forces Materiel Command in Japan, takes a lot of the sweat out of the hot landings for F-86 jockeys. Consisting simply of an aircraft-carrier type arresting cable, a net-like barrier made of nylon webbing and two extremely heavy anchor chains, the barrier stops a jet in 500 feet after it hits the runway net. Costing about $14,000 each, it's already saved $2.5 million in planes that otherwise would have overrun the runway and crashed. The operation of the barrier is simple. The runway net—not unlike a tennis net—stretches across the runway four or five feet above the ground. The nose gear of the landing plane makes initial contact. This trips the arresting cable which engages the main landing gear. The plane continues on down the runway with each end of the arresting gear fastened to heavy chains. The plane's momentum pulls the chains onto the flight strip, where their weighty drag slows and finally stops the aircraft. One pilot, impressed with the barrier's simplicity, remarked, "The damn thing is so simple—it doesn't keep company with all our other ideas."—END

Pluming smoke, two F-86s leap into air over crash barrier.

World War II Veteran



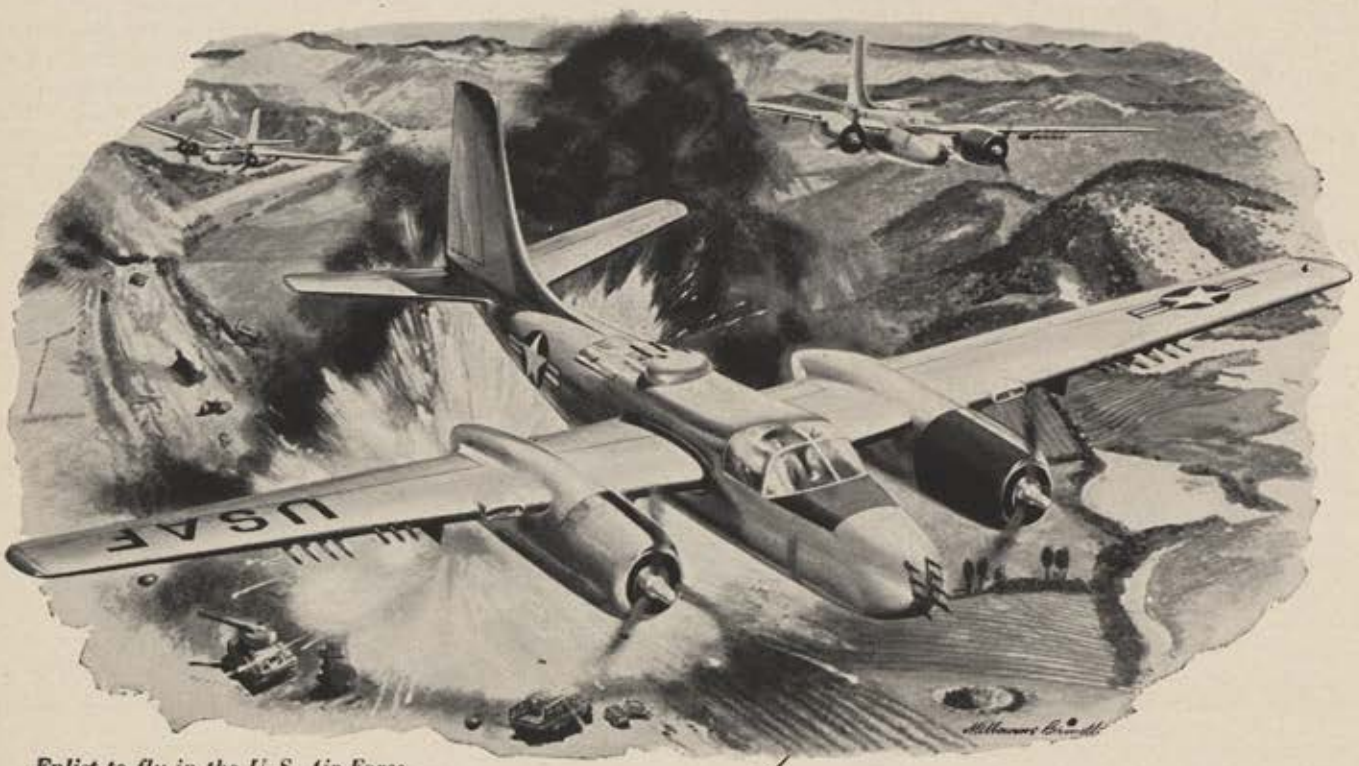
holds its own in the new jet age

the Douglas B-26 Invader

During World War II, over both Europe and the Pacific, the Douglas B-26 Invader spearheaded major allied advances. It was still the standard USAF light bomber when war broke out in Korea.

Laminar-flow, high-speed wing design gives Invader the speed and maneuverability of a piston-engine fighter. With 3-man crew and 6,000-lb. bomb load, combat radius is over 900 miles. Firepower is crushing . . . sixteen .50 caliber machine guns, fourteen of them in the nose and wings. In Korea, despite the advent of fast new jets, Invader's agility and heavy armament have made it a mainstay in advanced, low-level ground support of our troops.

Performance of the B-26 Invader is another example of Douglas leadership. *Faster and farther with a greater payload* is a basic rule of Douglas design.



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New Gilfillan Radar Trainer Means...

Better Training

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Blips shown in red are put on scopes by Gilfillan Trainer. Blips shown in black are real aircraft. On actual scopes, both look alike. Trainee cannot distinguish between real and simulated aircraft.

QUICK FACTS

The new Gilfillan Radar Trainer is practical, compact, subminiaturized. Occupies 5 square feet. Costs less than $15,000.

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Easy to operate: by an instructor; by trainees; by radar team to maintain peak efficiency.

BETTER TRAINING

Affords constant on-the-job training of radar operators on operating radar in the field, regardless of weather or lack of traffic at radar site.

Broadens operator experience. An unlimited variety of maneuvers can be practiced, including extreme emergency conditions impossible with real aircraft such as collision courses, dangerously low altitude approaches.

Increases operator assurance, seasons judgment. The operator's reaction to a real emergency is quicker, his judgment better, because he has practiced many similar situations enacted by the Gilfillan Radar Trainer.

BIG SAVINGS

At present, actual aircraft must be flown to provide practice problems for the radar team. At $200 per hour operating cost of an aircraft and crew, an 8-hour period with 2 planes costs $3200. The Gilfillan Radar Trainer pays for itself in one 36-hour period — *and* provides a far wider variety of problems.

Heretofore, problems involving "invading enemy aircraft" have been unrealistic because the "test atmosphere" has prevailed. Now surprise attacks can be simulated instantly and *realistically*. Practice can be constant and varied. And savings are tremendous.

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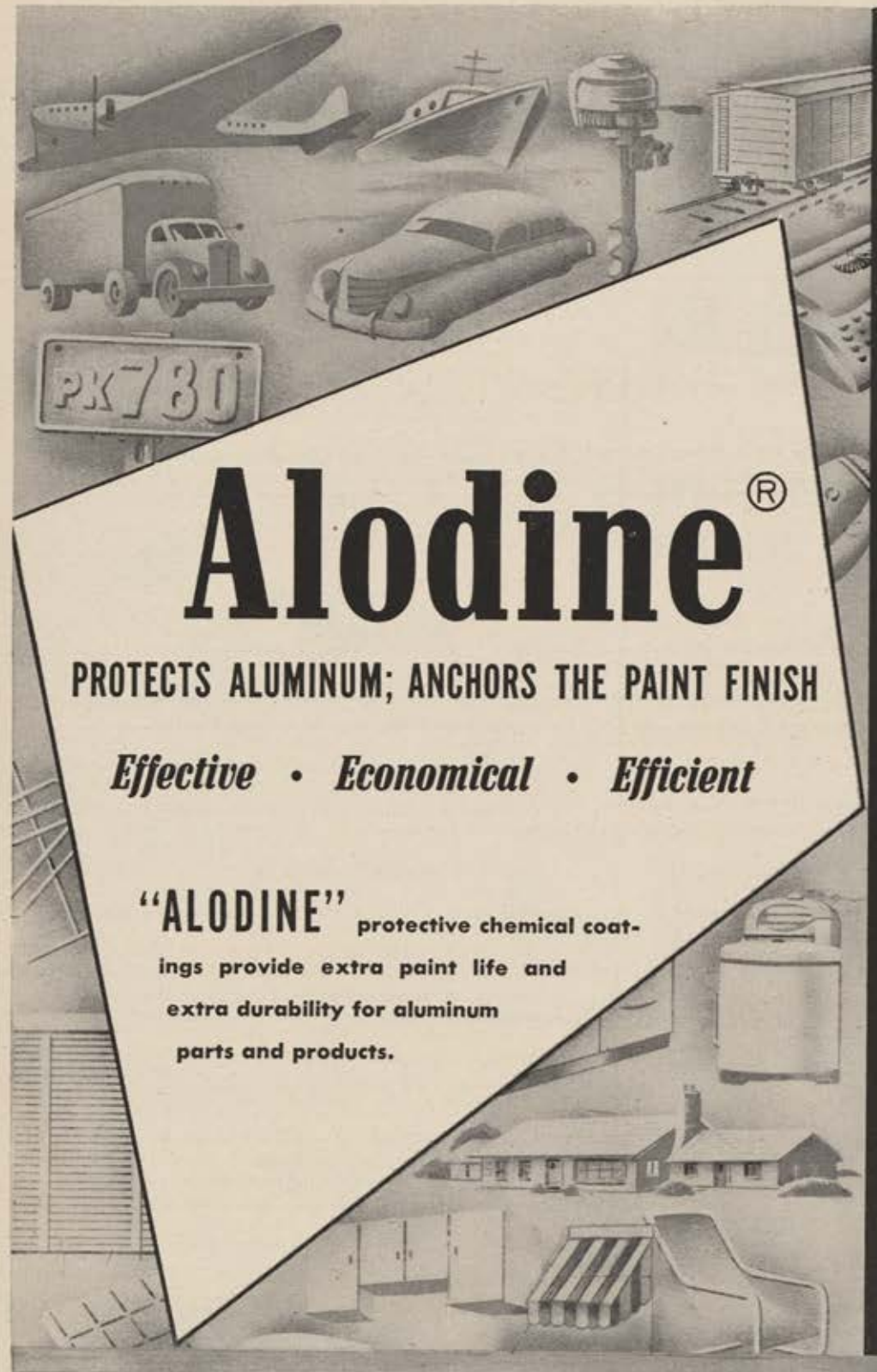

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British Overseas Airways, carrying pilgrims from the Persian Gulf to Israel recently, claims that one of its passengers, aged 105, was the oldest airline passenger ever to fly. At any rate she was the oldest customer who ever boarded an airline with her daughter, granddaughter, and great granddaughter.

° ° °

And speaking of airborne women, when Jacqueline Cochran recently became the first of the weaker sex to fly faster than the speed of sound, the National Geographic Society dipped into its files to check on earlier female exploits. Here's what the girls have been up to. In 1799

the first solo balloon ascent by a woman was made in France. And the first woman to remain in the air one hour did it in 1909, also over French soil.

° ° °

An American, Harriet Quimby, was the first woman to fly across the English Channel, in 1912. And Amelia Earhart, after being the first woman to cross the Atlantic by air, in 1928, became the first to solo the big crossing in 1932.

° ° °

There are sixty-three airports in the US which log more than 100,000 landings and take-offs per year apiece. Eleven of them have more than 200,000 aircraft operations.

° ° °

The CAA reports that the largest volume of airline travel is on the 340-mile trip beween Los Angeles and San Francisco—more than 36,000 passengers per month. The next busiest air lane is between New York and Miami.

° ° °

Other pairs of cities with more than 1,000 passengers flying between them every day are New York and Chicago, New York and Boston, and New York and Washington.

° ° °

Twenty grandchildren weren't enough to ground a 64-year-old grandma from Quakertown, Pennsylvania. "Highways," she said, after logging her first solo flight, "are too dangerous."

° ° °

In Philadelphia 234 families were ordered to take off from

the end of the main runway at the North Philadelphia Airport. Their homes had to be vacated to avoid trouble in the event of an aircraft accident.

° ° °

But the inhabitants of Superior National Forest in Minnesota fare a lot better. The courts have upheld a 1949 Executive Order prohibiting aircraft from flying over this remote area. Might disturb the wildlife.

By Wilfred Owen

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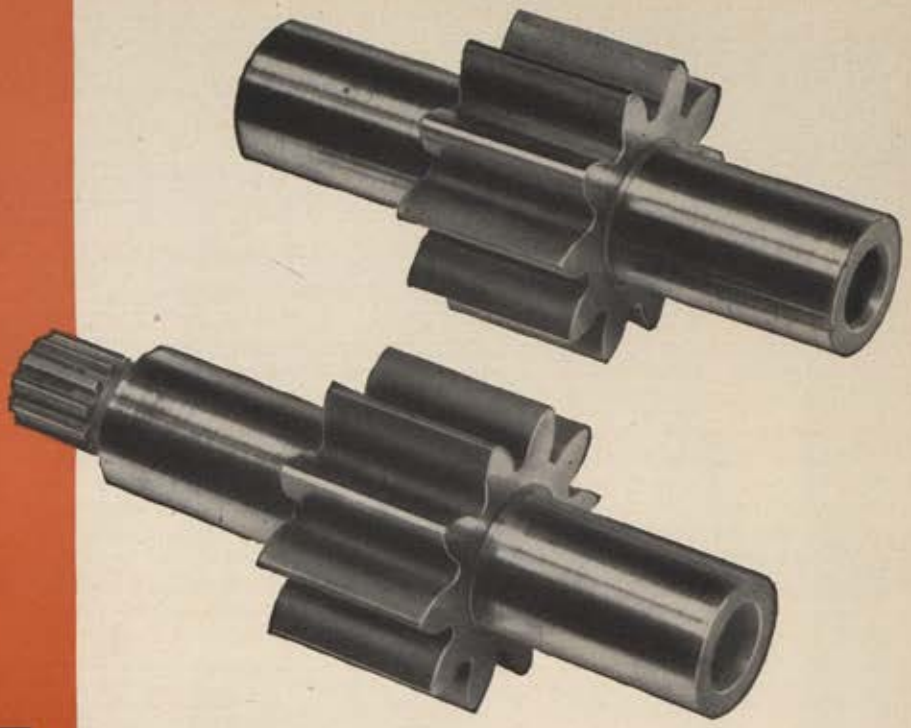

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MILITARY NEWS from the world's largest light plane producer

VETERAN CESSNA L-19s SERVE ARMY, MARINES AND NATIONAL GUARD

Combat-proved Liaison Planes Used To Teach Reservists Flying, Observation, And Fire Direction

Introduced to U. S. Army and Marine fighting units in Korea 2½ years ago this month, the Cessna L-19 observation plane is now being used in increasing numbers by National Guard units, too, it was announced recently by Cessna officials in Wichita, Kansas.

The versatile 2-place, 213 H.P. plane—nicknamed the "Bird Dog"—is used in teaching selected Reserve Infantry officers to fly. In addition NG Infantry regiments each receive two L-19s which are used for training personnel in aerial observation of targets and direction of air and ground fire.

Flexible as the L-19 "Bird Dog" has proved to be, Cessna engineers have now done it one better in the new XL-19B—a turbine-powered version of the L-19 that flies on *any* grade of fuel, *even diesel!*

Other current Cessna projects are development of a new Navy helicopter, production of assemblies for bomber and fighter planes and research in Boundary Layer Control which greatly shortens the take-off and landing distances required by high-speed aircraft.

CESSNA AIRCRAFT COMPANY, WICHITA, KANSAS

IN ARMY OBSERVATION PLANES AND TURBOPROP RESEARCH . . .

Cessna

SETS THE PACE

FAIRCHILD POWER for the RYAN FIREBEE

JET POWER to send a remote-controlled, high-altitude missile streaking across the sky at near-sonic speeds called for a new concept in powerplant design.

Fairchild met the challenge with the J-44 turbojet engine. It had to be extremely compact—yet provide more thrust than any engine of its size ever developed. It had to be expendable for warfare—yet quality-built for frequent re-use in research and training after parachute recovery.

In one application recently revealed, Fairchild's J-44 provides the power for the Firebee, a target drone with fighter plane performance, made by the Ryan Aeronautical Company.

TIME WILL TELL of the expanding role in the nation's guided missiles program, in light aircraft and as a supplementary powerplant in large aircraft of this engine concept that *had to be different* . . . another example of the design, development and production facilities of Fairchild fulfilling specialized power requirements.

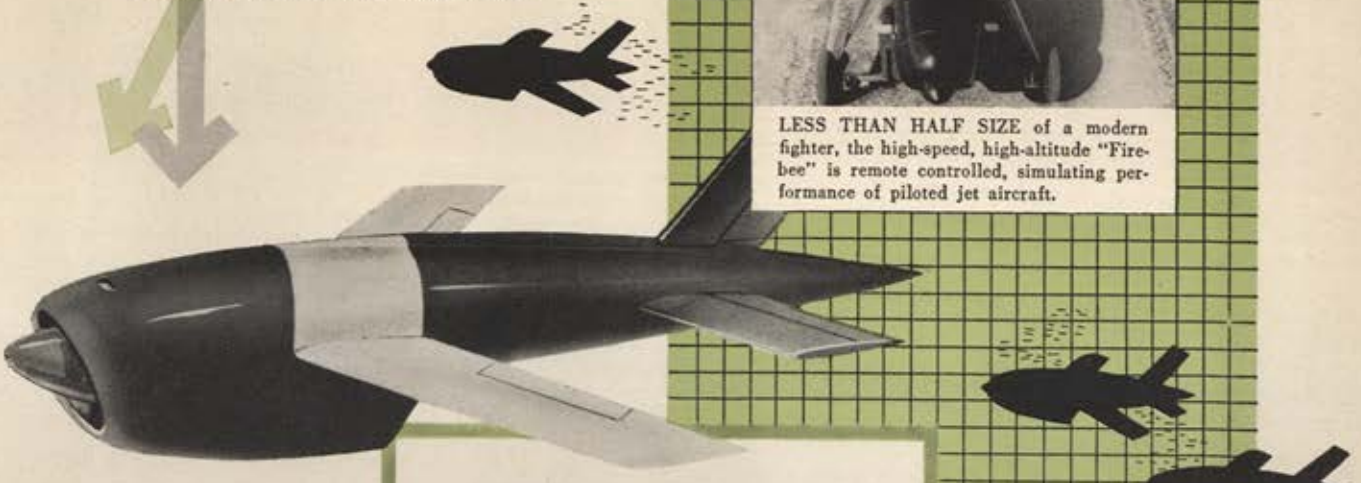
J-44 SPECIFICATIONS

Announced thrust	*1000 lbs*
Weight	*300 lbs*
Length	*72 inches*
Diameter	*22 inches*

ACCESSORY SECTION containing essential controls, is quickly removed and replaced without special tools.

ONLY 72 INCHES LONG and weighing 300 pounds, the J-44 has varied applications in the nation's guided missiles program as well as in piloted aircraft.

LESS THAN HALF SIZE of a modern fighter, the high-speed, high-altitude "Firebee" is remote controlled, simulating performance of piloted jet aircraft.



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AIR FORCE
AUGUST 1953

PLANES, PLANS, AND PEOPLE —ANSWER TO AGGRESSION

Combat effectiveness is the sole yardstick of the training effort of the Strategic Air Command

By
Everett E. Dodd
and
Dave Karten

SOMEWHERE BETWEEN the Atlantic and Pacific Oceans, and approximately midway between the Gulf of Mexico and the Canadian border lies one answer to the question: Why hasn't limited war erupted into all-out conflict?

Vague though they may be, those coordinates will land you in the vicinity of Omaha, Neb., site of Offutt Air Force Base and home of the Strategic Air Command (SAC).

Located in the dead-center of what was once called the heart of American isolationism, the Midwest, SAC is probably the most internationally minded air organization in the world today. Day

(Continued on the following page)

and night, twenty-four hours a day, SAC bombers fly training missions from its far-flung bases throughout the world. From North Africa to the polar regions SAC crews stand constantly on the alert, ready, if the flash comes from the White House, to carry out its directive "to destroy the vital elements of the enemy's capacity until he no longer has the ability or the will to wage war."

Since 1948 SAC has been commanded by an aggressive, thick-set, tough-minded general named Curtis E. LeMay. LeMay and his predecessor, Gen. George C. Kenney, since retired, have succeeded in molding SAC into America's front line, on-the-mark, ready-to-go air arm. Armed with the atomic bomb and the means to deliver it, it has been called the greatest deterrent to Russian aggression, called that by no less a person than Sir Winston Churchill.

The power potential wielded by SAC is awesome. So much so that in case of war it will go under the direct operational control of the President and the Joint Chiefs of Staff. A push of a desk buzzer or the clang of teletype bells can instantly mobilize it into action. But SAC is definitely not a push-button outfit, even though General LeMay has it at his, or his radio operator's, fingertip control.

Even an unastute officer in Far Eastern Air Forces Bomber Command (FEAF-BOMCOM) operations, at Yokota, Japan, could ungarble:

"Terrill from LeMay over Newfoundland authenticate by time receipt how is Stratemeyer? Kurt"

This is merely illustrative of how LeMay keeps constantly in touch with his globe-straddling command. In this instance he was checking the speed of transmission between his flying-operations room, a C-97 high in the sky over Newfoundland, and FEAF-BOMCOM. At the same time "old (he's actually 46) Ironpants" (a sobriquet from World War II) was asking Brig. Gen. Robert H. Terrill, then CG of BOMCOM (now deputy CG SAC's 15th AF, March AFB, Calif.), the condition of Lt. Gen. George Stratemeyer, then FEAF commanding general, who had suffered a heart attack.

But not all telenotes between LeMay and his Air Forces—Fifteenth, Eighth and Second—are so routine. At least not in the week following June 25, 1950, the day the Communists launched their invasion of South Korea.

It was July 2d, another Sunday. Personnel of the 92d Bomb Group, Fairchild AFB, Wash., and the 22d Bomb Group, March AFB, were enjoying a day off. Some were fishing, others playing golf or mowing their lawns. Many were scattered throughout the country, some on leave, others attending service schools.

One officer of the 22d was in his "sack" at Tampa, Fla., where he was attending an AF course of instruction. He got the word by being unceremoniously rousted from his slumbers and told to "report to base operations immediately and board aircraft waiting to transport you to March AFB." He didn't even bother to pack his B-4; it was sent to him later by his classmates.

SAC headquarters that afternoon had given the order that galvanized the two groups into action. The two B-29 groups were ordered to leave for Japan within fifty hours. Six days later they were setting down at Japanese bases, and four days after that they were bombing Communist targets. Before the end of their first month they had destroyed more than fifty bridges.

It was all part of a plan. Back at Omaha in SAC's Operations room, generals and colonels could follow on a huge map the progress of the 22d and 92d as they made their way across the Pacific. Metal models of SAC bombers told them not only where each plane of the 22d and 92d was, but where each plane of SAC was every hour on the hour. They knew that the lead plane of the 92d's first squadron had developed engine trouble. They knew also that the plane had radioed the fol-

On long flights, B-36 crewmen get hungry too. In rear of huge bomber is completely equipped galley to fix hot food.

Major Marchese, peering from left seat of his 36, is "boss-man" on the ground, in the air.

lowing plane to follow it into Johnson Island, in mid-Pacific.

At Johnson the second B-29 disgorged from its bomb bays a "spare" engine, part of the SAC flyaway kit, and a quick engine change was made. When the lead plane caught up with the squadron before it took off from Kwajelein, ranking officers in Offutt must have smiled in satisfaction. The operation was being flown "as briefed."

In addition to the huge locator map in Operations, worldwide weather maps line the side walls. In the rear is the vast complex of communications equipment – telephones, teletypes, telephoto instruments, and a direct wire to Washington. All are manned at all times. Instantaneous communication is maintained between SAC headquarters, its planes, and its bases.

Once, SAC bombers flying to England were warned in a radio-telephone order from Offutt that a pea-soup fog had "socked in" their landing bases. They were past the point of no return. SAC meteorologists took a quick reading from Iceland to the Mediterranean and the planes were diverted to the South, where each made a safe landing.

If General LeMay and his headquarters seem to fret like a mother hen over her brood, they have just reason. For SAC's people are as highly specialized and proficient as any in the Air Force. More than that, they know only too well that they represent the best bet this country has to forestall a possible third world war.

SAC men believe that the survival of the United States is dependent on their ability to mount swift, devastating retaliation. They must, in a sense, be ready to move when the enemy starts his engines. But since a non-aggressor nation must perforce wait until an overt act has been committed, its only recourse is to be able to mount an attack of such fury that it will terrorize an opponent into inaction or failing, deal such a crippling blow that he will not be able to exploit his initial aggressive act.

What manner of men fly SAC bombers, tankers, transports, strategic fighters, recon aircraft, and trainers? With the whole of the free world so dependent upon their skill and determination, one is somehow reminded of Sir Winston Churchill's tribute to another band of warriors in blue:

"Never in the field of human conflict was so much owed by so many to so few."

Any discussion of SAC turns automatically to the men who pack the

B-36s rest. Jet pods on plane (background) boost bomber's speed over target.

Sunday punch, the bomber drivers and their crews. These are the men who must be ready to go when the whistle blows. Not a day passes that some SAC combat crew isn't flying a training mission, seeking constantly to improve its combat effectiveness and readiness.

For the most part SAC bomber pilots are veterans of World War II. General Kenney started corralling them for his command almost from the time of SAC's activation on March 21, 1946. At that time the Air Force was suffering from the first of the post-war economy cut-backs. Kenney would ask for more groups and when refused would request authority to add one more squadron to his understrength groups.

If refused on that score he'd then ask for an increase in squadron strength. There was the same tight squeeze in procuring pilots to fly his planes, the general recalls.

"I wanted pilots, needed them," Kenney says. "When I found one was available, I'd call up the Pentagon and tell them I'd trade a colonel for him."

Around this nucleus of World War II pilots that Kenney acquired, the present pilot force of SAC was built. Approximately eighty-two percent of them are Reserves, some who have stayed on active duty since the end of the war, others who have been called back and have stayed.

One of those who stayed is Maj. Leonard P. Marchese, New York City, who is with the 28th Strategic Reconnaissance Wing at Ellsworth AFB, near Rapid City, S.D. Major Marchese is an RB-36 aircraft commander (AC), and his reconnaissance aircraft is just as vital to SAC missions as its bomber counterpart, which would carry the actual payload—the roundhouse right—in case the Russians decide to slug it out.

Marchese is a pretty typical aircraft commander. He is thirty-three years old—average SAC pilot's age in thirty-two—is married and has four children. As aircraft commander, Marchese is many men besides a pilot. To some of his crew he is a "best friend," to others, chaplain, counsellor, teacher, critic. But to all he is the "boss-man."

His hours, like those of his crew, are long and irregular. They fly at least once a week, and the missions last anywhere from fifteen to forty hours. But a mission is not only the hours spent in the air. There's a lot of ramp time logged before take-offs and after landings. The pilot and his co-pilot, who acts as executive officer, must supervise the planning of the mission.

A flight plan must be made, and in the case of the 28th it's not unusual to fly to Anchorage, Alaska, a dogleg over the North Pole, from there to Montreal, New York, Detroit, Chicago, St. Louis, Fort Worth, and back to Rapid City—non-stop, of course. Navigators must plot course lines to be flown, the flight engineer must estimate gas consumption, radio operators obtain the codes for the day or days flown, and a myriad other things. With the flight planned and the crew briefed, there is nothing to do but wait.

Long flights, like those a B-36 crew flies, are a constant battle against fatigue. So before a lengthy mission some SAC bases have special crew quarters, where the men can go and relax completely for twenty-four hours before take-off. Some of

(Continued on page 29)

WHY WE NEED SAC

By Gen. Nathan F. Twining
Chief of Staff, USAF

THE SOVIET Union is not only the biggest nation on earth; it is also the best protected geographically. It has few important targets along its coastline and it is deeply insulated by satellite nations against approach by land. Against air attack it is protected only by distance, but the distances are enormous.

The great concentration of war industry in the Urals is more than a thousand miles inside the nearest Soviet border and well insulated against any land or sea approach. The Soviet heavy weapons center in the vicinity of Lake Baikal lies even deeper.

Obviously, in case Soviet Russia plunges the world into war, we cannot expect to launch our most essential counterattacks from points so near the Iron Curtain that they would be under constant attack by swarms of Soviet jet fighters and light jet bombers. Our strategic bases should be at least several hundred miles outside the Iron Curtain. Consequently, in order to reach the principal targets that would be marked for atomic destruction, our planes must have more than 1,500 miles radius of action.

No military airplane has such a range except the land-based heavy or medium bomber—in the United States forces only the B-29, the B-50, the B-47, the B-36, and the B-52. As a matter of fact, most of the bases which could be well defended against air attack in all-out war are more than 1,500 miles from the nearest of the principal target areas in the Soviet Union. . . .

Although range is the basic requirement in [these] aircraft . . . they must also have ability to penetrate air defenses that are improving all the time. The high speed of heavy jet bombers greatly increases ability to penetrate with minimum losses. Medium and heavy jet bombers can carry electronic gear for finding and hitting targets at night and in bad weather, as well as electronic countermeasures for use against enemy radar, anti-aircraft and missiles. . . .

The more fighter planes we have, the more we can put on forward bases to fight for air superiority. But when Communist short-range planes so greatly outnumber ours, we must, of course, depend more heavily on long-range planes that can be kept beyond the reach of most of them. The Soviet air force, like our own, consists principally of short-range planes. Their more numerous bases and their greater number of such planes will force us to depend more heavily on our medium and heavy bombers that can strike from beyond their reach.

At the present time, most of our medium bomb units are equipped with old piston-powered B-29s from World War II, or with the B-50, which is an improved version of the B-29. These planes are still dependable and very effective . . . but the Soviets have many thousands of jet fighters and many hundreds of light jet bombers. They are manufacturing both on a large scale and they are improving their models constantly.

This means that both their offensive and defensive capabilities are increasing, and that our own aircraft must be improved as rapidly as possible. This is a slow process, but we are now beginning to get the first increases in combat capability from medium bomber orders placed several years ago.

The first medium jet bomber to go into our combat units is the B-47, and this plane is proving itself an excellent investment. A 12,000-mile flight by one of these planes, refueled in the air, has been announced. B-47s have already flown around the North Pole and have flown directly across the Atlantic from bases in this country in less than six hours.

The quality and performance of our planes and crews will be our principal dependence in air warfare for a long time to come. As more B-47s become available, they are being integrated into other units of the Strategic Air Command. The continuation of this process over the next few years will give us a striking force of medium bombers capable of penetrating improved air defenses.

The B-47s now beginning to move into our worldwide operations, together with the B-52s that we hope soon to produce, are becoming more important to our hopes for peace or, if necessary, for ultimate victory.

From a speech before the National Convention of the Aviation Writers Association in Dallas, Tex., on May 22, 1953.

Not all Yanks are Yanks. Some are Braves fans. Displaying their preference for the Milwaukee National League Club is the crew of 1st Lt. Charles G. Shea (left), a B-29 aircraft commander of the 307th Bomb Wing stationed in Okinawa. Wearing caps sent to them by Lou Perini, owner of the Milwaukee Braves, they have been involved in more than twenty "intentional passes" over North Korea. The dissenter (second from left) wearing umpire's cap? He's the electronic specialist—who else?

You can't hit 'em if you can't see 'em. And it is seriously doubted the three F-80 pilots in the upper right saw the three in lower left. Snapped over Okinawa, this unusual double exposure shows three Lockheed Shooting Stars (the same three) going and coming at the same time.

WAR IN KOREA

The air warriors in Korea may be in strange surroundings but they always keep something of America with them

Picture of a man who's just shot down two MIGs. He's Maj. Jack E. Mass of Red Bank, N. J., an F-86 pilot with the 4th Fighter-Intereceptor Wing in Korea. Here he's re-enacting the double kill for the benefit of his fellow Sabrejet pilots.

ANG pilot checks in at Operations to chalk up flying time after a mission.

ONCE A YEAR IT'S FOR REAL

Two weeks out of every summer the Air Guard wings get a workout

THIS SUMMER, twenty-five Air National Guard wings, almost 35,000 people, are getting fifteen days of training at seven bases in the United States.

One of these is the 133d Fighter-Interceptor Wing headquartered at Holman Field, St. Paul, Minn. The pictures accompanying this article are of the 133d's encampment at Camp Williams, Wis., but with appropriate changes in background they would be typical of any ANG wing's summer training.

The 133d is commanded by Col. John R. Dolny, a 32-year-old veteran of wartime service with the 12th Air Force, more recently returned from an active duty tour with his organization in the Air Defense Command.

In the eight months since its return from active duty, the 133d has recruited more than 1,100 officers and airmen and will want more as soon as it gets more aircraft.

Colonel Dolny, who was director of operations in ADC's 31st Air Division during his recent active duty tour, knows that his organization is far from ready to take its place in our air defense system.

"Our operations plan for summer training this year concentrates on improving individual proficiency," he explains. "Our pilots, for example, are either old timers with wartime service or brand new second lieutenants just out of pilot training. The same is true of our maintenance and support people. As soon as we can hit uniform standards of proficiency, and can get enough airplanes, we will be ready to do a job for ADC."

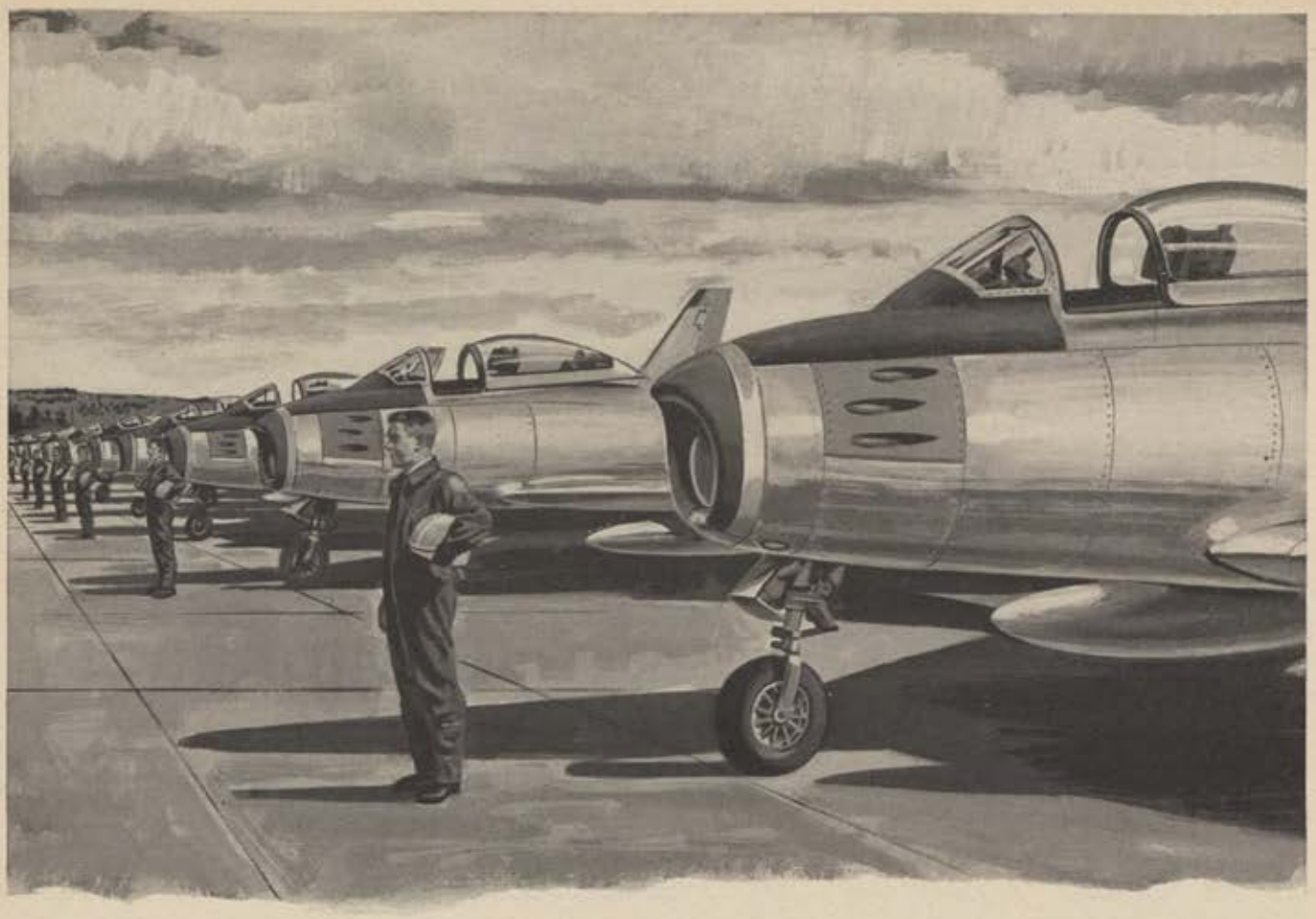
ANG units are operational throughout the year, a status made possible by a nucleus of full-time paid personnel, who maintain unit aircraft and conduct administrative and logistical affairs. But it takes a summer camp for a wing commander to see how well his men work together and to chart weaknesses to work on during the forty-eight training sessions of the coming year. Summer training is valuable, too, to air guardsmen at the bottom of the chain of command —especially to newcomers who haven't seen active duty. It substitutes the real thing for a year-long diet of dry runs and gives them the satisfaction of contributing their skills toward the success of the wing's operations.

Roll call was at six a.m. for the 133d's units based in St. Paul on the first morning of their encampment period. A few men had made a night of it, apparently, for some arrived chauffeured by wives or girl friends still in evening dress.

Duffel bags were loaded aboard big stake-sided flatbed trucks and covered with tarpaulins. After a cup

(Continued on page 39)

By Allan R. Scholin
Major, ANGUS



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of coffee, those who hadn't been assigned to a military vehicle piled into chartered buses and before seven the long convoy rolled out.

As it left, Mustang pilots of St. Paul's 109th Squadron took off, followed by wing and group officers in T-6s.

Food service personnel rode on the first C-47 shuttle runs between St. Paul and Camp Williams so they could have a hot meal ready when the convoy arrived.

By nine a.m. at Camp Williams the ramp was filling up as pilots of the wing's squadrons from Duluth and Fargo, N. D., arrived to join those from St. Paul.

A small advance detail from all units of the wing had arrived three days earlier to air out buildings, set up tents, and do general housekeeping. After the St. Paul convoy arrived at noon, the men checked out bedding and mess gear and claimed their baggage. After lunch, plus a few minutes to get settled down in the tents, they reported to their duty sections to unload office furniture and equipment.

Men of the communications squadron began immediately to string wire and install field telephones to connect all key points on the base.

By Saturday evening, photo lab personnel—who had spent the afternoon assembling printers, enlargers, washing tubs, and driers—took over operation of the base theater's projector and ran off two showings of a Betty Grable film for an enthusiastic audience.

At seven Sunday morning all pilots were briefed in air-to-air range procedures and other SOPs. Within an hour, squadrons were airborne on orientation flights to review check points and survey the gunnery range.

Chaplains held services, the medics received their first cases on sick call, and, in short, the wing was ready for business at the new stand.

Soon after daybreak on Monday Lt. Col. Ralph Jerome and his 179th Squadron from Duluth fired the first rounds on the gunnery range over Lake Michigan. His outfit was followed by Maj. Marshall Johnson, commanding the 178th Squadron from Fargo, and by the 109th from St. Paul under Maj. Marvin Thorson. The training schedule was operating on high blower.

The shortage of airplanes put heavy pressure on maintenance crews to get the highest possible in-commission rate. Fighter operations closed down for the day at 3:30 in the afternoon to give ground crews a chance to care for the planes and still get a night's sleep.

To move into an inactive base and set up full-scale operations within forty-eight hours requires considerable advance planning. Preparations for summer camp usually begin as much as six months ahead. Three weeks before it moved to Camp Williams, the 133d Wing headquarters was ready with an inch-thick mimeographed operations plan with annexes, detailing the encampment duties of all sections and establishing SOPs for nearly every foreseeable problem.

Summer training in the ANG was interrupted for two years while twenty-two of its twenty-seven wings were on active duty with USAF. Airplanes are scarce and many wings are well below authorized strength. Yet from all over the country come reports that this year's encampments are running more smoothly than ever before.

Maj. Gen. Earl T. Ricks, head of the air division in the National Guard Bureau, has suggested one explanation for this year's success.

"It's apparent," he says, "that the Korean emergency has sharpened the perspective of all ANG wings and given them assurance in their work. In the wings I've visited this summer, the one thing that impressed me the most was the confidence of air guardsmen that they can hold their own in every comparable respect with their counterparts on active duty."—END

See, there's one. ANG men of the 133d Fighter-Interceptor Wing kneel around tow target to check accuracy of F-51 pilot's air-to-air gunnery.

Staff Sergeants Don Linke (left) and Clifford Vining of the 178th Fighter Squadron, ANG, Fargo, N. D., groom an old war horse—F-51, Mustang. A shortage of planes at ANG maneuvers resulted in heavy maintenance work-load.

SUPERIOR PERFORMANCE

On 3 Cycles to 20 Megacycles

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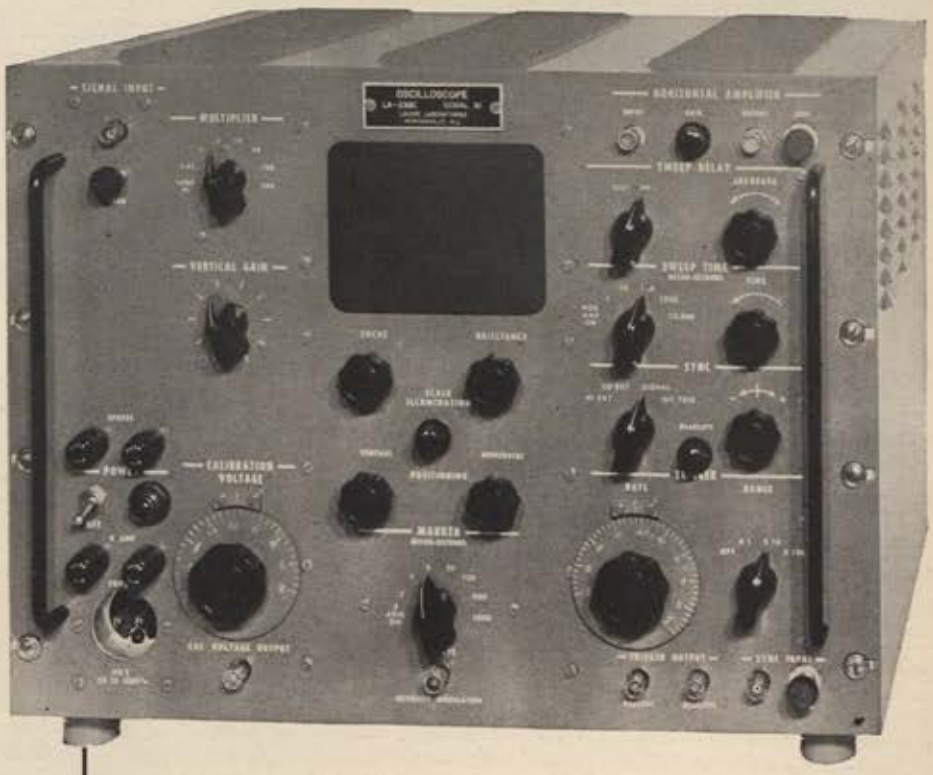

DATA

1. Wider Bandwidth: Complex waves from 5 Cycles to 15 Megacycles. Sine waves from 3 Cycles to 20 Megacycles.

2. Extended Sweep Frequencies: Linear from 10 Cycles to 20 Megacycles internally synchronized. Triggered sweep, from single random impulses to irregular pulse-intervals up to as high as 6 Megacycles.

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4. Greater Stability: Electronically regulated power supplies throughout to maintain accuracy and constant operation under varying line conditions or line surges. You can display surges on the line from which Model LA-239C is being powered without distortion of the trace!

5. Higher Signal Sensitivity: Maximum sensitivity without Probe: 10.4 millivolts. With Probe: 100 millivolts. (Maximum signals, 125 V. Peak and 450 V. Peak respectively.)

6. Timing Markers: Interval Markers of 0.2; 1; 5; 20; 100; 500; or 2,000 Microseconds may be superimposed on the trace for the accurate measurement of the time base.

7. Voltage Calibration: Signal amplitude is compared against a 1,000 cycle square wave (generated internally) the amplitude of which is controlled by a step-and-slide attenuator calibrated in peak volts. (A jack is provided to deliver 40V Peak for use in calibrating other instruments.)

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9. Power Source: 110 to 130 V AC; from 50 to 1,000 cycles. 295 Watts. (Fused at 4 Amperes.)

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THE LAVOIE MODEL LA-239C has been designed to surpass the high performance of the TS-239A/UP, which has been the standard test oscilloscope for the Armed Services since its introduction. Model LA-239C is the result of a long period of research and development which has included the study of new tubes, new circuits, and new techniques. Rugged design has been combined with functional simplicity to produce an instrument as attractive as it is efficient.

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DESIGNERS AND MANUFACTURERS OF ELECTRONIC EQUIPMENT

LETTER from LONDON

Britain applies the lessons of history to her modern bomber program—England's way of carrying war to any potential enemy

Avro Vulcan, four-jet, delta bomber.

FIGHTERS or defensive weapons alone can never ensure the security of the United Kingdom. This fact has been brought home time and again since long before World War II, and it is appreciated now as never before.

To many nations, particularly some in the NATO alliance, it appears foolish for an overburdened, war-weary country like Britain to concentrate on building highly expensive, ultra-long-range bombers and their associated armaments. To the average Briton, it is just as logical as it was for his grandfather to support the construction of bigger and better battleships.

A small, heavily populated, industrialized island set perilously close to the shores of Europe and within easy range of Soviet bombers, the United Kingdom can never find sufficient men, money and materials for certain air defence, i.e. 100 percent kills of all aircraft crossing the coast.

If the United Kingdom is attacked in the foreseeable future, her enemy will wish to accomplish one of two things—either to destroy her completely with atomic bombs and every weapon available, or to occupy the country as speedily as possible, and make use of factories, mines, communications, etc.

In the latter case, atomic bombs would not be used on a large scale as it would defeat the object in view, and it would take too long to rebuild the complex industrial network. The conversion of the United Kingdom into what would be virtually a radioactive dustbowl would be of little help to anyone, and might endanger the rest of Europe and Asia. Therefore the second plan appears the most likely to be adopted.

Whatever way is adopted to attempt to defeat the United Kingdom, airpower on a very large scale would be used, and it will be quite impossible for any air force, based in the United Kingdom, to prevent a sizeable proportion of the attacking force from getting through to the target.

All the lessons in radar jamming, blind bombing, and missile firing learned during World War II would be used to good effect.

In all the wars Britain has fought, right back to the Spanish Armada in 1588, she has never stayed at home, but has either had her Army or Navy, and more recently her Air Force, tackling the enemy as far from home as possible.

World War I saw Britain without means of carrying the war to the enemy's camp, other than on the sea. As a result, while London and other British centres were regularly bombed, the retaliatory offensive against Berlin was only about to be launched when the war ended.

The lesson was not forgotten when, in 1936, rapid expansion of the Royal Air Force was embarked upon and fighter defences were built up; at the same time a new fleet of heavy bombers began to take shape.

This latter programme was pushed ahead despite the vital need for fighters, and the disruption caused by bombing. Throughout the Battle of Britain light and medium bombers kept up a constant explosive delivery service to the continent, wrecking communications and breaking up invasion concentrations.

With the fighter battle won, the bombing offensive was steadily mounted as more and more machines flowed from the factories. As a result by mid-1942 the RAF was able to launch over 1,000 medium and heavy bombers against

(Continued on following page)

Cologne in one night, and follow it up with several more 1,000-plus forces against various other cities.

Radar bombing with Gee, Oboe, and H2S was perfected, and bombs of up to 22,000-lb. weight became available. Thus foresight and planning meant that the war was being carried to the enemy, and from the introduction of the four-motor bombers into squadrons early in 1941, he was never given a moment's rest.

With the RAF by night and the US 8th Air Force by day, it was possible to break down the enemy's power first to attack, and finally to resist. Development of the V-1 and V-2 was greatly hampered by the destruction of test centres and factories, and the necessity for their transference underground.

Such an operation as the breaching of the Mohne and Eder Dams in 1943 with a small force of Lancasters gave the maximum strategic effect with the minimum expenditure of life and resources.

Had the RAF commenced the development of the Manchester, Lancaster, Stirling, and Halifax bombers after the Battle of Britain had been won, or if the USAAF had waited until after Pearl Harbor to commence quantity production of the Fortress and the Liberator, the outcome of the war might have been very different.

In priority production is the Vickers Valiant, four-jet bomber with compound tapered wing.

Britain's other long range bomber is the Handley Page Victor which has four jets and scimitar wing.

Distances across the United Kingdom are so small by comparison with a country like the United States, and the industrial areas so closely concentrated, that the defences are strained to the maximum to detect and intercept approaching raiders, and there can be no such thing as a time lag.

The islands have what is probably the closest and most comprehensive raid reporting and interception set-up in the world. The coasts are covered by Chain Home, Chain Home Low, and other types of radar; there are 1,000 fully trained observer posts with their own operations rooms. Good airfields are available all over the country, and the GCI system is very advanced. Within this highly complex structure there are also the anti-aircraft guns, operations rooms and control, and the civil defense organisations.

All this has been built up step by step through the years and battle-tested from the 250-mph Heinkel 111s of the Battle of Britain, through night bombing and tip-and-run raiders to the high speed V-1 flying bomb of 1944.

As previously mentioned, however, even with the defence network constantly being modified and improved, and new sweptwing fighters and air-to-air missiles becoming available, nothing like 100 percent kills has ever been achieved or expected, and the low-altitude, high-speed intruder is now becoming as great a difficulty as the high-altitude, pressurised bomber, to detect and intercept.

Some 7,500 V-1 flying bombs with nearly 2,000 pounds of explosive apiece and flying at over 400 mph, were launched against the United Kingdom with most unpleasant effects. Even with a tremendous concentration of fighters and guns and a fairly narrow front for the missiles to come in on, only about fifty-three percent were destroyed, and many of these did not explode until they hit the ground.

The V-2 which followed the robot aircraft was much worse, and although measures to combat it were being worked out, they were only in an embryonic stage, and every V-2 successfully fired across the Channel delivered its 2,000-lb. warhead without any warning at all.

If it were possible to perfect push-button missile radar defence within a short time, the United Kingdom would be almost the perfect place to have it, being very compact, and having good communications. Integrated missile defence, however, is still in the advanced test stage, and a long way from the production line and the military unit. With propellants and guidance mechanisms in their present state, mass firing over a small country might be more disastrous for the defence than for the attacker.

The inherent danger in concentrating solely upon defence, and the advantages to be gained by a nation possessing an efficient bomber force were brought out in a lecture given last December by Air Marshal Sir Robert Saundby. He pointed out that the efforts of the British and US bomber forces had caused the Germans at one stage of the last war to concentrate three-quarters of the whole of their war effort on defence of the homeland, with the result that air resistance to the invasion of Normandy was almost completely absent. He also said that on the outbreak of any future war it might be necessary to deliver crushing attacks on enemy centres. The air battle, whatever form it took, might well be the crucial one.

Bearing these points in mind, it can easily be seen that the further away from Britain the battle is fought the better it will be for Britain. By attacking hard and putting the enemy on the defensive the war centre can be shifted, and this can never be done by relying solely on static home defences.

If Britain were to rely upon missile and radar defence, it is quite possible that the enemy could evolve a new system of jamming which would render the scheme unworkable. For years the French laboured to perfect the Maginot Line, and poured money and materials into it. When the assault came, it was a mobile one which bypassed the line and rendered it useless.

Maginot Line and solid-wall complexes have never been part of the British make-up, and the people have always preferred to have more than one ace up their sleeve; to have mobility, and the ability to strike back so that an enemy can never feel internally secure in building up an assault.

The new range of high-altitude precision bombers and their accompanying new weapons and radar, which have cost the British taxpayer so much to design and produce, will ensure far greater security than if the money had all been funneled into defence missiles, etc.—already Super Priority items.

If Britain is attacked she will have the means to defend herself, but in addition the enemy will immediately become the object of concentrated and accurate attack on his vital centres.

Derek H. Wood

A Salute

TO THE LOW-FLYING MEN!

All hail to the ace in the "wild blue yonder" . . . but let's give with some man-sized cheers for the lads who slug it out at hill-top level. From the time they take off . . . till the mission is completed, these strategic fighter bombers and tactical close support pilots face a brutal blasting all along the way.

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1

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General Curtis E. LeMay

7

Special Assistant to CG
Lt. Colonel Reade F. Tilley

6

Judge Advocate
Colonel Allen W. Rigsby

4

Vice Commander
Maj. Gen. Thomas S. Power

5

Chief of Staff
Brig. Gen. Richard M. Montgomery

3

Air Surgeon
Brig. Gen. Loyd E. Griffis

2

Inspector General
Brig. Gen. William P. Fisher

9

Adjutant General
Colonel Glenn P. Nell

8

Operations Analysis
Mr. Carroll L. Zimmerman

15

Director of Plans
Maj. Gen. John P. McConnell

14

Director of Materiel
Brig. Gen. Charles J. Bondley, Jr.

13

Director of Operations
Maj. Gen. Archie J. Old, Jr.

12

Director of Intelligence
Brig. Gen. James H. Walsh

11

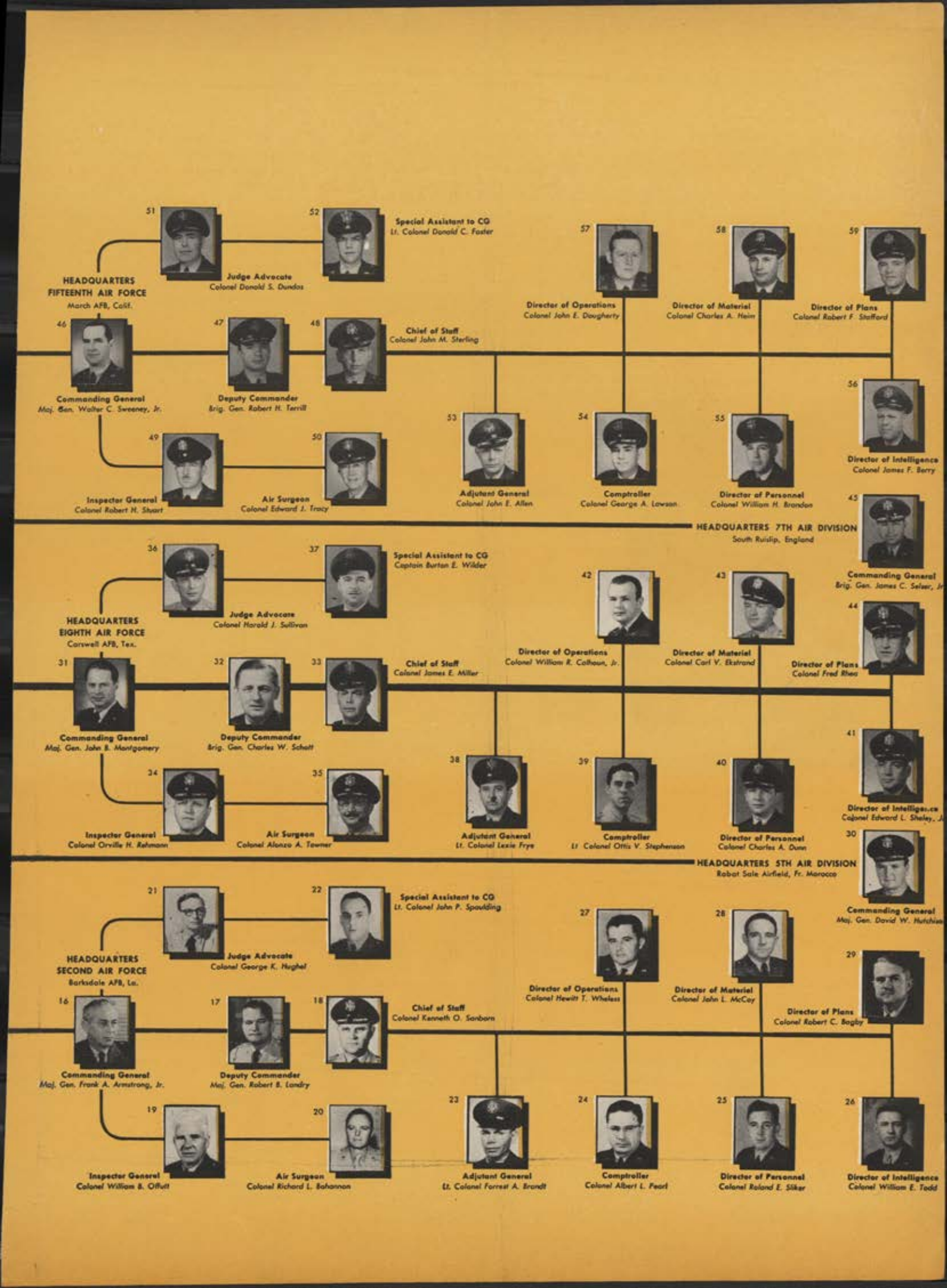
Director of Personnel
Colonel Stephen D. McElroy

10

Comptroller
Brig. Gen. Robert O. Cork

An ***AIR FORCE*** Magazine Chart

(Corrected as of June 25, 1953)


HEADQUARTERS FIFTEENTH AIR FORCE
March AFB, Calif.
46 Commanding General
Maj. Gen. Walter C. Sweeney, Jr.
47 Deputy Commander
Brig. Gen. Robert H. Terrill
48 Chief of Staff
Colonel John M. Sterling
49 Inspector General
Colonel Robert H. Stuart
50 Air Surgeon
Colonel Edward J. Tracy
51 Judge Advocate
Colonel Donald S. Dundas
52 Special Assistant to CG
Lt. Colonel Donald C. Foster
53 Adjutant General
Colonel John E. Allen
54 Comptroller
Colonel George A. Lawson
55 Director of Personnel
Colonel William H. Brandon
56 Director of Intelligence
Colonel James F. Berry
57 Director of Operations
Colonel John E. Dougherty
58 Director of Material
Colonel Charles A. Heim
59 Director of Plans
Colonel Robert F. Stafford
HEADQUARTERS 7TH AIR DIVISION
South Ruislip, England
45 Commanding General
Brig. Gen. James C. Selser, Jr.
HEADQUARTERS EIGHTH AIR FORCE
Carswell AFB, Tex.
31 Commanding General
Maj. Gen. John B. Montgomery
32 Deputy Commander
Brig. Gen. Charles W. Schott
33 Chief of Staff
Colonel James E. Miller
34 Inspector General
Colonel Orville H. Rehmann
35 Air Surgeon
Colonel Alonzo A. Towner
36 Judge Advocate
Colonel Harold J. Sullivan
37 Special Assistant to CG
Captain Burton E. Wilder
38 Adjutant General
Lt. Colonel Lexie Frye
39 Comptroller
Lt Colonel Ottis V. Stephenson
40 Director of Personnel
Colonel Charles A. Dunn
41 Director of Intelligence
Colonel Edward L. Sheley, Jr.
42 Director of Operations
Colonel William R. Calhoun, Jr.
43 Director of Material
Colonel Carl V. Ekstrand
44 Director of Plans
Colonel Fred Rhea
HEADQUARTERS 5TH AIR DIVISION
Rabat Sale Airfield, Fr. Morocco
30 Commanding General
Maj. Gen. David W. Hutchison
HEADQUARTERS SECOND AIR FORCE
Barksdale AFB, La.
16 Commanding General
Maj. Gen. Frank A. Armstrong, Jr.
17 Deputy Commander
Maj. Gen. Robert B. Landry
18 Chief of Staff
Colonel Kenneth O. Sanborn
19 Inspector General
Colonel William B. Offutt
20 Air Surgeon
Colonel Richard L. Bahannon
21 Judge Advocate
Colonel George K. Hughel
22 Special Assistant to CG
Lt. Colonel John P. Spaulding
23 Adjutant General
Lt. Colonel Forrest A. Brandt
24 Comptroller
Colonel Albert L. Pearl
25 Director of Personnel
Colonel Roland E. Sliker
26 Director of Intelligence
Colonel William E. Todd
27 Director of Operations
Colonel Hewitt T. Wheless
28 Director of Material
Colonel John L. McCoy
29 Director of Plans
Colonel Robert C. Bagby

spiralling right turn. When 360,000 pounds of B-36 decide to run amok in the sky it takes three men and a horse to keep it level. On that day, November 20, 1952, there were only Marchese and his co-pilot, 1st Lt. John W. Gemmell.

Marchese and Gemmell combined their efforts and weight to stop the right spiral. They used full left rudder trim, full left rudder control, and maximum left aileron. By that time they had lost 400 feet of precious altitude and had deviated thirty-five degrees right of their course.

Four-starred, pipe-smoking General LeMay steers SAC, flys own aircraft.

Marchese alerted his crew for a possible bail-out, called the tower and told them the B-36 couldn't be turned left. A visual check of all accessible control cables was made, but it failed to reveal the cause of the malfunction. In the meantime Marchese found that, by using differential power settings on his six engines and a different flap setting, he could maintain a fairly straight course. He told the tower he was coming in for an emergency landing. Fire engines and "meat wagons" rushed to the flight line as Marchese nursed his ailing iron bird earthward. Just at touchdown, to eliminate the left crab of the B-36, Marchese kicked hard right rudder. The airplane rolled on down the runway and came to a stop. Marchese and his crew had just about "bought the farm"—but not quite.

A postflight inspection showed that the left inboard aileron trim idler push-pull rod had failed, causing the rod to drop down and wedge itself into the leading edge of the left aileron while the B-36 was in a right bank.

Marchese, by his split-second thinking, not only saved his crew, but saved the taxpayers $3.5 million worth of airplane. He thereby earned a membership in SAC's "Heads Up Flying Club," an engraved B-36 model airplane and a certificate of commendation from General LeMay.

But flying isn't all that occupies the time of Marchese and his crew. Ground school training is constant. And there is the SAC Survival School at Stead AFB, Nev., that all SAC crews must attend. They go through as a unit. For three days they are lectured on how to survive if forced down or forced to bail out. Then they are trucked to a point approximately thirty miles from Stead, told to jump out and find their way back.

Their only equipment is the SAC survival kit which is attached to the parachute. It contains forty-two essential items needed to keep him alive and well, if used properly, sustain him in any climate or terrain. It has a three and one-half pound folding-stock combination rifle-shotgun, sleeping bag, concentrated rations, fishing tackle, and even a change of socks. Living off the land, the crews hike and scrounge their way back to Stead. It's a rough trip and tests the mettle of each man, but when they're finished they echo the words of Marchese, who said, "We actually learned how to survive."

Presently SAC is in the throes of transition. The B-36 is still its backbone, but already it is obsolescent. As it replaced the B-50s and the B-29s, so it will eventually be replaced by the B-52, a Boeing eight-jet bomber now undergoing AF tests.

The transition to jet bombers is more complex than just climbing out of one plane and into another. Formerly a B-29 or B-50 crew had eleven or twelve men to accomplish its mission of putting bombs on the target. Today's B-47, the new star of SAC's medium bomber force, has a crew of three. This means that three men now do the work formerly performed by eleven. Each crew member is multi-rated—a "four-headed monster" For the most part each B-47 man is a pilot, navigator, bombardier, and radar operator. They are the elite. As one writer recently put it, "America should stand hat in hand before these men."

Currently there are two wings of B-47s in operation with more being activated. They're the 305th and the 306th Bomb Wings stationed at MacDill AFB, Fla. That they would be operational on a moment's notice was dramatically illustrated a short time ago when the 306th, under Col. Michael N. W. McCoy, flew from MacDill to England for a ninety-day tour of temporary. They took off on their final leg from Limestone AFB, Me. Most of them broke the existing transatlantic West to East speed record, and the average time was approximately five and one-half hours for the forty-five bombers that made the move.

The flight of the B-47s was no press-agent stunt. It was a routine training maneuver that will be followed by more. But it showed that SAC is what LeMay wants it to be—a mobile striking force "a force for peace, but if war comes, SAC will be ready." Give SAC twenty-four hours' notice, and a wing of forty-five B-47s, with twenty aerial tankers—KC-97s—thirty air freighters, 2,586 men, and nearly 300 tons of spare parts will be able to take-off for any one of our SAC bases throughout the world and sustain itself in operations for thirty days.

This mobility is due in large measure to the development of the SAC flyway kit. It contains more than 40,000 items, including everything from spare engines to tiny electronic tubes. When a SAC unit gets a call to spend temporary duty overseas—as they do frequently—it is ready to go right now.

This constant moving around has made world travelers of SAC men. But for those who wait behind—wives and children—it means days and months of separation. Like her husband, the happy SAC wife has to be a special breed, too. Many, like Norma Marchese, didn't like the idea at first, but she explains:

"It's like horse meat or scotch whiskey—you've got to get used to it before you like it."

And, if the big show starts, they know they can move over and make room for one more SAC wife, Mrs. Curtis E. LeMay. For the general says, "I expect that if I am called upon to fight I will order my crews out in those airplanes [B-36s], and I expect to be in the first one myself."

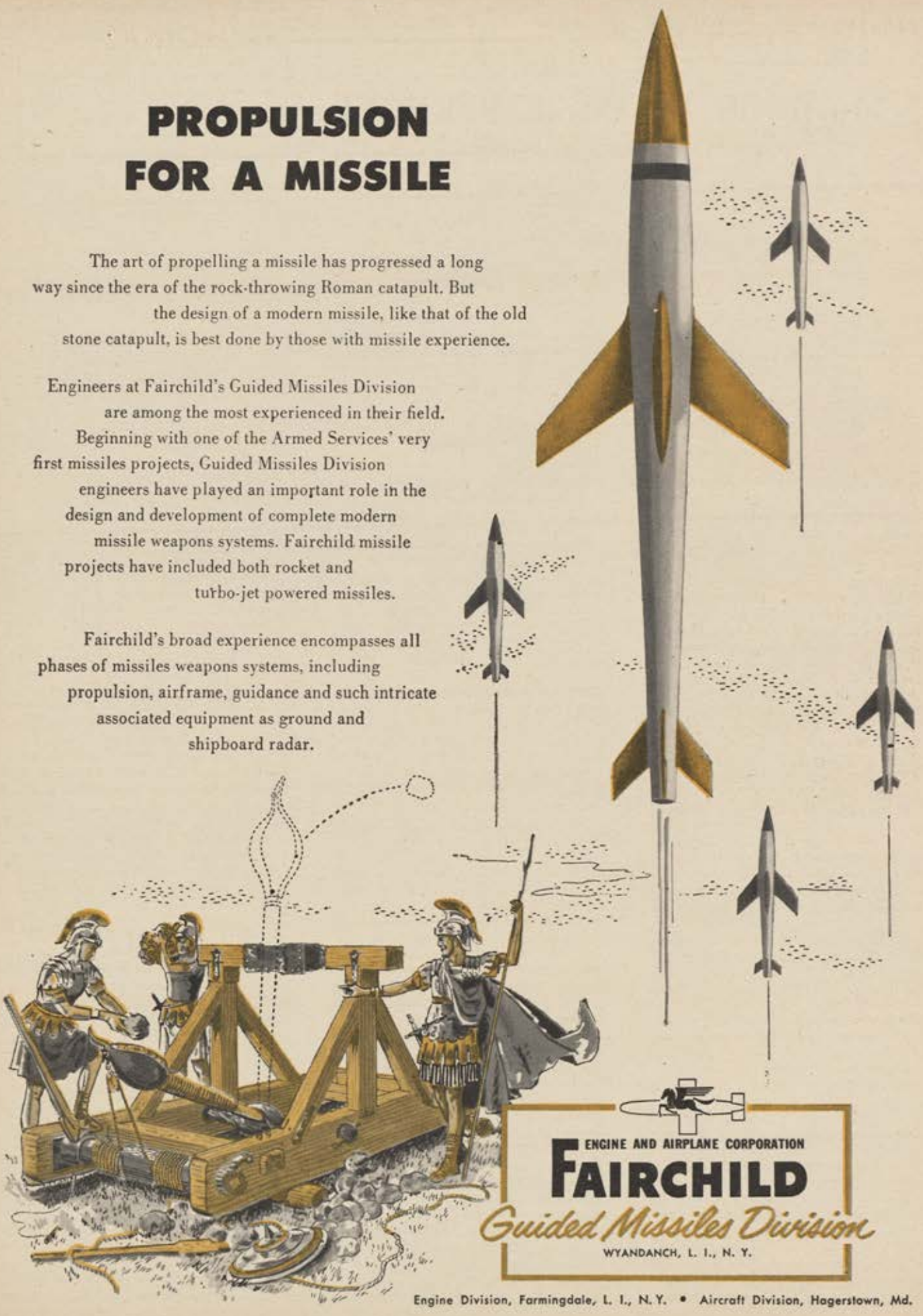
—END

PROPULSION FOR A MISSILE

The art of propelling a missile has progressed a long way since the era of the rock-throwing Roman catapult. But the design of a modern missile, like that of the old stone catapult, is best done by those with missile experience.

Engineers at Fairchild's Guided Missiles Division are among the most experienced in their field. Beginning with one of the Armed Services' very first missiles projects, Guided Missiles Division engineers have played an important role in the design and development of complete modern missile weapons systems. Fairchild missile projects have included both rocket and turbo-jet powered missiles.

Fairchild's broad experience encompasses all phases of missiles weapons systems, including propulsion, airframe, guidance and such intricate associated equipment as ground and shipboard radar.



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Guided Missiles Division

WYANDANCH, L. I., N. Y.

Engine Division, Farmingdale, L. I., N. Y. • Aircraft Division, Hagerstown, Md.

2,500-HOUR FLYING EXPERIENCE

An AF pilot's reply to the claim that 2,500 hours racked up is inadequate when it comes to flying the big ones

An airline captain turned journalist recently blasted the USAF and its flying gentry for the recent series of AF crashes through his column in a national aviation magazine. He demanded that the Air Force get out of "airline flying" unless it can provide pilots with more than 2,500-hour experience for such transport planes as C-124s. This level of experience was "fantastically inadequate" for flying that involves passengers and litter cases, he asserted.

Pointing out that some of those 2,500-hour AF pilots involved in crashes over the 1952-53 winter had only 300 to 400 hours in that particular type, he pompously emphasized that the least experienced captain in his airline had over 6,000 hours and the average for captains on the Pacific airlift was 12,000 hours. He cheerfully admitted that "any pilot with 2,500 hours who can take a four-engine plane across the Pacific or even fly around the states in winter weather, deserves an award" but sagely warned that "he shouldn't be allowed to try it again." That *total* time, he went on, would merely serve as an introduction to a DC-6 or Connie by airline standards—let alone qualify an AF pilot to carry passengers. In his tightly locked airline world, the almighty measure of flying safety and experience was total hours; the more time, the more experience . . . with no break-even point, apparently.

Such a blast at AF pilots (of whom I am one—a recalled Reservist now flying with MATS and possessing an inadequate 2,000-plus hours) and their mode of pilot evaluation should not pass unnoticed, nor should the inaccuracies of this opinionated writer go unanswered. In the first place, he complains of low time of AF pilots in the type of plane flown. This is ridiculous as such a condition always exists when a new model is introduced. The airline faced this when DC-6s and Stratocruisers were introduced four or five years ago.

Then there's the little matter of constant training which is a big part of military flying. Few airlines have the time or equipment for simulated emergency training, instrument flying, etc. Flying the route is held as sufficient training even though each flight must be tailored for utmost passenger comfort. Here the AF pilot—a MATS airplane commander, for example—gets a minimum of four hours monthly of such important emergency and instrument work.

In a seniority bound business like airline flying, too many of the venerable captains lose sight of their experience level in serving up *total time* as the only gauge. Under today's mammoth growth of flying, you're a piker in the business if you have less than 10,000 hours.

But just because the hoary veteran has a bigger stack of log books than his youthful rival in the AF doesn't mean that 2,500 hours is something to simply open the textbooks with. It was a lot of flying to *him* back in 1940 and it's still a lot of flying in 1953.

Capt. Wallace C. Baker
APO 856, New York, N. Y.

The Unrewarded

This letter is my fifth and last attempt to obtain an answer to the question that has had me more than a little puzzled for the past several years.

I noticed in the March issue of AIR FORCE that several hundred more "inactive Reservists" had been granted promotions and that plans were being made to add more to the list. Now I think that is fine, and I am all for it, BUT when are they going to start promoting some of us "ACTIVE Reservists"?

This same question must be in the minds of several thousand other "actives." My own experience is typical of most of them. From the time I received my separation in November 1945, I have been an active Reservist. By that I mean I have always been assigned to an organized unit where I had an M-Day assignment. From 1947 until 1951 I religiously attended two-day active duty training periods each month and took a two-week tour each summer, giving up my vacations to do so. Then in April '51 I was recalled to active duty, being released in October 1952.

Now I didn't mind the week-end tours and really enjoyed the two-week tours each summer. And although I had to interrupt my career for a second time for the eighteen-month extended tour, I still didn't feel that I had a gripe coming. Because, after all, no one made me join the Air Force Reserve and I knew precisely what I was getting into. However, I don't think I have received fair treatment from the promotion standpoint.

With all the time spent in the Reserves, with all the points earned and in spite of the sincere effort I have exerted to "do my part," I am still a first lieutenant. I have had this dubious honor since January 1945. The thing that really makes my blood boil is that more than two dozen ex-Air Force officers in my own home town, who became first lieutenants as much as a year later, are now captains.

These same inactive Reservists, and I mean *inactive*, laughed at us fools who worked hard to organize a corollary unit to train here at Great Falls AFB. They wanted no part of it and took no part of it. And, as far as I can determine, have never done anything in the reserve program but accept the promotions as they came along. Yet each has been promoted at least one rank.

Of the two hundred-odd officers and men who trained with the 8523d Reserve Corollary Unit here at Great Falls, as well as about fifty who had M-Day assignments, over ninety-five percent found themselves overseas, many in actual combat, shortly after they were recalled. Most of them have returned now and none has received a promotion except five who had been second lieutenants since their separation after World War II.

I would like for someone to show me the fairness of this procedure. Is there to be no reward of any kind for those of us who were willing to give our time and effort, to interrupt our civilian lives, in order to serve our country?

I have asked that question of four different Reserve and Air Force agencies and have yet to receive an answer. I joined AFA hoping to obtain an answer from that source. Knowing that the AFA is interested in the Reservist, I really expect to get the answer at long last.

As with all the other Air Force Reservists, I now have to decide whether I want to accept a permanent appointment in the Air Force Reserve. Of course I do, but I wonder if it is worth it. When I was released from active duty I immediately applied for another M-Day assignment and had to sign an overage in grade waiver before I received it. I am told that if I do a good job in my new assignment and my commanding officer feels that I am worthy of a promotion, there is a possibility I will eventually receive it.

It seems to me that if the Air Force is truly sincere in wanting us Reservists to keep our interest up, they would give those of us who really deserve it a break.

1st Lt. James R. Rector
Great Falls, Mont.

Security Classification

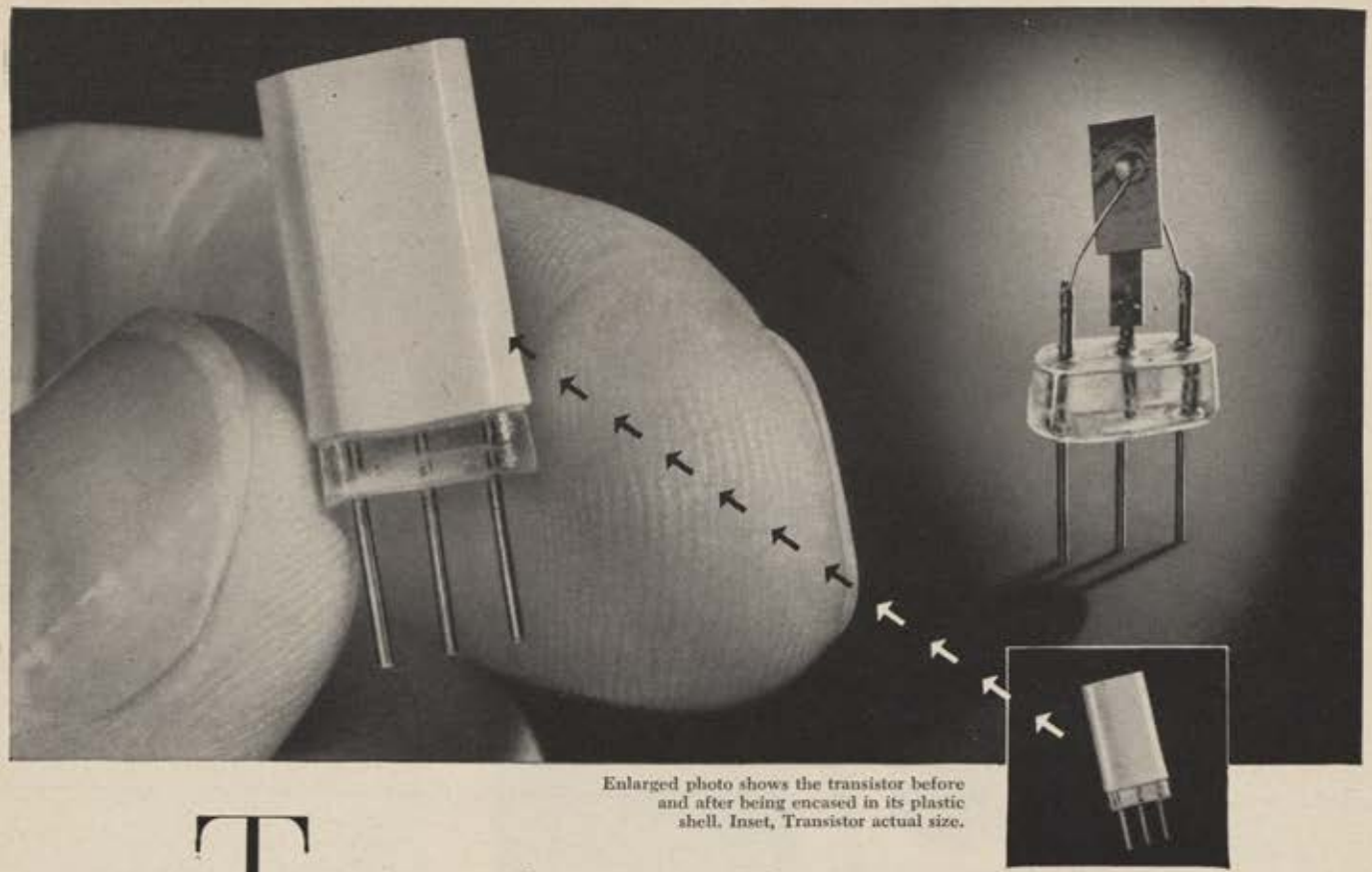
Amid the current conflict over security classification raging between the Defense Department and numerous newspapers and magazines, the time has come to ask ourselves: "Is the military strangling itself on the red tape of classification?"

Without quarreling over necessary classification, or with sincere security

(Continued on page 50)

LET'S HAVE YOUR JET-BLAST

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



Enlarged photo shows the transistor before and after being encased in its plastic shell. Inset, Transistor actual size.

Transistor_

mighty mite of electronics

Increasingly you hear of a new electronic device—*the transistor*. Because of growing interest, RCA—a pioneer in transistor development for practical use in electronics—answers some basic questions:

Q: ***What is a transistor?***

A: The transistor consists of a particle of the metal germanium imbedded in a plastic shell about the size of a kernel of corn. It controls electrons in solids in much the same way that the electron tube handles electrons in a vacuum. But transistors are not interchangeable with tubes in the sense that a tube can be removed from a radio or television set and a transistor substituted. New circuits as well as new components are needed.

Q: ***What is germanium?***

A: Germanium is a metal midway between gold and platinum in cost, but a penny or two will buy the amount needed for one transistor. Germanium is one of the basic elements found in coal and certain ores. When painstakingly prepared, it has unusual electrical characteristics which enable a transistor to detect, amplify and oscillate as does an electron tube.

Q: ***What are the advantages of transistors in electronic instruments?***

A: They have no heated filament, require no warm-up, and use little power. They are rugged, shock-resistant and unaffected by dampness. They have long life. These qualities offer great opportunities for the miniaturization, simplification, and refinement of many types of electronic equipment.

Q: ***What is the present status of transistors?***

A: There are a number of types, most still in development. RCA has demonstrated to 200 electronics firms—plus Armed Forces representatives—how transistors could be used in many different applications.

Q: ***How widely will the transistor be used in the future?***

A: To indicate the range of future applications, RCA scientists have demonstrated *experimental* transistorized amplifiers, phonographs, radio receivers (AM, FM, and automobile), tiny transmitters, electronic computers and a number of television circuits. Because of its physical characteristics, the transistors qualify for use in lightweight, portable instruments.

* * *

RCA scientists, research men and engineers, aided by increased laboratory facilities, have intensified their work in the field of transistors. The multiplicity of new applications in both military and commercial fields is being studied. Already the transistor gives evidence that it will greatly extend the base of the electronics art into many new fields of science, commerce and industry. Such pioneering assures finer performance from any product or service trademarked RCA and RCA Victor.

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ENGINEERING PRODUCTS DEPARTMENT **CAMDEN, N.J.**

JET BLASTS——CONTINUED

officers, can we tolerate petty bureaucrats trying to show their authority or cautious officials who up classification "just to be on the safe side"?

From the frustrating experience of trying, for seven months, to get an article cleared, only to find that my delay had enabled someone else to capitalize on the same idea, I have serious doubts about trusting further manuscripts to the bureaucracy. The very men who had been so insistent on classification admitted later that they had been overcautious.

This experience is not unique and raises two important questions for anyone about to submit material for clearance when they are not required to do so. 1. Will you needlessly be denied the use of your material? 2. Is this type of over-classification stifling defense developments? The second question is of major importance.

An idea can often be a catalyst to stimulate other ideas and developments. By delaying the publication of a concept or technique needlessly, you delay progress. In times of crisis such delays could be disastrous. Freedom to exchange knowledge and ideas has stimulated the progress that is America. Restricting information breeds tyranny and a tyranny of the bureaucracy can be just as deadly to the progress of a nation as any other type of tyranny; more so, in fact, because bureaucrats are so numerous.

We must also realize that classified material often can't be used on a project holding a lower classification. If classification is needlessly pushed upward it may become useless. Scientists and technicians are therefore often left at a great disadvantage when using this material.

DON'T FORGET AFA'S CONVENTION in Washington, D. C., Aug. 20-23. Details on pages 70-71.

Over-classification and the precautions it engenders also isolates scientists from each other, and so formalizes the distribution of information that useful knowledge and ideas wither and die with the originator because of insurmountable red tape. One might go so far as to say that over-classification serves the interests of the Kremlin by making good material useless.

On one occasion a research worker requested a book which he had heard was available to anyone at a Communist bookstore in New York. When the book arrived it was classified secret, and as such was worthless for his project. Certainly this type of nonsense could be brought to a halt.

Several visits to the Pentagon in an effort to get my article de-classified convinced me that people trained to handle classification generally are trying hard to be fair, but are often dependent upon specialists who know their field, but have only a fuzzy notion about sig-

(Continued on page 53)

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nificant implications of security. They also often are not well oriented about the place of security in the various departments with which they deal. Problems in classification engender prolonged debates and inevitably result in the highest classification possible, "just to play it safe." A broader security orientation and training offers the best hope for correcting these faults.

Gordon F. Shea
College Park, Md.

High School Grads

For the past two years I've been reading about the Air Force's beef over the slack in aviation cadet applications. The reason is because they've searching in the wrong place—college. A college education can hurt no one; but after consulting many authorized persons, I've come to the conclusion that a college education isn't essential for producing jet pilots. I, with many other people, think we high school graduates should be given a fair chance to qualify for flight training. The average high school graduate has under his belt: three years of math, including trig; two years of science, including physics and chemistry. These subjects should set anyone up for flight training.

Since I was seven years old, I've yearned for the "Wild Blue Yonder." I've partly satisfied my hankering. At fourteen, I joined CAP. I participated in a summer encampment at McGuire Field, N. J., where I had a chance to sit at the controls of a "hot" F-86 which was readied for an alert. I rank executive officer on the cadet roster of our squadron. A former cadet CO successfully completed navigator's training in '50 with only a high school education.

At present I'm taking lessons as a student and I hope to solo this summer. Flying is expensive for me but I love it. I'm graduating in June and because the Air Force accepts college men only, I'll have to spend two years in college before I can apply for flight training. This brings in another story.

I consider myself lucky because I live in the metropolitan area of New York-New Jersey where there are many local colleges and part-time work opportunities. The college I hope to attend does have draft exempt ROTC training. Many colleges don't. In these a fellow stands a chance of being drafted and loses that opportunity "upstairs." Why doesn't the AF get wise and train high school graduates who are full of pep and rarin' to jet?

Harry Hopkins
Orange, N. J.

DON'T FORGET AFA'S CONVENTION in Washington, D. C., Aug. 20-23. Details on pages 70-71.

TECH TALK

By Everett E. Dodd

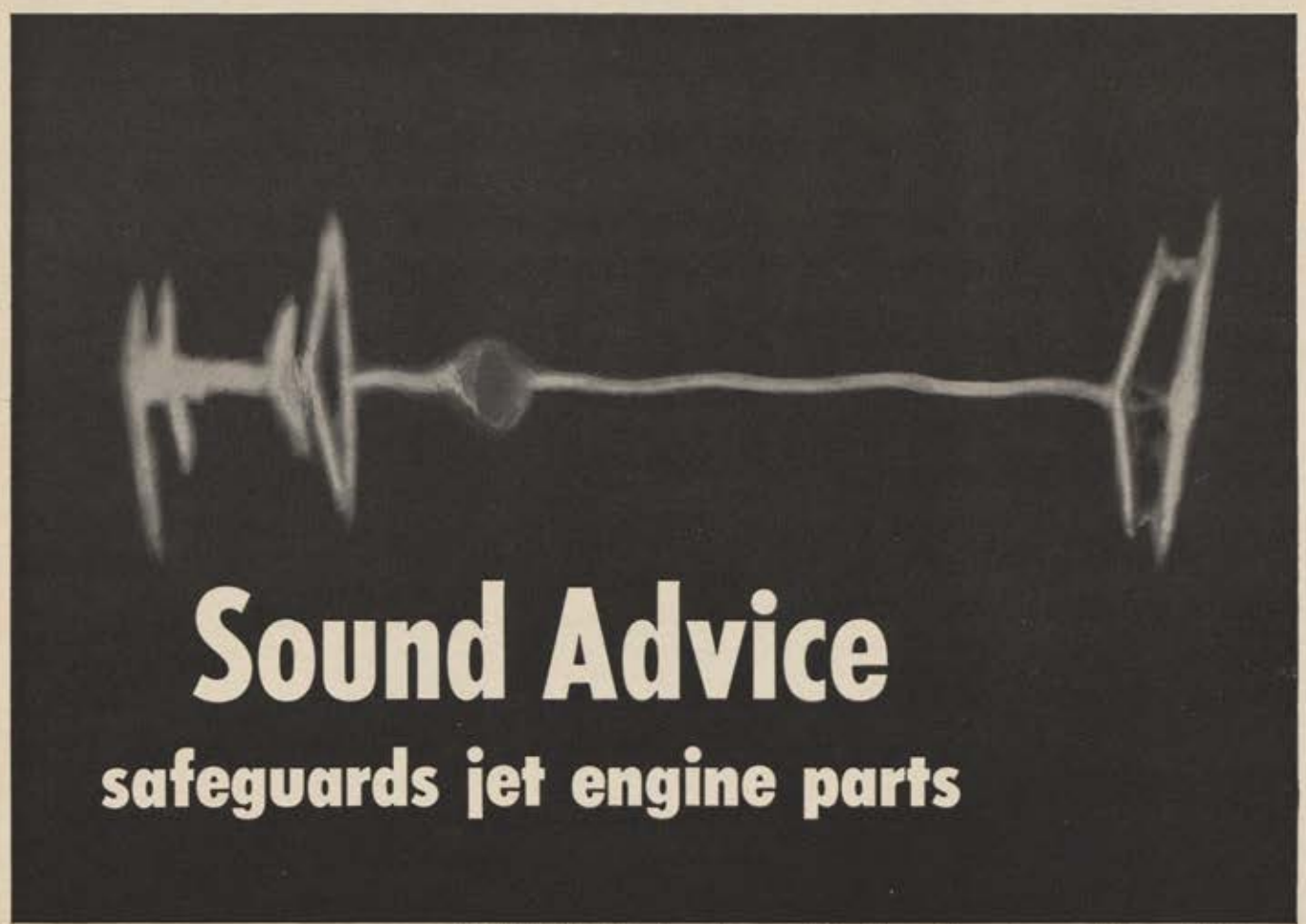
When is a passenger transport not a passenger transport? Answer: when it's a Douglas DC-6C. Then it is both a passenger and cargo transport. Designed with a movable bulkhead, the DC-6C can "in a matter of minutes" be changed from a passenger transport into a cargo plane. The bulkhead can be positioned four different ways.

The thermal barrier and its conquest are the hottest problems faced by today's designers of supersonic aircraft and guided missiles. Recently an eleven-man Industry Advisory Committee, composed of representatives from Air Force, Navy, and the nation's largest aircraft manufacturers, was formed by the AF Air Research and Development Command to study the problem. Their task is to find and develop aircraft cooling equipment designed to cope with excessive temperature rises. At 1,000 mph, for example, there is a temperature rise of 230 degrees F, at 2,000 mph, 800 degrees F.

Here's word on how an airplane figured in the clarification of a point of law. In August 1948 an American plane carrying a number of Puerto Ricans took off from San Juan for New York. Spirits were high and plentiful, as a number of passengers had brought along a supply of their national drink—rum. En route, two—a chap named Cordova and another named Santano—determined to settle a difference by resort to fisticuffs. They headed for the ship's rear, followed by some of their rum-drinking, fight-happy friends. The plane, suddenly tail heavy and out of trim, began a steep climb. Coming back to investigate, the pilot was attacked by Cordova. On landing, Cordova was indicted but set free. The trial court ruled federal jurisdiction didn't apply to his acts committed over the high seas, that a plane wasn't a vessel. But now the law is more aero-minded. The US code has now been amended to extend jurisdiction to certain common law crimes committed in American planes over the high seas or over waters where the US maintains maritime jurisdiction.

Guided missiles are not only being launched from the AF Missile Test Center at Cape Canaveral, Fla., but landed there as well. They are now turned around somewhere after passing over Grand Bahamas, some 200 miles or 20 minutes southeast of the cape. Radio-controlled, the missiles make a one-eighty and head back to the cape where they are brought to ground "as gently as possible" on a 7,500-foot runway especially constructed for them. Previously, some were allowed to fall into the sea, and others, for obvious reasons, were exploded in mid-air. Soon an island chain of nine control points will be in operation, and rockets can then be directed over a 1,000-mile course from Cape Canaveral to Puerto Rico.

Up to now F-86 gunsights, the radar-controlled A-1CM, have been sent to the US from Korea for repair. Transit time alone is twenty-six days. To speed maintenance and cut costs, the Air Materiel Command (AMC) recently completed a maintenance facility in Japan geared to completely overhaul the A-1 in two days. Estimated savings, nearly $1 million a year. In addition, AMC operates in Korea a "flying repair shop," which can do minor overhaul on the gunsight.



Sound Advice
safeguards jet engine parts

FINGERS OF SOUND probe metal parts for hidden faults as Allison engineers use the Ultrasonic Reflectoscope

It is important that the metals used in critical jet engine parts be completely free of even the tiniest flaws. To eliminate the possibility of minute defects that even X-ray testing will not reveal, Allison engineers rely on an *ultrasonic reflectoscope* to test parts.

Allison was the first aircraft engine builder to use this unique means to search out subsurface faults. Here's how it operates: High frequency sound waves are sent into the metal part under test, and flaws of a rejectable nature cause "echoes" which are electrically recorded on a screen. This "sound advice" enables Allison to detect hidden imperfections that could not be discovered any other way.

Tests like this are another reason for Allison leadership, because they are typical of the thoroughness that pays off in greater dependability and has won the confidence of jet pilots of many nations.

Several engine pieces, like this J33 compressor, receive 100% Ultrasonic inspection

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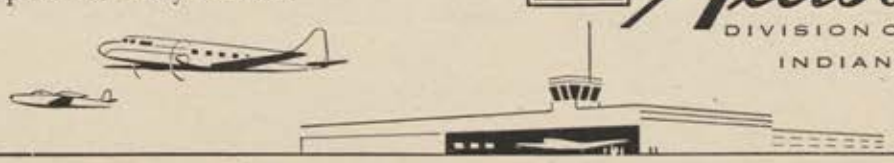


World's most experienced designer and builder of aircraft turbine engines—J35 and J71 Axial, J33 Centrifugal Turbo-Jet engines, T38 and T40 Turbo-Prop engines

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.

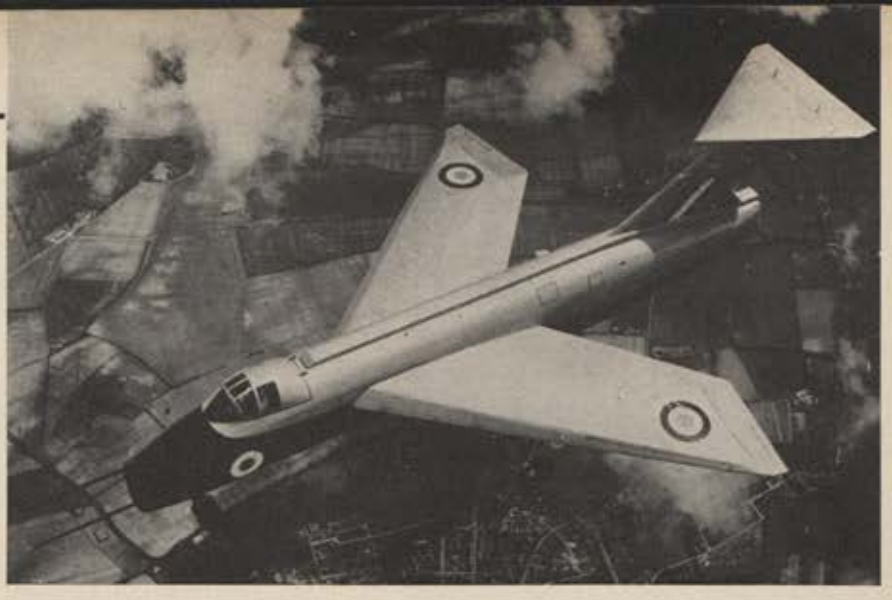
In close collaboration with the Armed Forces since 1918, and more recently with the Atomic Energy Commission, Arma has contributed much in basic research, design, development and manufacture to the advancement of electronic and electromechanical weapon control, navigation, and other precision remote 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.*

ARMA ADVANCED ELECTRONICS FOR CONTROL

TECHNIQUE

Player-Piano Pilot

An automatic pilot developed by Minneapolis-Honeywell Regulator Co. may one day obviate the necessity of the pilot handling a plane's controls except in case of emergency. Developed in conjunction with the Air Research and Development Command (ARDC), it's called the Automatic Master Sequence Selector (AMSS). It contains more than 1,000 parts, miles of wiring, and is housed in a cabinet no larger than a table-model television set. AMSS operates on the punched tape principle. A proposed flight is first divided into sequences: taxi, take-off, climb to altitude, etc. The plan is then punched onto a tape. The tape is fed—player-piano style—into the robot, which converts the perforations into electrical impulses. These go to the plane's autopilot and airspeed systems and carry out the pre-punched flight plan. The pilot need only sit by and monitor the AMSS, or in case of emergency or turbulence disconnect it and take over the controls manually.



British Plane Studies Sweepback

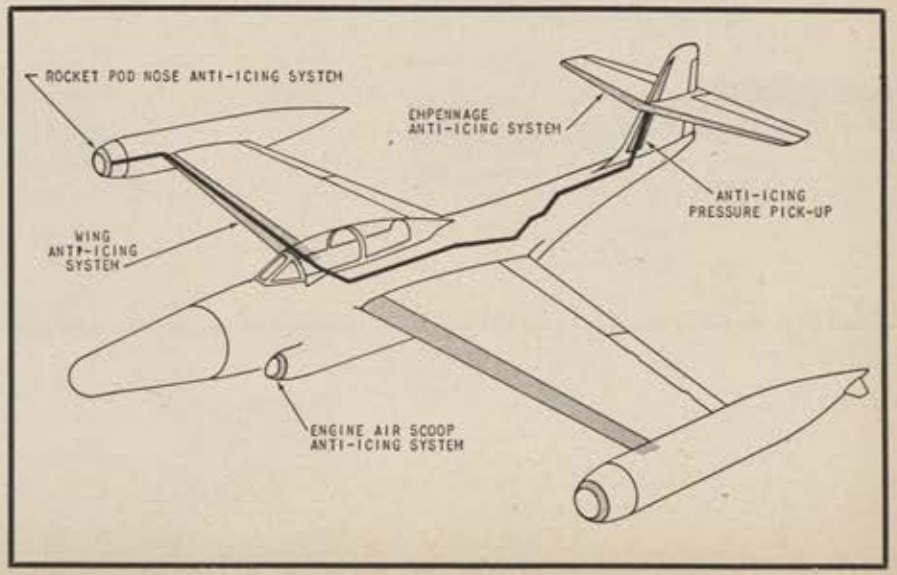
The British Short S.B. 5, a research aircraft, is providing answers to questions asked by the British Ministry of Supply in its investigation into low-speed characteristics of sweptback wings. By being able to alter its tail and wing surfaces, the S.B. 5 can perform many experiments. It can change its sweep and raise or lower its horizontal stabilizer—from the extreme top of the fin (as shown) to below the rear part of the fuselage.

Lark Blasts Off

Security wraps were pulled aside briefly to allow the public its first peek at a guided missile blasting off from its mother ship. Shown rocketing from the USS Norton Sound is a Fairchild Lark, produced by the Guided Missiles Division of the Fairchild Engine and Airplane Corp. First designed to combat the Kamikaze threat during the closing stages of World War II, post-war developments, include an advanced homing guidance system, which will improve the Lark's performance against invading bombers. The heavy smoke is emitted by the "bird's" booster rockets which drop off after the missile has attained flight speed. It continues on under its own rocket power. The AF, Army, and Navy are now conducting training and evaluation programs with the Lark.

De-icing the F-89

An anti-icing system designed by Northrop for its twin-jet Scorpion F-89D, ducts hot air from the engines instead of using external attachments. The system (below), which can provide enough super-heated air to heat 30 average-sized five-room homes, is controlled by the pilot. When ice-detecting probes in an F-89's engine inlets sense icing conditions, a red light flashes on. The pilot then turns on the de-icer.



More Protection

A new helmet designed with pressure-release slots will protect a pilot against loss of his helmet if he must bail out at supersonic speeds. It's a remedial development resulting from experiments conducted by the Air Research and Development Command and engineers from Douglas. They found air ramming into the front of a helmet at supersonic speeds created pressures within the helmet strong enough to rip it from the pilot's head. This left the pilot's head unprotected against supersonic wind blasts, and, more important, robbed him of his oxygen supply. To relieve the helmet's internal pressures they designed one with slots as shown. It passed tests at speeds of Mach 1.04 in an outdoor wind tunnel. A vacuum formed inside the new helmet, subsequent tests determined, and held it more firmly in place than it was originally.

New Version of Chase Assault-Transport

Shown above is the new Air Force assault-transport, manufactured by the Chase Aircraft Co. The new aircraft, the C-123B, was designed as both a personnel and cargo carrier, with a payload of 16,000 pounds. It's powered by two Pratt & Whitney engines, each developing 2,500 hp. at take-off. It has a maximum speed of 245 mph and cruises at 205. In addition to its troop-cargo carrier role, the C-123B can be converted into a mobile "flying hospital" capable of evacuating fifty litter and six ambulatory patients plus six medics.

Parabrake Testing

This rocket-powered sled-type vehicle that shoots along a 10,000-foot track is used to study the performance of parachute brakes operating in the transonic and supersonic speed ranges. Developed by the Cook Research Laboratories, the "sled" is powered by a rocket motor made by North American Aviation. Capable of reaching speeds of 1,500 mph, twice that of sound, the sled accelerates about half the length of the track and uses the remainder to decelerate by use of attached 'chutes.

Navy's New Jet Fighter

Above, the Navy's newest single-jet fighter, the XF3H-1 Demon. The Demon, shown here in its first unretouched photo, is made by McDonnell. Its performance characteristics are classified but the Navy claims it's superior to the MIG. It'll soon be ready for carrier suitability tests.

Home-Made Flap-Tester in Use at FEAF

A device to test a jet aircraft's wing flaps without danger of damaging them, thus saving thousands of dollars, has been invented by Hideo Takahashi, a Japanese employed by the Far East Air Logistic Force, Japan. Using salvage materials, Takahashi made his flap-testing device that consists of a crank handle, gear mechanism, and flexible cable. Fastened to the flap control joint inside the fuselage (below), it tests flaps by a right or left turn of the crank. The device enables one man to do what formerly it took two to accomplish.

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LOW TENSION IGNITION SYSTEM

IGNITION ANALYZER

ELECTRICAL CONNECTOR

safeguards every component part of your ignition system

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While Bendix reputation in ignition has been spotlighted by scores of important engineering firsts, the industry's wide acceptance of Bendix ignition equipment has been built largely on the solid foundation of product excellence in every component part.

Just as a chain is no stronger than its weakest link, dependable ignition is the result of components designed and manufactured for unfailing efficiency.

That's why it pays to insist on Bendix ignition components for every part of your ignition system. Whether your requirement is for a better electrical connector, a complete new ignition system, or the famous Bendix Ignition Analyzer, you can be sure of quality performance when the good name of Bendix safeguards the reputation of every individual ignition product.

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Low and high tension ignition systems for piston, jet, turbo-jet engines and rocket motors . . . ignition analyzers . . . radio shielding harness and noise filters . . . switches . . . booster coils . . . electrical connectors.

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MOBILIZATION NEWS

BY JAKE CULPEPPER

ROUND TWO — Second offers will soon go out to the thousands of AF Reservists who previously turned thumbs down on indefinite appointments. To date, some 15,000 Reserve officers on EAD have declined permanent commissions.

TRANSFERS — Transfers between AF Reserve and ANGUS are now possible for non-EAD officers. Under "common Federal appointment" concept of Armed Forces Reserve Act, Air Guardsmen are also members of Reserves-of-the-AF, catch-all term which includes AF Reserve, Air National Guard, AF-ROTC, CAP, and Air Explorers. If you resign your Guard commission, you are now transferred to the non-affiliated reserve section of the ConAC Air Force concerned. No application is necessary and there is no break in service. Air Reservists, if physically qualified, may accept unit assignments in grade in federally recognized Air Guard units. As in the past, an officer requesting Guard release sends his resignation to State adjutant general. Law does not change right of the AG to accept or decline a resignation. If you have an AF Reserve or ANG commission at present, consider yourself as a Reserve officer of the AF and contact either a Guard or Reserve unit regarding a vacancy, if you want training.

DISCHARGES — AF has instructed the air bases to adopt a more lenient attitude when tackling applications for hardship discharges. Although the existing regulation (AFR 39-13) was unchanged, cases previously classed as borderline will be resolved in the airman's favor. . . . Airmen qualified to enter dental or medical school may be separated if two years of their original enlistment have been completed. . . . Airmen returning from overseas who have fewer than six months left on their enlistment and who do not intend to re-enlist are now separated at port of entry.

CUTBACKS — Recent AF budget cuts will slash OCS output for FY '54 by seventy-five percent and limit direct commissions to weather specialists, medics, nurses, and chaplains, AF personnel officials say. Present OCS quota of about 550 graduates each quarter will drop to 125. OCS enrollees next month and classes following will discover a downward revision of grades for attendance. No longer will there be automatic promotions to staff sergeant. Selected applicants will receive an A/3C rating. However, those with higher grades will keep their rank.

GOC — Ground Observer Corps enrollment is showing steady increase. Current membership is around 302,000, with weekly additions of two to three thousand.

RESERVE AIRMEN — AF Reg 39-43 is soon to be amended to give the Reserve-minded draft eligibles a cold shoulder. Although there may be a few exceptions to the new regulation, as it now stands "male personnel without prior service in any of the Armed Forces who are between the ages of seventeen to twenty-six inclusive, and men with prior service who are subject to induction will not be enlisted in AF Reserve."

FLYING — Unless Air Reservists keep up their flying proficiency in an inactive duty training status, they no longer will be allowed to fly during short and special tours of active duty. Only exceptions to this new AF policy are certain mobilization designees who have been excused from meeting minimum individual requisites. . . . Rated AF Reserve

(Continued on page 63)

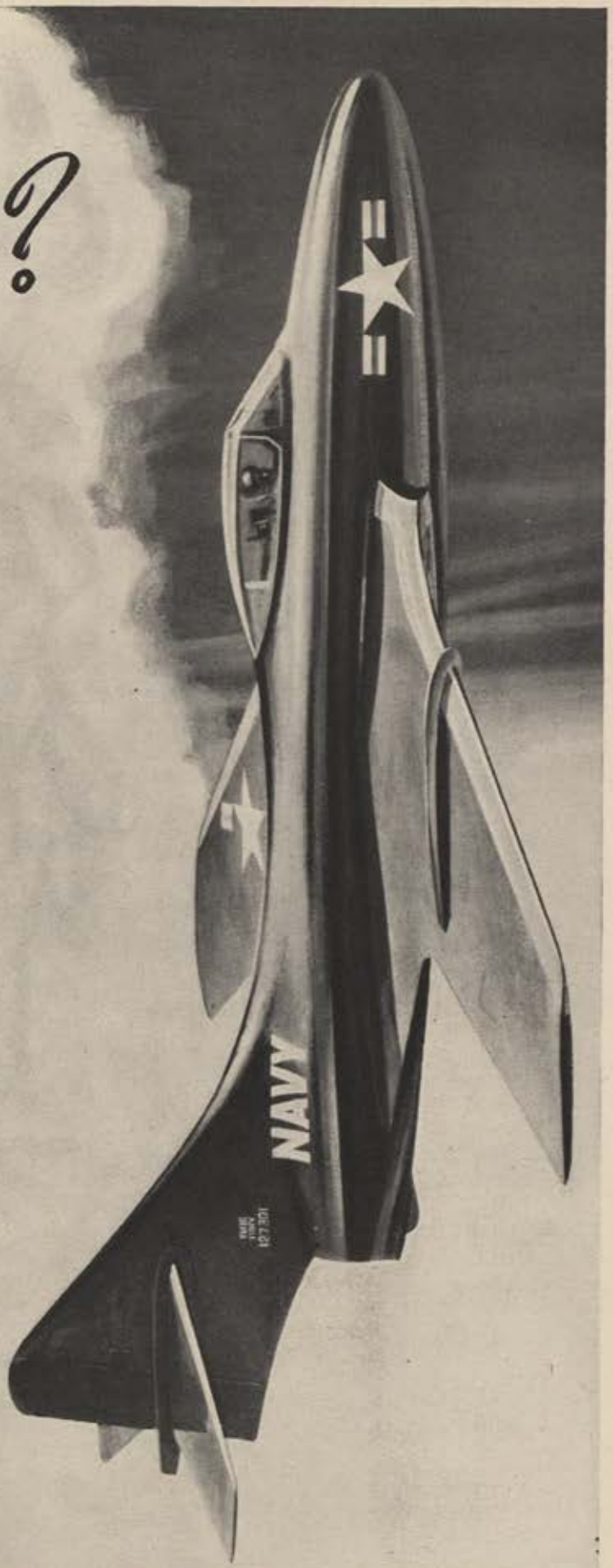
Gun platform?

SURE. That's all a fighter plane is—
a gun platform. But up here you forget.
Up at thirty thousand feet, the sun is white
on anvil wisps of thunderheads. You
move the stick over. The horizon rolls and
you look up at the sea.

To the engineers, she's the Cougar—
complex requirements solved by design. She
is so many pounds of thrust and weight,
lift and drag. She is thousands of parts and
hours of work by hundreds of men and
machines, hours of inventiveness and
investigation. To some, she is requests to do
more, carry more, fly faster, which
somehow she does.

A gun platform? The best, and more.
So much more, you wonder sometimes how
men with only knowledge and experience,
with only their hands and their machines
could ever have created her.

Make your career in Naval Aviation.



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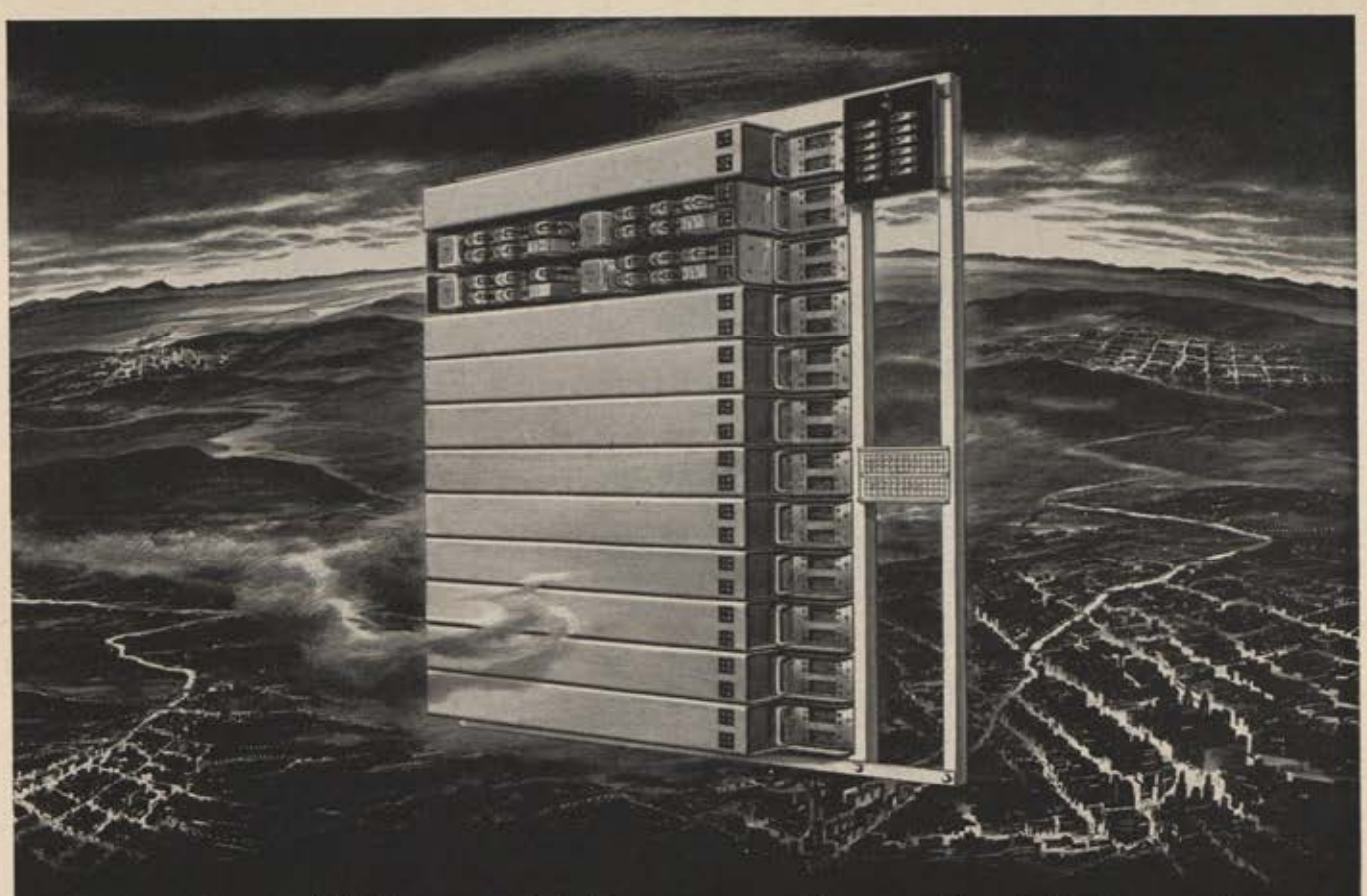

"Long distance, please"—1953 style

Next time you place a telephone call to some distant point in the U.S.A., notice what a short time passes before the called party answers.

Chances are—if you live in one of the major American cities or towns—your call was accomplished by a remarkable "Aladdin's Lamp" of modern engineering known as *Operator Toll Dialing,* in which one of the world's oldest and best known telephone manufacturers, Stromberg-Carlson, plays an important part.

Time was when a long distance call from, say, Tampa, Florida, to San Francisco, California, involved operators at Tampa, Jacksonville, Chicago, Denver, Salt Lake City and, finally, San Francisco —to ring someone's home or office. Today, the only operator involved is the one in Tampa. She simply punches a set of keys, sending a sequence of impulses through an *inter-toll network,* and a few moments later your wife, your customer, or your home office in San Francisco is on the line.

Today's time-saving miracle is possible because of the Central Office equipment like the Stromberg-Carlson XY dial system. Switches, relays, and other electro-mechanical apparatus respond instantly to "orders" from the originating long-distance operator . . . set up instantaneous electrical paths from city to city and, with unfailing accuracy, finish their job by ringing the exact number *you* want.

Wonderful? Yes—but typical of a company which has been pioneering Communications methods for home and business since it made its first telephone instrument—'way back in 1894.

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"Panoramic Vision" Television Receivers

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officers who are serving on active duty as warrant officers or airmen will not be used for rated duties in their AF Reserve rated status. In addition, these individuals are ineligible to take part in flying activities as AF Reserve officers in an inactive status.

WAF — The Nation's only all-airmen VAR flight, B of 9565th VART Squadron, Washington, D. C., was organized and is being led by a WAF, S/Sgt. Marion I. Chadwick. . . . Defense Department has relented and asked Congress to allow service in the Women's Army Auxiliary Corps as credits for active duty so that former members now in active service may receive points for pay, allowances, and benefits. The increased cost would be absorbed by the Army and AF.

AF-ROTC — George Washington University's AF-ROTC unit has dedicated its new parade grounds "Mitchell Parade" in honor of one of its most distinguished alumni, the late General Billy Mitchell. . . . Brig. Gen. M. K. Deichelmann, commandant of USAF ROTC program, received an honorary Doctor of Laws degree from Notre Dame at this year's commencement.

TRAINING — Niagara Falls Municipal Airport, N. Y., has been selected as one of ten airports in US where new AF Reserve training facilities will be set up. Niagara Airport training facility will cost $1,797,000; plans, specs, and contract letting will be under the Army Engineers.

VETERANS — "To the Home Buying Veteran," a thirty-two page guide for veterans planning to buy or build homes with GI loans, is now available at all VA offices. . . . Nearly nine times as many veterans now have the special post-Korea GI term life insurance policy as had it a year ago, VA says. . . . Deadline for applying for the Oregon World War II veterans' bonus has been extended to December 31, 1953.

POLICY — Certain restrictions have been lifted on overseas assignment for Army and FA men whose wives are natives of Japan or Germany. Limitations on foreign duty assignments are being removed for men married to Japanese. However, German brides must have American citizenship before limits on their husbands' assignments may be lifted. . . . Major air commanders overseas are now authorized to enlist and assign only currently serving airmen who reenlist to fill their own vacancies. . . . AF Hqs. has named three disadvantages to a permanent military career that, it says, it hopes to correct soon—frequent transfers; unnecessary separation between husband and wife and long delays in bringing them together; holdup of leave properly earned. . . . Airmen may be sent overseas without reenlisting if they have at least twelve months remaining on their current hitch.

BRIEFS — For at least another six months the serviceman in uniform traveling at his own expense will get reduced fares, the nation's railroads announce. . . . One hundred and fifty short tours of active duty for mobilization designees have been opened to USAF Hq. during FY '54. . . . Firing squads have recently been eliminated from all funeral ceremonies conducted by the AF. . . . Air University has announced that the Judge Advocate General Staff Officer course of the Air Command and Staff School at Maxwell AFB, Ala., will be expanded to a fourteen-week course, beginning September 8. . . . The National Defense Service Medal has been set up for award to all members of the Armed Forces of the US who served during any period between June 27, 1950, and a terminal date to be fixed by the Secretary of Defense.

Designing

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TEMCO's expanding engineering staff approaches the complex problems of military aircraft design with thorough *cost-consciousness* . . . cost-consciousness toward original production, as well as operation and maintenance. TEMCO design is guided by the company philosophy to "build a quality product . . . on schedule . . . at the lowest possible cost." A good example of this creative foresight is a current TEMCO trainer design. It has wingtip extensions that make it possible for the trainer to be used in *two* stages of training instead of one.

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Remember When They Were 'Allies'?

We can best judge the Russians on their past performance. Here are first-hand accounts from generals who have dealt with them

By Flint O. DuPre

ONE BIG JOB for Air Force generals is a constant reevaluation of Red military strength, and particularly their ever-growing airpower.

Recently, one general was discussing the problem.

"Sure, we know quite a lot about the strength of the Russian military machine," he said, "but what the devil do we know about the Russian military men themselves?"

He has a point. Despite the sometimes friendly moves of the new regime, it's safer to judge the Russians by their past performance. And they have been secretive and suspicious in their relations with US military men, even when we were allies. Fortunately, we do know something about the Russians themselves. Some of our key Air Force generals have first-hand knowledge of them.

For example, Gen. Hoyt S. Vandenberg, former Chief of Staff, headed an air mission to Russia during World War II.

Gen. Thomas D. White, new Vice Chief of Staff, in the mid-1930s served as the first US military representative to the USSR and subsequently as assistant military attaché for air at Moscow.

Lt. Gen. Charles P. Cabell, recently appointed as Deputy Director of the Central Intelligence Agency, attended both the Yalta and Potsdam Conferences. He also was in constant touch with USSR leaders when he was assigned to the Military Staff Committee of the United Nations.

Lt. Gen. Laurence S. Kuter, Deputy Chief of Staff for Personnel before being made head of the Air University, participated in the meetings of the Combined Chiefs of Staff at Yalta, where he had mutual air interests with Air Marshal Khudiakov.

General Vandenberg, after visiting our air units in Korea, reflected upon the clandestine processes by which an ancient and industrially backward people (the Chinese Communists) had come so swiftly into possession of costly jets. He was reminded of two remarkable wartime encounters with the Russians.

"The first," said General Vandenberg, "was in 1943. I had been sent to Moscow on a special mission charged, among other things, with convincing the Soviet leaders, who at that time were insisting loudly upon a second front in the West, that the combined Anglo-American strategic bomber attack against German industry constituted in effect a second front."

General Vandenberg was armed with aerial photographs and stereopticon slides which proved that the Germans were being hurt badly.

"But the Russians were unimpressed," said the general. "They were obsessed with the idea that German power must be met and defeated on the ground. I left Moscow convinced that the Russians had missed the central points of modern warfare; that their understanding of airpower was at best primitive, and that it was hopeless to try to convince them of the logic of our air strategy."

General Vandenberg's second encounter with the Russians occurred about a year and a half later, inside Germany, just after the surrender. He said:

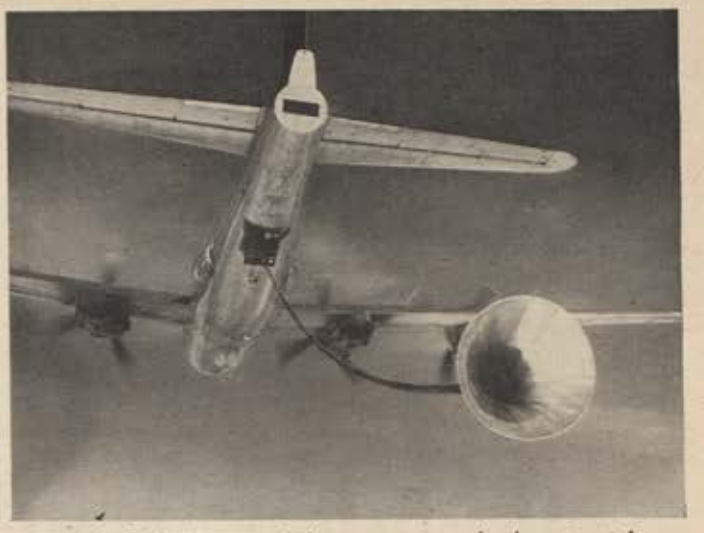
"With General Bradley I had gone to Torgau, on the River Elbe, to meet the Soviet commanders.

"As General Bradley and I were leaving the meeting, a formation of Soviet fighters swooped down over our heads. There were only half a dozen, but I could see that the design of the machines was surprisingly clean, and that they were fast and highly maneuverable.

"I called General Bradley's attention to the excellence of the aircraft,

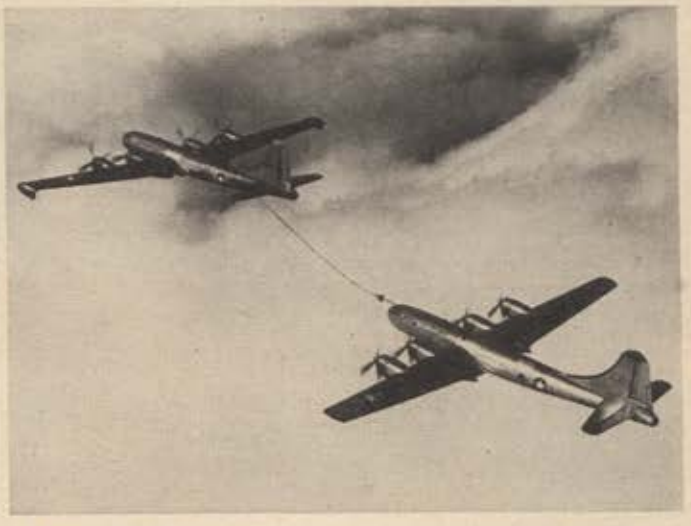
(Continued on page 67)

FLEXIBLE. Requires only normal formation flying proficiency, even in rough air, to maintain contact.



PRACTICAL. No special operator required; contact is simpler than making a landing.

MULTIPLE. Several fighters can be refueled simultaneously with wing-tip hose units.



ECONOMICAL in weight and cost; far simpler than any other refueling system.

The System that Makes Mid-Air Refueling Routine

Flexibility, ease of operation, and the ability to refuel more than one plane at a time are reasons why the Flight Refueling, Inc. mid-air fueling system is proving to be so practical in military usage and why its later commercial use holds so much promise in the future.

Consisting of a simple hose reel, easily installed or removed from the tanker aircraft, a funnel-shaped drogue and a retractable probe in the receiving plane, the system is simplicity itself. No special crew training is necessary. Pilots report contact is simpler than making a landing.

Because of the flexible nature of the system, refueling can be accomplished in rough air and the rapidity of fuel transfer under pressure reduces the contact time to but a few minutes.

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noting that 'our friends' were apparently repairing their earlier deficiency in airpower faster than most people had supposed."

The air show reminded General Vandenberg of another experience connected with his earlier visit to Moscow.

"I had been taken to several aircraft factories where I had been struck by the unnatural, almost feverish energy and preoccupation of the workers, especially the technicians. It was explained to me that in Russia everybody studied; that the quickest way to secure better living accommodations, better food, and above all else more personal liberty was to become a competent engineer or technician.

"All this made a profound impression upon me. I took away from the Soviet Union the conviction that, toward God knew what end, these secretive and incomprehensible people were slaving, in the midst of war, to repair in their own lifetime the industrial neglect of a century.

"Later, in Korea, I was presented with evidence that 'our friends' had not been idle in the past years."

General White, like General Vandenberg, has been inside Russia, but much earlier. He was in Moscow shortly after Russia had been recognized diplomatically by the US.

"The Russians were twenty years ahead of the times and didn't know it," said General White. "They had four-engine bombers twenty years ago, with several hundred in service. I flew in one in April 1933. But they didn't follow through in World War II. Now they are back in business again with the four-engine planes."

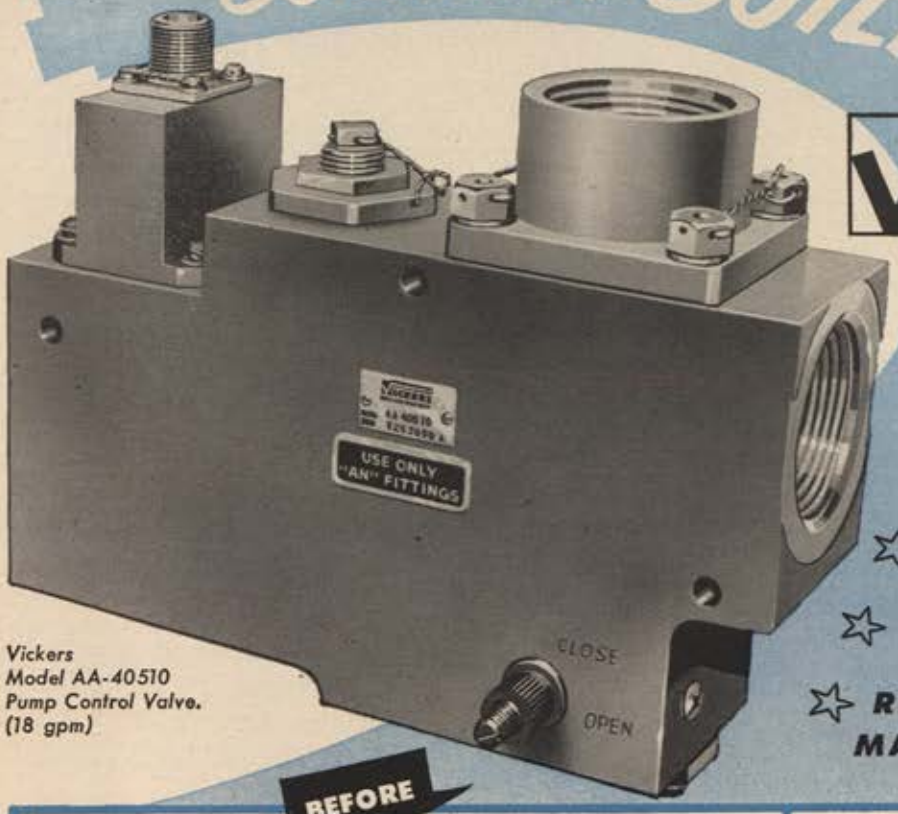
The Russians knew other things about airpower twenty years ago which are valuable to them today, says General White.

"In that same year, 1933, I cracked up in Leningrad due to icing," he said. "I walked away from the plane to a Russian operations hut, where I saw stacks of telegrams which gave position reports on all flights from Moscow to Leningrad. So the USSR had its *ground observer corps* even in 1933."

General Cabell came in even more intimate contact with Russian military leaders during his year and a half assignment with the UN (January 1946 to August 1947) and at the Yalta and Potsdam Conferences. During Yalta, in February 1945, the Russian armies were advancing into

(Continued on page 69)

CUSTOM-BUILT



Vickers Model AA-40510 Pump Control Valve. (18 gpm)

VICKERS VALVE...

- ☆ SIMPLIFIES HYDRAULIC SYSTEM
- ☆ REDUCES FIRST COST
- ☆ SAVES WEIGHT
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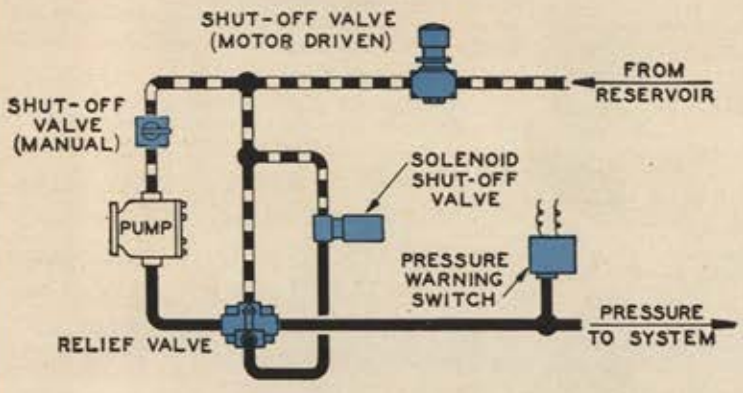
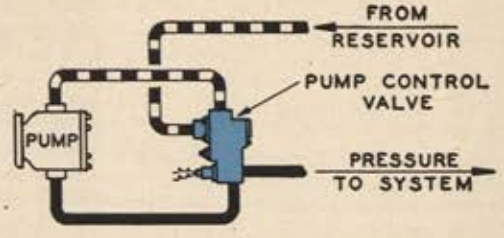


AFTER



Special Vickers Pump Control Valve replaces five separate units.

This special 5-in-1 valve was developed for use where it is desirable to individually control each of several pumps. It will automatically unload the pump delivery at a low pressure into the suction side when the oil temperature has reached a predetermined maximum. The design includes manual unloading of the pump. Maximum system pressure is limited by a built-in relief valve. A pressure-actuated electric switch is provided for use in a signal system to flag system pressure changes. The manual pump shut-off control also serves as a firewall shut-off device.

As used on one four-engine airplane, this accessory reduced the number of separate hydraulic units from 14 to 4 and eliminated four electrical switches. It utilizes many standard internal parts. Replacement of multiple accessories by the single valve reduced procurement costs by about 66%; this does not include savings due to the simplified piping. The weight saving was also significant. For further information, write for new Bulletin A5230.

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Eastern Europe. On the conference agenda was coordination of Allied bombing attacks with the USSR ground units.

"At Yalta the Russians argued that Allied airpower should bomb no enemy targets closer than 200 miles from their ground troops," said General Cabell. "This would have denied us important oil targets in the Balkans, Yugoslavia, and Southeast Germany. We flatly said we would accept no such restrictions. A compromise reduced the figure to 100 miles. It was agreed that we would advise the Russians through Maj. Gen. John R. Deane, head of the US Military Mission in Moscow, when our Italian-based B-24s and B-17s would conduct air operations in the Mediterranean."

General Cabell said such restrictions were absurd, since the Allies were the only forces which had planes like the B-24 and B-17.

"The Russians simply didn't trust us, even then," said General Cabell. "Today, in thinking over their hardheaded bargaining at Yalta, I can attribute their actions to two things. One, I believe they honestly thought we might bomb them, and two, they didn't want us in Eastern Europe."

General Kuter came in contact with the Red Air Force spokesman, Air Marshal Khudiakov, at the military conferences at Yalta.

"Khudiakov's comments indicated that his strategic and tactical concepts were about as far advanced as those of the US Air Forces and the Royal Air Force," said General Kuter. "Several times he expressed quite openly his frustration and disappointment that his airpower concepts were not acceptable to the Chief of Staff of the Red Army, General Antonov, and that the Red General Staff overrode the air view and rendered all decisions in accordance with their ground army concept."

General Kuter says Air Marshal Khudiakov's attitude and situation were somewhat reminiscent of Billy Mitchell's twenty years earlier.

"An ominous thought, the strategic air concept may be developing in Russia at a much faster rate than it did here," says General Kuter.

It's the little things that add up to the big, important ones. Perhaps the fragmentary but first-hand knowledge many of our leading air generals have of the Russian air leaders—a small remark or a slight facial expression—will prove to be important insurance for the decisions which are now being made.—END

AIRPOWER DIGNITARIES WILL MEET IN WASHINGTON

No other airpower meeting during this 50th year of flight will bring together as many airpower dignitaries as the AFA National Convention. And we're not just talking about generals. We mean fighter pilots, bomber pilots, ground crews, and the guy on the street who wants to help carry the message of airpower to the nation. Among the 1,500 airmen who will invade Washington this month will be the AF Secretary and Chief of Staff, Congressmen, generals, and leaders of industry.

Harold E. Talbott
Secretary of the AF

Gen. Nathan Twining
AF Cniet or Staff

- **BANQUETS**
  The Preparedness Luncheon, Airpower Banquet, and the Airpower Brunch will be feature events of the Convention.

- **AIRPOWER BALL**
  Two orchestras, Miss Airpower of 1953 and her court of airline hostesses, and a top floor show will make this year's Ball the best we've ever held.

- **LADIES' FASHIONS**
  A fashion show and luncheon featuring fashions from five of Washington's leading stores, the Airpower Gown, and the Air Age Wardrobe.

- **SUNRISE SERVICES**
  Memorial services in Arlington National Cemetery will include wreaths for the Tomb of the Unknown Soldier and General Hap Arnold's grave.

- **INDUSTRIAL SYMPOSIUM**
  Aviation-minded men—men who know what they're talking about—will be on hand at the Airpower Preparedness Symposium at AFA's Convention this month to discuss the nation's airpower build-up—its status and goals. Among them will be those who set the requirement for planes and missiles, who'll talk about research and development. Manufacturers will fill in the picture with discussions of engines, components, airframes, and electronics, and labor will have its say too. The men who run our defense business will report on the plans and problems of the USAF as well as Navy and Army aviation. Not all these experts will agree, an indication of the value of this symposium as an exchange of ideas and information, all aimed at giving the nation the best airpower for the fewest dollars.

BOYS IN WASHINGTON

UNIT REUNIONS

If you were in one of these outfits which are getting together at this year's convention, make plans now to join your buddies in Washington.

AIR TRANSPORT COMMAND
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c/o Capital Airlines
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366th FIGHTER GROUP
Lt. Col. Albert Hinckley
Henchman's Lea
Orlean, Va.

AIR FORCE ASSOCIATION
1953 Convention and Reunion
PROGRAM

THURSDAY—AUGUST 20
10:00 AM: AFA Leaders Meeting
2:00 PM: Opening Business Session
7:30 PM: Second Business Session

FRIDAY—AUGUST 21
8:00 AM: Commanders' Breakfast*
10:00 AM: Industrial Symposium
Ladies Aux. Bus. Session
12:30 PM: Ind'l Symposium Luncheon*
Ladies Fashion Luncheon
2:45 PM: Industrial Symposium
Ladies Aux. Bus. Session
6:00 PM: Reunion Cocktail Party
10:00 PM: Annual Airpower Ball

SATURDAY—AUGUST 22
9:00 AM: Third Business Session
12:30 PM: Unit Reunion Luncheons*
2:30 PM: Final Business Session
7:30 PM: Annual Airpower Banquet
Speaker: Hon. H. E. Talbott

SUNDAY—AUGUST 23
8:30 AM: Sunrise Memorial Services
10:30 AM: Airpower Brunch

REGISTRATION FEE: Members: $15.00
Ladies: $15.00
Non-Members: $20.00
Fee includes all functions except *

RESERVE YOUR ROOM EARLY FOR THE CONVENTION AND REUNION

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.

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

Suites: 1 Bed/Rm.: 23.00-37.50 2 Bed/Rm.: 36.00-55.50

AIR FORCE ASSOCIATION CONVENTION
ROOM RESERVATION REQUEST FORM
August 20-21-22-23, 1953

(Please Print)

NAME_____

ADDRESS_____

CITY_____ STATE_____

ARRIVAL DATE_____ HOUR_____

DEPARTURE DATE_____ HOUR_____

NAME OF PERSON(S) SHARING ROOM:

_____

_____

MAIL DIRECTLY TO:

Reservations Manager
(Name of hotel of first choice)
Washington, D. C.

(Please list two choices of hotels)

CHOICE: HOTEL DESIRED:

First_____

Second_____

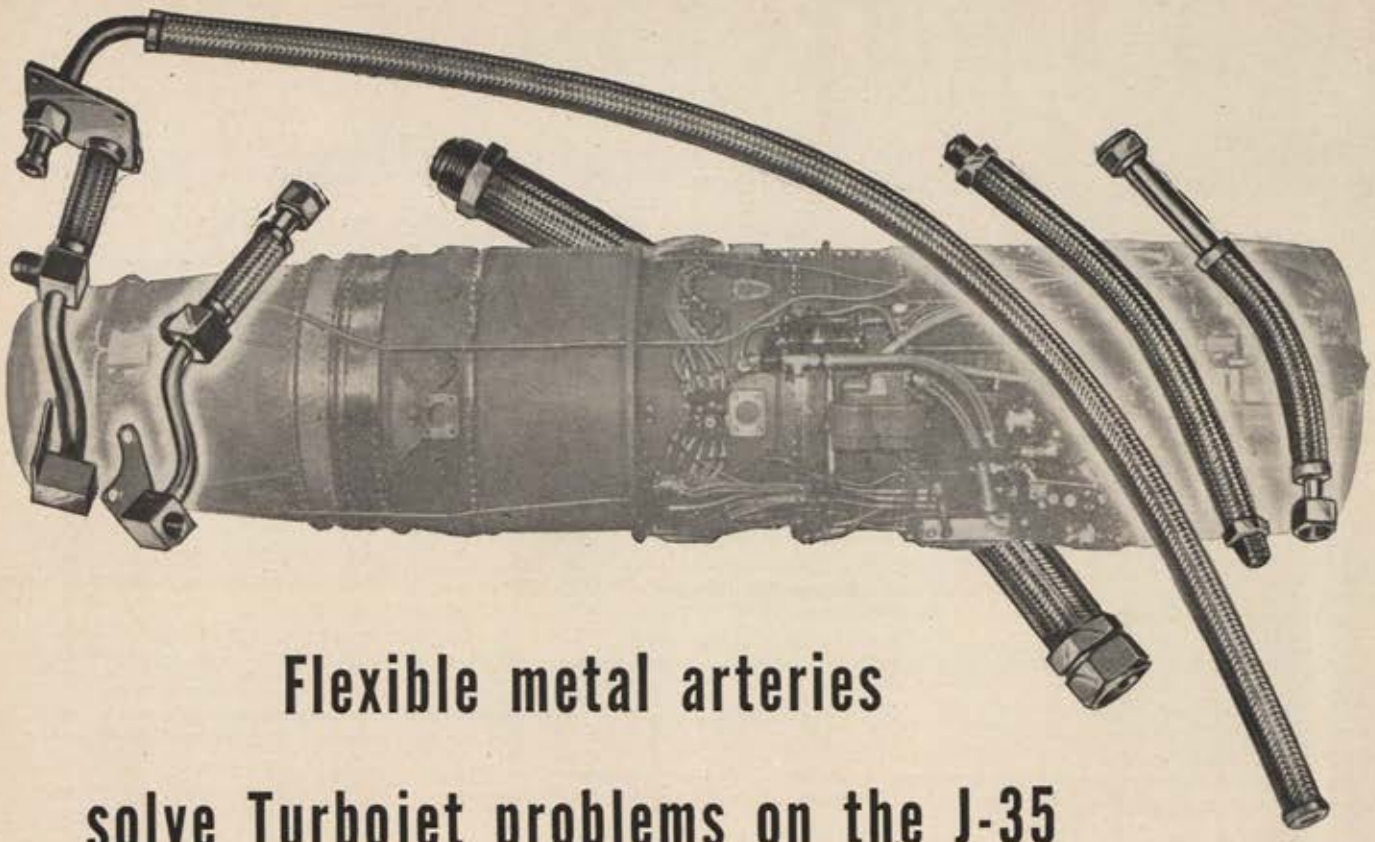
TYPE ROOM DESIRED

☐ Single ☐ Double ☐ Twin

☐ Suite—Number of Bedrooms_____

Desired rate per day: $_____*

*Room available at rate nearest that requested will be assigned.



Flexible metal arteries

solve Turbojet problems on the J-35

One of the primary problems in developing the J-35 for production was the development of fuel, oil and air lines to meet today's jet engine requirements. The metal hose had to meet complex configurations of a critical nature and still withstand excessive changes of temperature, high pressures, and unusual vibrations. Other important considerations were close tolerances, ease and speed of installation.

Rigid tubing was unwieldy; configuration couldn't be predicted on the drawing board; mass production was difficult; maintenance costly and complicated.

Because of the intricate nature of the problem, the metal hose lines had to be assembled on mock-up forms. This required flexible-hose engineers, a competent experimental shop, and advanced knowledge of aviation metal hose requirements.

Turbojet designers found the help and the metal hose they needed at Titeflex.

Our long experience with ignition shielding, fuel and oil lines and other aircraft applications enables us to design and construct flexible metal hose and fittings that meet the toughest jet requirements. (In fact, Titeflex was one of the first to qualify in this field!)

Today, Titeflex furnishes a majority of flexible metal hose assemblies for jets. Titeflex research continues to develop new designs of metal hose to take care of the higher temperatures, pressures, and new applications in the jet planes of tomorrow. Our experience and many of our techniques also apply to non-aviation problems. Perhaps yours is one of them. Write us about it today.

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☐ SEAMED AND SEAMLESS METAL HOSE

☐ PRECISION BELLOWS

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☐ IGNITION SHIELDING

☐ ELECTRICAL CONNECTORS

☐ RIGID AND FLEXIBLE WAVE GUIDES

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TITLE_____

FIRM_____

ADDRESS_____

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ANGuard ANGLES

Al Scholin

THE jet picture: By August, several squadrons should have received T-33s, first step in converting the ANG to jets. With at least one of these to each squadron, the ANG's many jet-experienced pilots can build up and maintain their proficiency until fighters are delivered, and squadrons will be able to check out pilots who haven't so far flown jets.

In the near future, squadrons in Colorado, Kansas, New Mexico, Ohio, Oklahoma, and Texas are to get F-80s. F-86s won't be far behind.

° ° °

If some ANG squadrons don't have jets by next summer, chances are it will be because their airstrips can't accommodate them. Jets are coming and the ANG needs them to fulfill its mission. It's none too soon for squadrons with runways in the 5,000- to 6,000-foot class to get on the ball and work for longer strips or a new field.

According to the National Guard Bureau, it takes nine months or more from the time a state has the money in sight to lengthen a runway until the strip is ready for use. It takes that long to run a project through USAF and the Corps of Engineers, who have to satisfy themselves on the physical factors, and to let bids and get a contractor on the site to do the work.

Some states are saying in effect: "You get us the jets and we'll get the field." The Pentagon won't buy that, for in its experience too many slips are likely to occur in clearing the field for ANG use. The squadrons who are ready for jets now are the ones who'll receive them first. Now is the time to plan these improvements in operational facilities.

° ° °

To accommodate jet operations, location of the ANG's "permanent" training sites will undergo considerable revision before next summer. As it looks now, only five of this year's sites will be used next year, and two of them are scheduled to go out after 1954 training.

This is the anticipated lineup for next summer's sites:

In the Pacific Coast-Rocky Mountain area, Boise, Idaho, and Casper, Wyo., will stay; they're in the long range picture, though if legal action by Wyoming cattlemen to have the Split Rock, Wyo., gunnery range opened up for grazing is successful it could affect Casper.

In the north central states, a new permanent training site at Alpena, Mich., will be ready for use instead of Grayling, while Camp Williams, Wis., is scheduled to be replaced, probably by a location at Duluth, Minn., after 1954's training.

In the northeast, Syracuse, N. Y., which had to be withdrawn at the last minute this year, is the only location definitely set for 1954. NGB is looking for two more permanent sites in this area to accommodate the nine wings located from Washington, D. C., to Maine. Reading, Pa., one of this year's sites, may be used next year if necessary, but its field, bounded by a river and a mountain, cannot be lengthened for jet use.

Finally, in the south, Travis Field at Savannah, Ga., remains in the picture, to be joined by another site in the Gulf Coast area, probably at Gulfport, Miss.

° ° °

TOPPING OFF THE TANKS . . . Illinois has reactivated its 126th Fighter-Bomber Wing, which returned from EAD January 1 after service with NATO forces in France. Commanded by Col. Wilson V. Newhall, it's located at Chicago's Midway Airport. . . . Lt. Col. Frank W. Berlin, 34, of Woodward, Iowa, has been named commander of Iowa's 132d Fighter-Bomber Wing. A B-29 pilot in World War II, he became a fighter jockey when he joined the ANG in 1950 and recently returned from twenty-one months' USAF duty. . . . Number of aviation engineer battalions in the ANG is being cut from twenty-three to twelve. Only six have been organized so far.

By Maj. Allan R. Scholin, ANGUS

TWO TOP JET ACES RETURN HOME

Miami AFA Squadron stages ticker-tape welcome for Fernandez with 50,000 turnout. Los Angeles acclaims McConnell

Capt. Manuel Fernandez, Jr., second ranking jet ace of the Korean war with 14½ MIGs to his credit, got a hero's welcome Memorial Day when he returned to Miami, Fla., where the Greater Miami AFA Squadron had planned his homecoming.

After a ticker-tape parade, Mayor Chelsie Senerchia presented him with the key to the city. Despite rain, some 50,000 people lined Flagler Street to get a look at the ace, while an aerial salute of USAF and Marine aircraft roared overhead.

The flyer then was honored at a civic luncheon, along with his father, Col. Manuel Fernandez, Sr., Brig. Gen. Henry R. Spicer, Maj. Gen. William H. Tunner, and Chief Justice B. K. Roberts of the Florida Supreme Court, representing Gov. Dan McCarty. Former Gov. Fuller Warren was toastmaster. That evening the AFA Squadron sponsored a "MIG Alley Ball" for Fernandez.

Alex G. Morphonios, 3131 NW 16th St., Commander of the Squadron, headed the committee arranging the homecoming and was assisted by Bill Renegar, Bob Myer, Allan Cross, Bob Munson, Jim Hilley, and Don Petit.

Captain Fernandez receives the key to the city of Miami from Mayor Cheslie Senerchia during the welcome home ceremony for the jet ace.

Leroy Kwiatt, right, gets plaque from George Anderl at Illinois Wing Convention. In foreground, Lt. Gen. Leon Johnson, CG, ConAC.

SQUADRON OF THE MONTH

Detroit, Mich., Squadron

CITED FOR

outstanding programming in the field of membership procurement and Squadron development. For the Squadron's consistently successful airpower promotions, AFA salutes the Officers and members of the Detroit Squadron.

Later Fernandez was feted by the Miami Beach Squadron, newest AFA Unit in Florida, at a dinner attended by some 200 people. Francis M. Brady, 5301 Alton Road, Miami Beach, Commander of the Squadron, headed the committee arranging this function, and served as toastmaster. Fernandez shared the spotlight with another ace, Capt. Eddie Rickenbacker, top American ace in World War I and holder of the Congressional Medal of Honor. Rickenbacker remarked that he had logged about thirty-five hours in the air when he left for France in 1918, while Fernandez had some 3,500 hours as a pilot before going to Korea.

Triple Jet Ace Returns

The USAF's first "triple jet ace," Capt. Joseph McConnell, Jr., Apple Valley, Calif., was honored by AFA's Los Angeles Group on his return to the US in June.

On hand to greet him were James McDivitt, Past California Wing Commander, and chairman of the welcoming committee; Maj. Gen. Victor Bertrandias, Deputy IG, USAF; jet ace Col. Francis S. Gabreski; and Zeke Cornia, President of the Chamber of Commerce.

(Continued on page 77)

Aces from two wars, Capt. Eddie Rickenbacker (left) and Capt. Manuel Fernandez, Jr., discuss planes and problems with Francis M. Brady, Commander of Miami Beach Squadron, at testimonial dinner in honor of the jet ace.

Alex Morphonios, Commander of the Miami Squadron, greets jet ace Capt. Manuel Fernandez on his return from Korea where he shot down 14½ MIG-15s. Fernandez was honored by AFA units in both Miami and Miami Beach.

"Plug-in, plug-out" simplicity in Avien's "TWO-UNIT" FUEL GAGE

This "repackaging" of Avien's capacitance-type fuel gage is 50% lighter and needs no field adjusting.

Up until now, most fuel gaging systems needed four units: a tank unit, an indicator, a bridge-amplifier and a shockmount.

No field calibration was required for the Avien tank unit or indicator. Avien held them to such close tolerances, the adjustments for individual installations were actually "built-in."

The bridge-amplifier (the "black box") was a different story. This intermediate unit was supplied as a common part, for universal application. And that's where field calibration *had* to be made.

There was only one answer, as far as Avien was concerned. The "black box" had to go.

Now, in the Avien Two-Unit system, the necessary components for the bridge and amplifier functions have been built into the indicator case. The "black box" is eliminated, and so are many parts which were necessary to make the "black box" universally applicable.

The Two-Unit Gage gets installation down to "plug-in, plug-out" simplicity. No more field calibration is necessary — and that means that all units designed for the same aircraft are interchangeable. Avien units are now all "shelf items."

To install the Two-Unit Gage, you *don't* need trained personnel, you *don't* need specialized equipment, and you *don't* need calibration instruction or data.

This new "package" is good news for the men assigned to spend the Airpower dollar wisely. It costs less, it weighs 50% less. Installation time is cut. Less wiring and connectors are needed. Less maintenance is required. Fewer parts must be stocked for maintenance and repair.

Additional functions for fuel management can be integrated into the basic gage—and with less complexity than ever.

The Avien Two-Unit Gage is now available to meet your procurement schedules. The indicator is available in either large or small sizes, with all varieties of dial configurations.

Every month, Avien produces over ten thousand major instrument components for the aviation industry.

We believe that Avien's Two-Unit Gage will contribute to the obsolescence of many earlier systems, including our own. For further information, write or call us.

Avien

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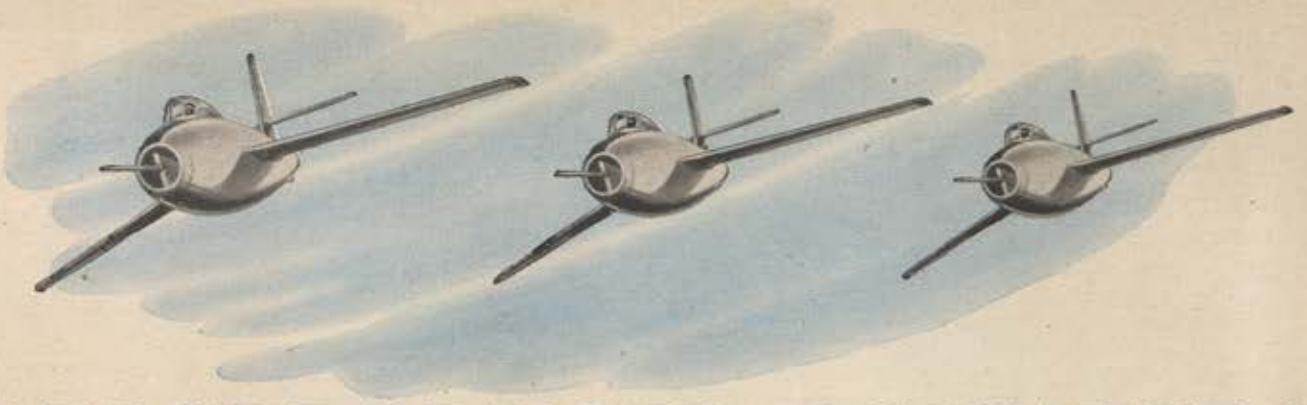
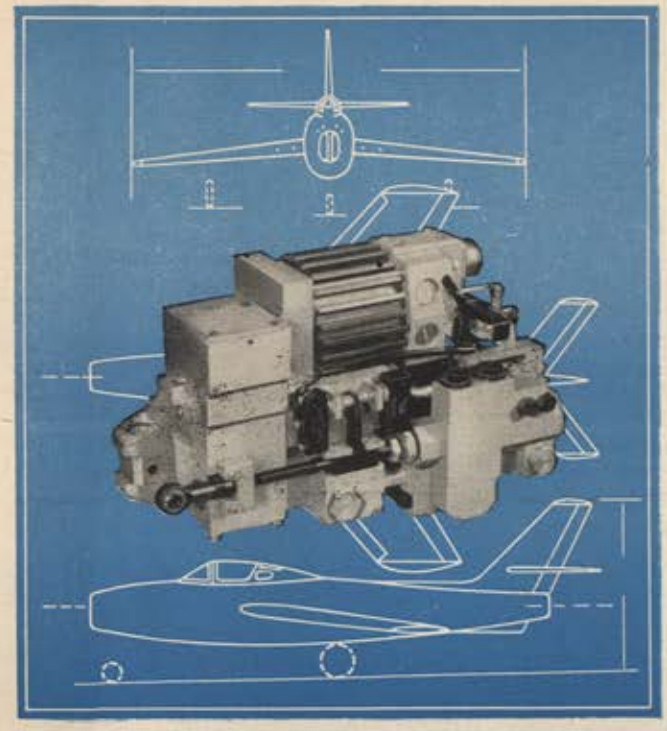


AEROPRODUCTS ACTUATORS CONTROL "FLYABLE TAIL"

Self-locking features aid Republic's new F84F



Typical Aeroproducts Actuator

The broad adaptability of Aeroproducts actuators has helped to solve problems encountered in the design of the "flyable tail" of the new Republic F84F jet fighter. The application of these actuators permits instantaneous adjustment of a variable surface to any position within its design range. The self-locking feature of Aeroproducts actuators secures the adjustment until it is changed by the pilot.

Any combination of systems—hydraulic, pneumatic, electric or manual—can serve as the primary power source for Aeroproducts actuators. They can be synchronized readily in tandem or in series to provide coordinated control of related movements.

Announced uses of Aeroproducts actuators include those for the control of the "flyable tail" of the Republic F84F, the horizontal stabilizer on another high-speed jet fighter and the afterburner nozzle in a jet engine. Additional applications include control of wing flaps, dive brakes, bomb bay or cargo doors, gun turrets, variable wing sweep and incidence, wing fold and canopy slides.

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DAYTON, OHIO

With Julian B. Rosenthal, AFA Nat'l See'y (at left), during Armed Forces Day observance in New Rochelle, N. Y., are Gen. George C. Kenney, Adm. Thomas Binford, project officer, and Leo Lincham, of local Rotary Club.

During his three-day stay in Los Angeles, McConnell spoke to a combined membership meeting of the Pasadena, Santa Monica and Los Angeles Squadrons, and was the principal speaker at a civic meeting.

Armed Forces Day

Many units of AFA took part in Armed Forces Day ceremonies across the country this year. One of the most successful AFA efforts was pretty much a one-man show. In New Rochelle, N. Y., where no AFA Squadron exists, Julian B. Rosenthal, AFA's National Secretary, organized a three-day program that earned him, and AFA, a commendation from Rear Adm. Thomas Binford, project officer for Armed Forces Day in that area.

Through Rosenthal's efforts, AFA presented Armed Forces programs at the First Presbyterian Church in New Rochelle on May 11, and on the 13th at a Rotary Club meeting at a local country club. At the first, Maj. Gen. Charles I. Carpenter, Chief of Air Force Chaplains, was the principal speaker, while the Rotary Club saw AF films and heard Gen. George Kenney, AFA Presidential nominee, and Korean jet ace Capt. Richard Becker speak.

In California, the Santa Monica Squadron took part in Armed Forces Day at Clover Field, with James Czach, Squadron Vice Commander, serving as area coordinator. In Ohio, the Cuyahoga Founders Squadron participated in a luncheon at which Col. Francis S. Gabreski, the nation's top living fighter ace, was the principal speaker. That evening the Squadron Auxiliary sponsored an Armed Forces Day dance.

Three Wings Meet

Three AFA Wings held conventions during June, starting June 7, when the Illinois Wing met at Chicago's Sheraton Hotel. The affair featured two business sessions, an Airpower Luncheon, and a Flame Out Cocktail Party.

(Continued on following page)

AFA NEWS——CONTINUED

Principal speaker at the luncheon was Lt. Gen. Leon Johnson, CG, ConAC, and a holder of the Congressional Medal of Honor. Honored guests included AFA's President Arthur F. Kelly, and John P. "Jock" Henebry, a National Director.

Retiring Wing Commander George Anderl presented the Wing's top award to the 62d Fighter Squadron, based at O'Hare Field, for its "vigilance in the air defense of the region." The Wing AF-ROTC trophy for the top unit in Illinois went to Bradley University, Peoria. Meritorious Service awards were presented to George DeHesus and Leroy Kwiatt.

George Wilson, 2123 S. Drake Ave., Chicago 23, was elected Wing Commander. Other new officers are Donald Spoerer, Deputy Commander; Bert Arlott, Secretary; and George DeHesus, Treasurer.

On June 14 the Michigan Wing met in Lansing for its sixth annual convention, held concurrently with the formation of a Wing Ladies' Auxiliary. Principal speaker at the convention luncheon, Gen. George C. Kenney, AFA's Nominee for President for 1953-54, discussed Russia's capability to wage war and the importance of airpower to our defenses.

DON'T FORGET AFA'S CONVENTION in Washington, D. C., Aug. 20-23. Details on pages 70-71.

New Wing officers are Glenn D. Sanderson, 44 Capital Ave., Battle Creek, Commander; and Robert Emerson, Lansing, Vice Commander. Michigan's Secretary-Treasurer post is an appointive one.

On behalf of the Battle Creek Squadron Glenn Sanderson presented retiring Wing Commander Stanley K. McWhinney with a plaque commending him for his efforts in organizing the Michigan Wing.

At the organizational meeting of the Wing Auxiliary, Mrs. Francis Freundt, of Kalamazoo, was elected President. Other officers include Mrs. Mae Greer, Detroit, and Mrs. Frances Karr, Lansing.

Presiding at the Auxiliary meeting was Mrs. Marietta Miller, of Pennsylvania, National President of the Ladies' Auxiliary, AFA, who had called a meeting of the Auxiliary Board of Governors in Lansing.

On June 19-21, the Pennsylvania Wing met at the Roosevelt Hotel in Pittsburgh. The convention began with a beer bust on Friday evening, and ended with "brunch" on Sunday.

At the Airpower Banquet, AFA Director Gill Robb Wilson spoke on "the intellectual heritage of AFA." Other Wing awards went to Edward D. Becker, publisher of the Pittsburgh *Sun-Telegraph*,

(Continued on page 80)

Du Mont scientists watch electronic instrument tests of a new Du Mont development which will improve all television, in broadcasting studio equipment, in home receivers, and in industry. Shown watching Du Mont Television Network are Dr. Allen B. Du Mont, President (center), Dr. Thomas T. Goldsmith, Jr., Director of Research (right), and Stanley Koch, Head of Du Mont Tube Development Laboratory. Picture on screen from an Eastman Kodachrome Slide.

DuMont

First with the Finest...*past, present and future!*

DR. ALLEN B. DU MONT, "the father of modern television," completed the progress of generations of scientists who knew that popular television *must* come true.

With his development of the electronic cathode-ray tube, 22 years ago, he made electronic home television commercially practical.

Many more scientific advances followed quickly from the Du Mont Laboratories . . . precision electronic instruments for science and industry, great developments in radar, the first all-electronic home television receivers, the first major television station, the first wholly owned network.

When you see the excellence of *all* television today... thank the thirst for perfection of Dr. Du Mont.

Thank his will toward public service, too. For, at a time when any television set could find a ready market, Du Mont science and research continued to lead and inspire the industry to ever-greater achievements.

For instance, the first big-picture tubes came from the Du Mont Laboratories—years ahead of others. The first automatic full-width Selfocus* tubes by Du Mont were the greatest single advance since the first sets were sold.

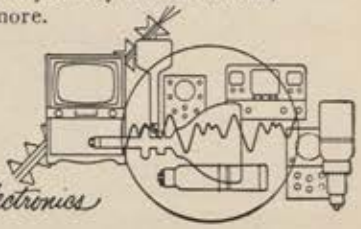
And the Du Mont development of economical cameras, station equipment and transmitters—all planned for thrifty "growth without obsolescence"—has encouraged new television stations around the world.

Today Du Mont research and development are more productive than ever before. Outstanding Du Mont scientists—specialists in every branch of television and allied electronics—concentrate their varied skills and knowledge to benefit every Du Mont product and service.

That is why Du Mont "telectronics" will always lead the industry. That is why, when you buy from Du Mont, your money will *always* buy more.

DU MONT®

first with the finest in Television and Electronics



*Trade Mark

Allen B. Du Mont Laboratories, Inc., 750 Bloomfield Avenue, Clifton, New Jersey.

AFA Director Charles Purcell, right, greets W/O Fred Kepner, conductor of USAF "Airmen of Note" band, during Baltimore Squadron's Memorial Day observance at which the band played.

for his support of airpower; to Clifford Ball, manager of Pittsburgh's new airport, for development of aviation in the area; and to Randall Leopold, for his work in AFA.

Chester A. Richardson of the host Pittsburgh Squadron was convention chairman.

Carl J. W. Long was elected Wing Commander, succeeding I. E. Brodsky, Philadelphia. Other new officers include Leonard Work, State College; Clifford Zipf, Pittsburgh; Chester Richardson, Pittsburgh; Lee Smith, Pittsburgh; Owen Ferry, Philadelphia; and Prestie Headings, Lewistown.

The Wing Auxiliary also met. New officers, installed by National President Marietta C. Miller, are Kathleen Murray, President; Martha Wilcox, Vivian Carr, and Kay Work, Vice Presidents; Kathleen Patterson, Secretary; and Joan Holland, Treasurer.

Baltimore's Anniversary

Baltimore's Squadron No. 1, the first AFA unit to be chartered, is celebrating its seventh year "in business" with an ambitious program for the year. In past months, the Squadron has sponsored a 13-week TV series on airpower and the USAF, sponsored "Airpower Week" in Baltimore, collected nine plane-loads of food and clothing for Dutch flood relief, held an Armed Forces Day display and program, and a Memorial Day program, during which TV Station WAAM was commended for its past support of the Squadron. Regional Vice President George D. Hardy presented a scroll to the station, and during the program AFA Director Charles Purcell taxiied the Squadron's plane into the studio.

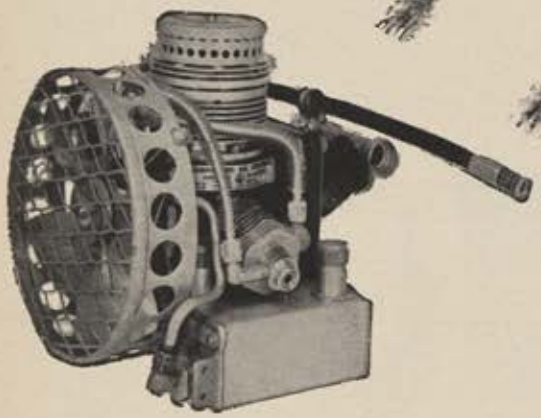
The Squadron now is offering flying lessons to its members at reduced rates and twenty members already are signed up.

Meir Wilensky, 2002 Linden Ave., Baltimore 17, is Commander.—END

more FIGHT for

F 84 G
F 84 F
RF 84 F
F 86 H

read how the KIDDE Compressor makes pneumatics work at amazingly high altitudes



More fight for planes in flight is provided by the new Kidde 4-Stage Compressor . . . auxiliary power that is more reliable, more foolproof than ever before.

Think of it! The very space you fly through becomes your reservoir of pneumatic power. The supply is literally unlimited.

The new Kidde 4-Stage Compressor is currently being installed aboard such fighter planes as the F84 and F86.

Its unusually light weight and reliable performance make the Kidde 4-Stage Compressor the perfect "workhorse" for your aircraft, too.

Why not write and let a Kidde engineer give you full information on Kidde pneumatic devices.

Kidde **Walter Kidde & Company, Inc.**

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THREE WHO CAME HOME

AF sick and wounded released in Korean POW exchange

F-51 pilot Capt. Zach W. Dean, from El Dorado, Kan., shot down in Korea in April 1951, embraces his wife, Abigail, at an airbase near Tokyo after his repatriation. She was a Red Cross worker in Japan while he was a prisoner of the Reds.

With Dean (left) in a Tokyo hospital are the other AF returnees—A/2C Robert Weinbrandt (center), El Cajon, Calif., B-29 gunner downed last January; and A/2C William R. Hilycord, Columbus, Ind., B-26 crewman, captured in December 1951.

WE NEED MORE ENGINEERS

NEWSWEEK
June 15, 1953

"The Navy has the Regulus, a descendant of the German V-1. Resembling a swept-wing jet fighter, it is about 30 feet long, has a jet engine, and has been flown at subsonic and supersonic speeds. Its stubby wings fold for storage – and the submarine Tunny has been converted so that it will soon carry two Regulus missiles. Many of the world's most strategic targets are within a few hundred miles of the sea, and the Regulus has that range."

Vought Fighter Wins Navy Competition

Chance Vought Aircraft won Navy's day fighter competition with a variable-incidence-wing-design plane powered by a Pratt & Whitney J57 with afterburner.

Chance Vought won the day fighter competition over seven other aircraft manufacturers including Temco, North American, Douglas, Northrop and McDonnell.

First flight of the new fighter production model is expected by the end of 1956, provided Navy orders the design soon.

AVIATION WEEK, June 1, 1953

Greater Opportunities for Engineers In Chance Vought's Expansion...

Recently, as Chance Vought Aircraft completed its thirty-sixth year designing and building military aircraft, the United States Navy announced that the company had been declared the winner of the Navy's day fighter design competition. The award for the design of this new aircraft was added to the current engineering programs for the Chance Vought Missile, Regulus, the F7u-3 "Cutlass" and the attack airplane, the A2U-1.

The design program for this new variable-incidence-wing fighter powered by a Pratt and Whitney J57 with afterburner, plus the increased emphasis on the engineering programs for the guided missile, Regulus, now offers excellent employment opportunities to many types of engineers and scientists. Vacancies exist at all levels and applicants with an engineering degree, but with no previous training or experience in the aircraft industry, may qualify.

If you are interested in further consideration for employment with this prime contractor

CONTACT US TODAY!

Applicants will find employment available in the following types of work:

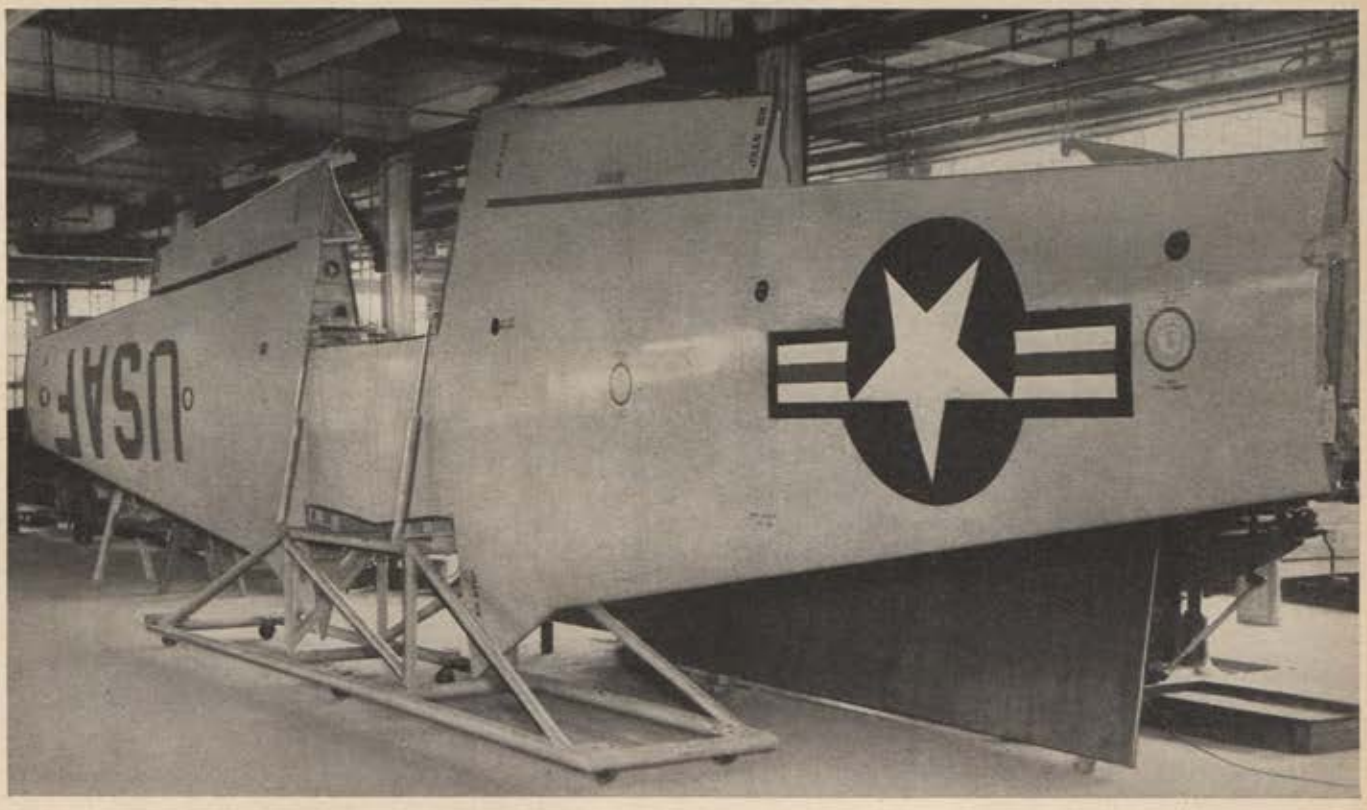
Aerodynamics	**Stress Analysis**	**Aerophysics**	**Technical Writing**
Airframe Design	**Aeroelastics**	**Guidance**	**Technical Illustration**
Mechanical Design	**Electronics**	**Telemetering**	**Mathematics**
Electrical Design	**Communications**	**Structures Test**	**Machine Computations**

Company benefits include insurance programs, cost-of-living payments, premium pay for overtime and a retirement income plan. Liberal moving allowances provided. For further consideration for these positions submit a resume or letter of application to the Engineering Personnel Section, Chance Vought Aircraft, P. O. Box 5907, Dallas, Texas.

CHANCE VOUGHT AIRCRAFT

DALLAS, TEXAS

DIVISION OF UNITED AIRCRAFT CORPORATION



Out of the sea and into the sky!

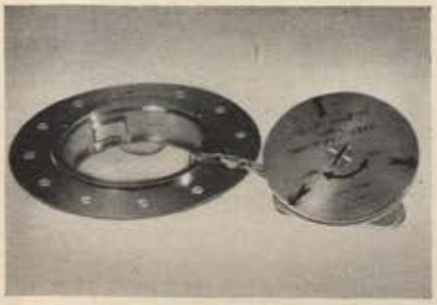
That airplane wing is made entirely of *magnesium alloy*.

Significance? For one thing, we won't run out of magnesium till the seas run dry. For another, it provides startling savings in fabrication and assembly costs.

Barium's East Coast Aeronautics, Inc., Pelham Manor, N.Y., designed and made this wing for the U.S. Air Force F-80 jet fighter, workhorse of the Korean air war. The original F-80 wing consisted of about 1640 pieces and 42,700 fastenings. East Coast's magnesium wing has only 508 pieces and 16,000 fastenings, a reduction of 69% in pieces, 62% in fastenings. Lightweight magnesium alloys permit simpler design, thicker and stiffer structural sections, increase aerodynamic efficiency and fuel capacity—*at no increase in weight!* Small wonder magnesium is approved for use in combat aircraft.

Busy place, East Coast Aeronautics. Only 7 years old, it's a beehive of activity as its engineers probe into the seemingly limitless applications of Fiberglas, aluminum and steel, as well as magnesium. People who know will tell you that East Coast has learned more about the structural application of Fiberglas laminates than any other firm in the country. Right now, East Coast is putting finishing touches on a Fiberglas barge that's completely maintenance-free, has recently completed development of a new type of aluminum bridge that can support a 50-ton tank, and is carrying on missile research, development and manufacture.

East Coast may have its head in the sky, but like all 16 Barium companies its feet are firmly on the ground. If you'd like to find out more about its unique approach to basic engineering problems, write Barium Steel Corporation, 25 Broad Street, New York 4, N.Y.



NEW FILLER CAP ASSEMBLY developed by East Coast for magnesium wing (above) permits full utilization of available fuel tank capacity, improves aerodynamic efficiency of wing surface. Now standard on nearly all military aircraft, this patented East Coast design prevents vapor lock.

NEW BULL'S-EYE for Air Force sharpshooters, this East Coast-made aluminum tow target is a close replica of an actual plane. Equipped with an automatic-release parachute to brake its landing speed and reduce damage, the target weighs 350 lbs., has a wing span of 24 ft.

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Off We Go

by Ted Ritter and Bob Gadbois
Victoria Publishing Co., N. Y., 48 pp., $ .50

The plot of *Off We Go* is basic. So much so that never in its forty-eight pages of 268 words, nineteen periods, and ten commas are the authors able to stray from their theme. They never intended to. *Off We Go* is "the story of Air Force Basic Military training." If it rekindles memories of one's days in basic training, the authors—Ted Ritter and Bob Gadbois—have accomplished their purpose.

They wanted to draw a word-picture of an airman's memories of basic training, without becoming too weighty. They haven't done it in one word-picture, but forty-three. And it isn't too weighty. Total weight: two ounces.

But the book's two ounces of zany cartoons with captions will bring back many memories. In fact, Brig. Gen. Sory Smith, USAF Director of Public Information, in the preface calls it a "memory book" that captures "in an authentic manner, the humor and memories which are part of those first months of Air Force service."

The pictures above and below on this page are taken from the book. They're typical of the cartoons that illustrate the tribulations experienced by the new airman from the time he answers the call to arms until he emerges as a full-fledged airman.

To all who have gone through basic or to those now experiencing it, *Off We Go* will engender quite a few chuckles, several guffaws, and a real belly-laugh or two. For "Breathes there a man with soul so dead who never to himself has said . . ." those were the days?—END

Courageous service

PEOPLE

IN THE AIR NEWS

1st Lt. Hoyt S. Vandenberg, Jr., son of the former AF Chief of Staff, who has won the silver wings of a jet fighter pilot. His father addressed graduates at the air training center at Williams AFB, Ariz. Lt. Vandenberg's wife, Sue, pinned his wings on him. Her father is Lt. Gen. Leon Johnson, CG of ConAC and holder of the Congressional Medal of Honor.

Col. Rene Fonck, 59, France's "ace of aces" in World War I, who died recently at his home in Paris. He was credited with 75 air victories in WW I and unofficially with 52 others. In one of his greatest exploits, he bagged six German planes in one hour. In 1926 he failed in an attempt to fly the Atlantic non-stop.

Harry K. Coffey, of Portland, Ore., one of the founders of the Civil Air Patrol, who has received the AF's Exceptional Civilian Service Award for his service to CAP since early in WW II when he was one of the original national advisors. A colonel in CAP, he has also been president of the National Aeronautics Association since 1952.

Lt. David M. England, F-94 jet pilot from the 5th Fighter-Interceptor Sqdn., McGuire AFB, N. J., who with his radar observer, Lt. F. W. Nelms, guided a lost Beech Bonanza back to land from 100 miles out to sea. England had to lower wheels and flaps to stay with the cabin plane, and low clouds forced both planes to fly at 300 feet.

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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

THIS NEW, simplified AFA insurance plan provides world-wide protection. It even covers flying accidents in combat zones not due to enemy action.* It protects you against accidental aviation death while on land, sea or in the air whether you are a pilot, flight crew member or passenger in a military or licensed civilian aircraft. No other accident insurance offers coverage for both military *and* civilian flying at such low cost. No need to take a physical examination; name any beneficiary you choose. Two types of policies are available, in units of $1,000 up to $10,000 maximum.

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☐ 6,000	☐ 72.00	☐ 28.80
☐ 7,000	☐ 84.00	☐ 33.60
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MORE PEOPLE

IN THE AIR NEWS

Maj. Vermont Garrison, crowned the Korean war's thirty-second jet ace June 5 when he got his fourth and fifth MIGs. Since then he's bagged three more. In WW II he downed eleven enemy planes in Europe. A member of the 4th F-I Wing, the Sabre pilot is from Mt. Victory, Kentucky.

Capt. Lonnie R. Moore, jet ace number thirty-three, downed his fifth MIG on June 18 and now has accounted for one more. He's also with the 4th F-I Wing. The Fort Walton, Fla., flyer made ace the month F-86 pilots set a new record for MIG-kills (74) with no AF Sabre jets lost in combat.

Capt. Ralph S. Parr, a veteran of 165 missions in F-84s in Korea and now flying Sabres with the 4th F-I Wing, who became jet ace number thirty-four June 18 when he got a pair of MIGs. Since then he's downed two more. Parr is from Apple Valley, California.

Col. Robert P. Baldwin, commander of the 51st F-I Group in Korea, became history's thirty-fifth jet ace on June 22, the day the total number of Red jets shot down by Sabre pilots since November '50 rose to 734. Baldwin, who's from Sherman Oaks, Calif., has also damaged three of the MIG-15s.

First Lt. Henry Buttleman, who became jet ace number thirty-six on June 30, only eleven days after he got his first MIG and the day F-86 pilots in Korea bagged fifteen MIGs to top the July 4, 1952, record of thirteen in one day. With the 51st F-I Wing, Buttleman's from Bayside, New York.

THIS IS AFA

The Air Force Association is an independent, non-profit, airpower organization with no personal, political or commercial axes to grind; established January 26, 1946; incorporated February 4, 1946.

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• To assist in obtaining and maintaining adequate airpower for national security and world peace. • To keep AFA members and the public abreast of developments in the field of aviation. • To preserve and foster the spirit of fellowship among former and present members of the United States Air Force.

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